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AGENDA ITEM
9I

Date: July 5, 2021

Council Action Date: July 12, 2021

TO: Honorable Mayor and City Council

FROM: Alex D. McIntyre, City Manager
Phillip L. Nelson, Public Works Director

SUBJECT: Consideration of Addendum No.1 to Final Environmental Impact Report on State Water Interconnection Project

SUMMARY

Click or tap here to enter text.Additional investigative work not included in the Certified Final Environmental Impact Report is required for the State Water Interconnection Project. An addendum to the Final Environmental Impact Report is needed to evaluate and disclose the potential environmental impacts of the additional investigative work.

RECOMMENDATION

Adopt a Resolution certifying that City Council has reviewed and considered information contained in Addendum No. 1 and adopting Addendum No. 1 to the Certified Final Environmental Impact Report (EIR-7-19-51055) for the State Water Interconnection Project. Resolution titled:

> "A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN BUENAVENTURA, CALIFORNIA, ADOPTING ADDENDUM #1 TO THE CERTIFIED FINAL ENVIRONMENTAL IMPACT REPORT PREPARED FOR THE STATE WATER INTERCONNECTION PROJECT"

DISCUSSION/ANALYSIS

The City of San Buenaventura (City), Casitas Municipal Water District (Casitas) and Untied Water Conservation District (United) currently hold entitlements to the State Water Project but cannot take direct delivery due to a lack of infrastructure to deliver that water. The State Water Interconnection Project would allow the City, Casitas and United to take delivery of their State Water Project entitlement by 'wheeling' water through the distribution systems owned by Calleguas Municipal Water District (Calleguas) and Metropolitan Water District of Southern California. The Project would also allow the City

to provide water to Calleguas during an emergency or supply outage. The City, as lead agency, prepared and City Council certified a Final Environmental Impact Report (EIR) for the State Water Interconnection Project on August 5, 2019 (EIR-7-19-51055). A professional services agreement with Stantec Consulting Services for preliminary and final design was approved by City Council on May 18, 2020.

Design is ongoing for the State Water Interconnection Project, which will include a directionally drilled pipeline crossing below the Santa Clara River. It was recently discovered that the proposed river crossing alignment would also pass below the closed Saticoy Landfill. To provide sufficient data regarding soils stratum for the pipeline, and determine limits of the closed landfill, geotechnical borings in the Santa Clara River and a phase II environmental site assessment are necessary. The geotechnical borings and phase II environmental site assessment were not contemplated in the Certified Final EIR. The Vicinity Map included as Attachment C shows general locations for the closed landfill, geotechnical borings and the phase II environmental site assessment.

The design consultant, Stantec, prepared supplemental environmental studies including: Biological Resources Technical Report, Jurisdictional Wetlands/Waters Delineation Report, and Archaeological Survey Report, included in Attachment B. Based on these environmental studies, the design consultant performed a comparative analysis of impacts and determined that the changes represented by the proposed additional geotechnical investigation and phase II environmental site assessment would not result in additional significant impacts or a substantial increase to the severity of previously identified significant impacts. Therefore, it was determined that an addendum to the EIR was the appropriate document (Attachment B). Addendum No. 1 confirms that the potential environmental impacts from Project implementation would be no more severe as a result of these additional investigations than those projected to result from implementation of the Project as evaluated in the Final EIR, no new significant impacts are projected to occur, and no new mitigation measures are warranted.

The Resolution to adopt the Addendum No. 1 to the Final EIR is included as Attachment A. The Resolution includes findings that: the City Council, as the decision-making body for the Project, has reviewed and considered the information contained in the Addendum No. 1; substantial changes are not proposed for the Project that require major revisions of the previously approved Final EIR; no new information of substantial importance or which shows significant effects has been added to the Final EIR; no new mitigation measures have been added to the Project; only minor technical changes or additions are necessary and none of the conditions described in CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR have occurred; and, the Final EIR, together with Addendum No. 1, satisfy the requirements of CEQA and are adequate to serve as the required environmental documentation for the Project.

FINANCIAL IMPACT

There are no fiscal impacts to adopting this Addendum No.1 to the Final EIR. At this time, there are sufficient funds within the consultant's agreed scope of services and authorized additional compensation for the preparation of this EIR Addendum and to complete the associated on-site investigation work.

Prepared by: Ernie Ferrer, Design and Construction Manager
Greg Knudson, Senior Civil Engineer

ATTACHMENTS:

A Resolution to Adopt Addendum No. 1 to the Final EIR
B Addendum No.1 to the City of San Buenaventura State Water Interconnection Project Certified Environmental Impact Report
C Vicinity Map

ATTACHMENT A

RESOLUTION NO. 2021-___

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SAN BUENAVENTURA, CALIFORNIA, ADOPTING ADDENDUM #1 TO THE CERTIFIED FINAL ENVIRONMENTAL IMPACT REPORT PREPARED FOR THE STATE WATER INTERCONNECTION PROJECT

CASE NO. EIR-7-19-51055
PROJECT# PROJ-13707
STATE CLEARINGHOUSE NO. 2018031010

WHEREAS, the City of San Buenaventura (“City”) is the lead agency, pursuant to the California Environmental Quality Act ("CEQA") (Public Resources Code §§ 21000 et seq.) and CEQA Guidelines (14 California Code of Regulations §§ 15000 et seq.), for the proposed State Water Interconnection Project;

WHEREAS, the Project consists of the construction of a 7-mile pipeline between the City and Calleguas Municipal Water District water systems to enable delivery of State Water Project water to the City, United Water Conservation District, and direct or in-lieu delivery to Casitas Municipal Water District, as well as delivery of water from the City to Calleguas Municipal Water District during an outage of Calleguas’ imported water supplies, and includes a crossing under the Santa Clara River; and,

WHEREAS, the Final Environmental Impact Report (EIR-7-19-51055) for the State Water Interconnection Project comprises (i) the Draft EIR, (ii) corrections and additions to the Draft EIR, (iii) list of persons, organizations and public agencies commenting on the Draft EIR, (iv) comments received from the public and interested agencies, (v) the Response to Comments, and (vi) the Mitigation, Monitoring, and Reporting Program (“MMRP”); and,

WHEREAS, on August 5, 2019, City Council for the City of San Buenaventura adopted Resolution No. 2019-045 certifying the Final EIR (EIR-7-19-51055) and approved the State Water Interconnection Project, and,

WHEREAS, on August 6, 2019, a Notice of Determination was filed with the County Clerk; and,

WHEREAS, following certification of the Final EIR, it was later identified that borings for geotechnical investigation need to be conducted within the Santa Clara River riverbed to provide necessary information for pipeline design, and such borings were not contemplated in the Final EIR; and,

WHEREAS, following certification of the Final EIR, it was later identified that geophysical field exploration to collect data as part of an upland Phase II Limited Environmental Site Assessment was necessary, which would be located within the City right-of-way along Saticoy Avenue at its southwest intersection with North Bank Drive, south of Peony Street, extending to a County-owned rock and aggregate storage yard, located between North Bank Drive and the northern banks of the Santa Clara River, and such geophysical field exploration was not contemplated in the Final EIR; and,

WHEREAS, City staff and the City's consultant Stantec, evaluated the potential environmental impact of the proposed modifications to the Final EIR in light of the standards for subsequent environmental review outlined in Public Resources Code section 21166 and CEQA Guidelines section 15162 and concluded that a subsequent EIR is not required; and,

WHEREAS, proposed Addendum #1 to the Final EIR for State Water Interconnection Project describing the geotechnical investigations and geophysical field exploration, evaluating comparative analysis of impacts including Biological Resources Technical Report, Jurisdictional Wetlands/Waters Delineation Report, and Archaeological Survey Report has been prepared pursuant to CEQA Guidelines section 15164.

NOW, THEREFORE, the City Council of the City of San Buenaventura does hereby resolve, find, determine and order as follows:

Section 1: The above recitations are true and correct and are incorporated herein by this reference.

Section 2: As the decision-making body for the Project, the City Council has reviewed and considered the information contained in

proposed Addendum #1 to the Final EIR for State Water Interconnection Project.

Section 3: Substantial changes are not proposed for the project that will require major revisions of the previously approved Final EIR.

Section 4: No new information of substantial importance or which shows additional significant effects has been added to the Final EIR.

Section 5: No new mitigation measures have been added to the Project.

Section 6: In accordance with Municipal Code Section 2R.450.730 (3) and City Council Resolution 2002-57 (the City's local CEQA Implementation Guidelines), the City Council hereby further finds that only minor technical changes or additions are necessary and none of the conditions described in CEQA Guidelines 15162 calling for the preparation of a subsequent EIR have occurred.

Section 7: Based on the above findings, pursuant to Public Resources Code section 21166, no subsequent or supplemental EIR is required, and City Council reconfirms the Mitigation, Monitoring, and Reporting Program ("MMRP").

Section 8: The City Council determines that the Final EIR, together with this Addendum #1, satisfy all the requirements of CEQA and are adequate to serve as the required environmental documentation for the Project, and, therefore, approves and adopts Addendum #1 to the Final EIR for State Water Interconnection Project.

Section 9: The documents and materials that constitute the record of proceedings on which these findings have been based are located at 501 Poli Street, Room 120, Ventura, CA. The custodian of these records is the Public Works Department.

PASSED AND ADOPTED this 12th day of July, 2021.

_____
Sofia Rubalcava, Mayor

ATTEST:

_____
Antoinette M. Mann, MMC, CRM
City Clerk

APPROVED AS TO FORM
GREGORY G. DIAZ, City Attorney

BY: Miles Hogan 6/15/2021
Miles P. Hogan Date
Assistant City Attorney II

ATTACHMENT B

Stantec

Addendum No. 1 to the City of San Buenaventura State Water Interconnection Project Certified Environmental Impact Report

Upland Phase II Limited Environmental Site Assessment and Geotechnical Investigations within the Santa Clara River

June 18, 2021

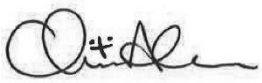
Prepared for:

City of San Buenaventura
Ventura Water Department
336 Sanjon Road
Ventura, CA 93001

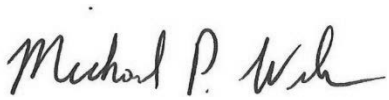
Prepared by:

Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

This document entitled Addendum No. 1 to the City of San Buenaventura State Water Interconnection Project Certified Environmental Impact Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of City of Sanbuenaventura (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.



Prepared by _____
(signature)
Christine Abraham, Principal Environmental Planner



Reviewed by _____
(signature)
Michael Weber, Senior Principal Scientist

Approved by _____
(signature)
Autumn Glaeser, Senior Civil Engineer

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LIST OF FIGURES

LIST OF APPENDICES

Abbreviations

AB	Assembly Bill
APCD	Air Pollution Control District
Bgs	Below ground surface
BMPs	Best Management Practices
BRTR	Biological Resources Technical Report
BSA	Biological Study Area
Calleguas	Calleguas Municipal Water District
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
Certified EIR	State Water Interconnection Project Environmental Impact Report
CESA	California Endangered Species Act
City	City of Sanbuenaventura
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2E	carbon dioxide equivalent
County	Ventura County
CWA	Clean Water Act
EIR	Environmental Impact Report
ERC	Erosion Control Plan
ESA	Environmental Site Assessment
ESRI	Environmental Systems Research Institute
FESA	Federal Endangered Species Act

FGC	Fish and Game Code
FHSZ	Fire Hazard Severity Zone
GHG	Greenhouse Gas
GPS	global positioning system
HDD	Horizontal Directional Drilling
JSA	Jurisdictional Survey Area
LEA	Local Enforcement Agency
MM	Mitigation Measures
NWI	National Wetlands Inventory
OHP	Office of Historic Preservation
Project	geotechnical investigation within the Santa Clara River.
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCCIC	South Central Coastal Information Center
SR	State Route
SWIP	State Water Interconnection Project
SWPCP	Stormwater Pollution Control Plan
SWPPP	Stormwater Pollution Prevention Plan
United	United Water Conservation District
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMT	vehicle miles traveled
WOTS	Waters of the State
WOTUS	Waters of the United States

1.0 SUMMARY

This is an Addendum to the State Water Interconnection Project Environmental Impact Report (EIR; Certified EIR), which was prepared in compliance with the California Environmental Quality Act (CEQA) and certified by the City of Sanbuenaventura (City) City Council on August 5, 2019.[1] After certification of the State Water Interconnection Project (SWIP) EIR, it determined that geophysical field exploration to collect data as part of an upland Phase II Limited Environmental Site Assessment (Phase II ESA), as well as additional geotechnical investigations within the bed of the Santa Clara River would be required. The activities related to the geophysical field exploration in support of a Phase II ESA and the geotechnical investigations within the Santa Clara River (together referred to as "the Project") analyzed in this Addendum consist of completing geophysical explorations and geotechnical borings in support of detailed engineering design of the proposed water pipeline undercrossing of the Santa Clara River. The SWIP, including the Project site and study area, was evaluated in the Certified EIR; however, potential impacts related to both Project components (i.e., the geophysical explorations and geotechnical investigations), as well as supporting technical evaluations within the bed of the Santa Clara River, were not specifically addressed in the Certified EIR. As such, these activities are the subject of this Addendum.

The geotechnical investigations component of the Project is located within the Santa Clara River and its banks, within the City. The approximate Project location may include the following Ventura County (County) Assessor's Parcel Numbers: 129002006, 129001136, 128011022, 128004029, 128004033, 129002003, and 108004005. The Project vicinity map is presented in Figure 1. The anticipated locations of geotechnical borings are depicted in Figure 2. As shown in Figure 2, the northern boundary of the geotechnical study area is southeast of North Bank Drive approximately along its intersection with Saticoy Avenue. The southern boundary of the study area is approximately 0.4 mile north of East Vineyard Avenue, north of an agricultural area and undeveloped field, as well as a radio control model airplane runway.

The anticipated locations for the Phase II ESA component of the Project are depicted in Figure 3. Phase II ESA geophysical survey and soil boring exploration activities would be located within the City right-of-way along Saticoy Avenue at its southwest intersection with North Bank Drive, south of Peony Street, extending to a County-owned rock and aggregate storage yard, located between North Bank Drive and the northern banks of the Santa Clara River. Other non-invasive geophysical investigations, including an electrical resistivity survey, would occur along the northern banks of the Santa Clara River, located outside of jurisdictional waters.

The primary focus of this Addendum is to analyze any proposed changes represented by the Project as compared to what was evaluated in the Certified EIR, to determine whether any new significant environmental impacts that were not previously identified in the Certified EIR would result, or whether

[1] City of San Buenaventura, Ventura Water, State Water Interconnection Project, Public Draft Environmental Impact Report, Certified by City Council on August 5, 2019.

previously identified significant impacts would be substantially more severe as a result of Project implementation.

As described herein, an evaluation has been conducted that confirms the impacts from Project implementation would be no more severe than those projected to result from implementation of the SWIP and no new significant impacts are projected to occur. This Addendum also evaluates whether changes in circumstances surrounding the Project or new information of substantial importance would cause new significant environmental effects or a substantial increase in the severity of such effects beyond what was identified in the Certified EIR. The evaluation of changes in circumstances and new information is focused on whether changes of substantial importance have occurred to environmental conditions on the Project site and in the area, or to applicable plans, policies, or regulations.

The Certified EIR, including related mitigation measures and findings, are incorporated by reference, herein. Mitigation measures provided in the Certified EIR that are applicable to the Project are presented in this Addendum for each environmental topic. Those mitigation measures are reproduced verbatim as presented in the Certified EIR (or as corrected in the Final EIR, where applicable). Implementation of the Project would not substantially increase the severity of impacts evaluated in the Certified EIR, and no new significant and unavoidable impacts would result.

Project Location

0 1 2 Miles
(At original document size of 8.5x11)
1:126,720

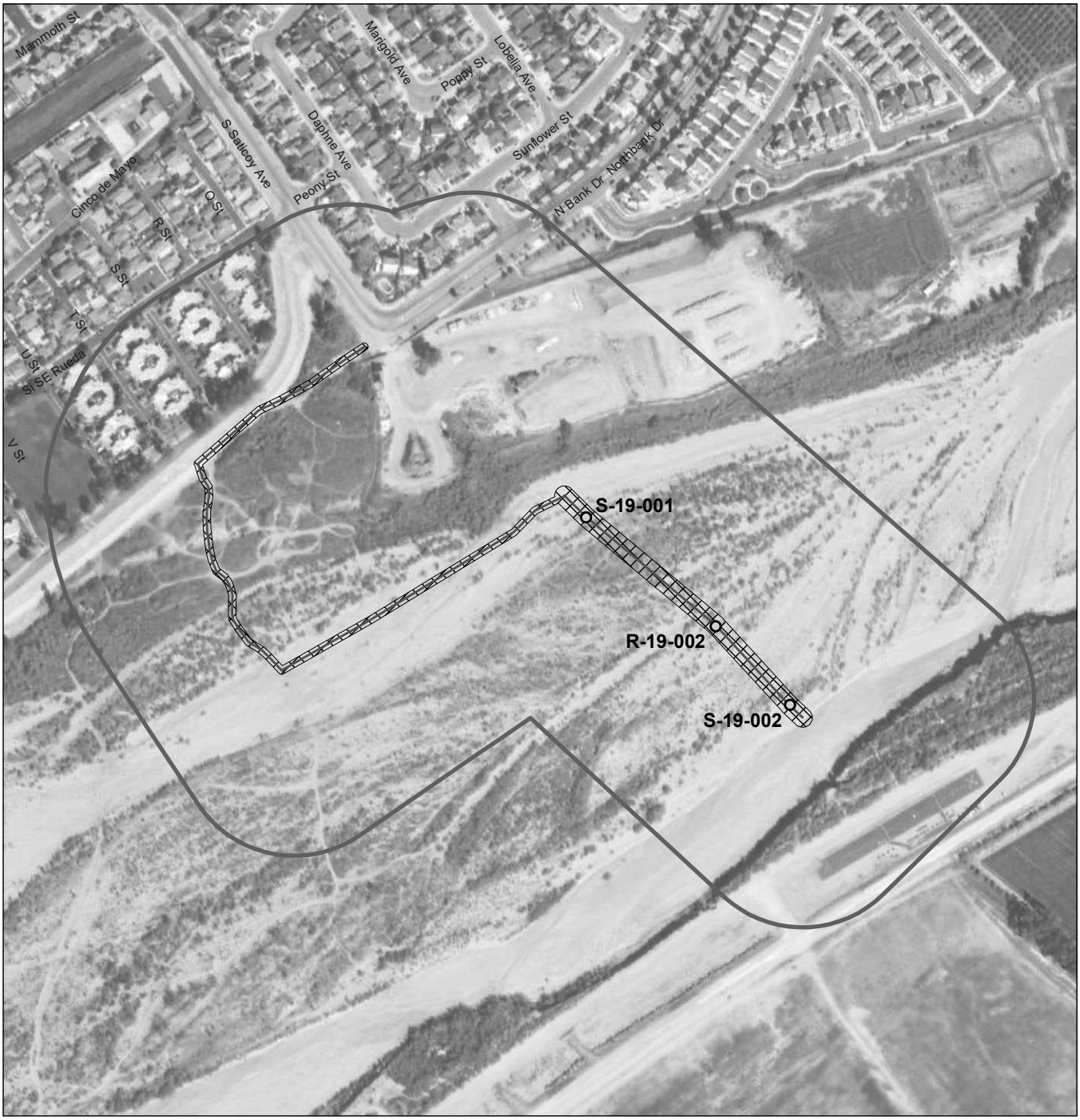
N

Stantec

Project Location	Prepared by DL on 2020-10-28
	TR by ST on 2020-10-28
City of Ventura, California	IR by CA on 2020-10-28
Client/Project	184031328
City of Ventura	
State Water Interconnection Pipeline and Blending Station Projects - Geotechnical Borings	
Addendum Report	
Figure No.	
1	
Title	
Vicinity Map	

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

V:\1858\business development\184031328 City of Ventura Interconnection\Figure1 AddendumMap 09212020.mxd Revised: 2020-10-30 By: dalaw



Biological Study Area

Temporary Impact Area (vehicular/equipment)

Vehicular Access Pathway

*Approximate Locations of Anticipated Borings

0 200 400 Feet

(At original document size of 8.5x11)
1:4,800

N

Stantec

Project Location
City of Ventura, California

Prepared by DL on 2021-06-08
TR by CA on 2021-06-08
IR by CA on 2021-06-08

Client/Project
184031328
City of Ventura
State Water Interconnection Pipeline and Blending Station
Projects - Geotechnical Borings
Addendum Report

Figure No.
2

Title
Locations of Anticipated Borings in Santa Clara River

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
4. *The boring locations are subject to minor modification based on physical and environmental conditions observed during pre-boring environmental surveys and which occur at the time of drill rig mobilization.

V:\1858\business development\184031328 City of Ventura InterconnectionIFigure2_AddendumMap_092120220.mxd Revised: 2021-06-08 By: dalaw

Biological Study Area

Proposed Soil Boring Locations

Proposed Electrical Resistivity Transects

0 65 130 Feet

(At original document size of 8.5x11)

1:1,560

N

Note: Proposed soil boring locations are shown in an approximate location.
Final locations will be determined based on field conditions that are unknown at this time.

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Data Sources: Stantec 2020.

3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

4. *The boring locations are subject to minor modification based on physical and environmental conditions observed during pre-boring environmental surveys and which occur at the time of drill rig mobilization.

Stantec

Project Location
City of Ventura, California

Prepared by DL on 2021-06-18
TR by CA on 2021-06-18
IR by CA on 2021-06-18

Client/Project 184031328
City of Ventura
State Water Interconnection Pipeline and Blending Station Projects - Geotechnical Borings
Addendum Report

Figure No.
3

Title
Phase II Limited ESA Proposed Field Exploration Areas

V:\1858\business_development\184031328 City of Ventura InterconnectionFigure3_Phase2LimiledESAProposedFieldExplorationAreas_06182021.mxd Revised: 2021-06-18 By: dalaw

2.0 CEQA AUTHORITY FOR THE ADDENDUM

The California Environmental Quality Act (CEQA) and CEQA Guidelines establish the type of environmental documentation that is required when changes to a project occur after an EIR is certified. Section 15164(a) states that:

> *"The lead agency or a responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred."*

In order to give a degree of finality to EIR documentation, Section 15162 of the CEQA Guidelines requires that a Subsequent EIR need only be prepared if:

1. Substantial changes are proposed in the project, which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken, which will require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:

    a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;

    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The analysis in this Addendum evaluates the project-specific potential environmental effects and compares them to the impacts identified in the State Water Interconnection Project Environmental Impact Report (Certified EIR) to determine whether any new significant environmental impacts not previously

identified in the Certified EIR would result, or whether previously identified significant impacts would be substantially more severe. It has been determined through the analysis contained herein that none of the conditions requiring preparation of a Subsequent EIR have occurred and that the changes represented by the Phase II ESA geophysical explorations and the geotechnical investigation within the Santa Clara River (Project) would not result in additional significant impacts or a substantial increase the severity of previously identified significant impacts. Therefore, pursuant to CEQA, this Addendum is the appropriate documentation to address the Project's relationship to the State Water Interconnection Project and the conclusions of the Certified EIR.

3.0 DESCRIPTION OF PROJECT ADDRESSED IN CERTIFIED EIR FOR THE STATE WATER INTERCONNECTION PROJECT

The Certified EIR evaluated the overall environmental impacts related to the delivery of SWIP water by wheeling water through the Metropolitan Water District of Southern California and Calleguas Municipal Water District (Calleguas) water systems to the City. The Interconnection would also facilitate direct delivery of SWP water to United Water Conservation District (United) and direct or in-lieu delivery of SWP water to Casitas Municipal Water District. In addition, the Interconnection would allow the City to deliver water to Calleguas during an outage of its imported water supplies. The Interconnection would be a pipeline used to transport water between Calleguas' and the City's distribution systems.[2]

The SWIP consists of a connection to the Calleguas system, a pipeline of approximately seven miles in length, a flow/pressure control and metering station at each United turnout for water delivery, and connection to the City's water distribution system, a flow/pressure control and metering station downstream of the City's connection point, and a blending/monitoring station within the City's system. The Interconnection would be located within Ventura County and the pipeline alignment extends southeast from the City, through the community of El Rio in unincorporated Ventura County, and terminates in the City of Camarillo.

In order to determine the Interconnection pipeline path and connection points, an alignment study was conducted. The preferred alignment from the alignment study is the Approved Project in the Certified EIR and is shown in Figure 4, with Segment 2 passing under the Santa Clara River.[3]

Most of the Interconnection pipeline would be placed underground, and the ground surface would be restored to its pre-project condition. Construction of the SWIP pipeline would involve open cut construction and trenchless construction. Most of the pipeline would be installed using open cut construction/trenching; however, trenchless construction would be required in pipeline segments under the Santa Clara River, railroad crossings, drainage channels and at specific intersections.[4]

A blending station is also proposed, as the different water sources can be mixed and water treatment additives can be used to condition and stabilize the water before introduction to the City's water system. The blending station may also house metering equipment, water quality monitoring equipment, and provide chemical storage space.

Construction of the SWIP evaluated in the Certified EIR is assumed to last approximately 30 months, which is based on an average pipeline installation rate of 120 feet per day. This includes time for utility relocation, design adjustments, submittals, pipe delivery, and start-up.[5]

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[2] Ibid, page 1-1.
[3] Ibid, pages 1-2 to 1-10.
[4] Ibid, pages 1-17 to 1-18.
[5] Ibid, page 1-25.

Legend

- Potential Blending/Monitoring Station
- Potential United Turnout
- Point of Connection
- Proposed Project

City Boundary

- Camarillo
- Oxnard
- Ventura

- Calleguas Municipal Water District Service Area
- HDD Construction Staging Area
- 7 Pipeline Segment Designation

N

0 0.5 1
Miles

Kennedy/Jenks Consultants

City of Ventura
State Water Project Interconnection EIR

Approved Project

K/J 1744205*00
January 2019

Figure 4

4.0 PROJECT DESCRIPTION FOR GEOTECHNICAL INVESTIGATIONS AND LIMITED PHASE II ESA

4.1 PROJECT LOCATION

The geotechnical investigation component of the Project is located within the Santa Clara River, its banks, and adjacent uplands within the County of Ventura (County), as shown in Figure 1 and Figure 2. Existing conditions of the Project area are the banks and bed of the Santa Clara River. The approximate Project location may include the following County Assessor's Parcel Numbers: 129002006, 129001136, 128011022, 128004029, 128004033, 129002003, and 108004005. The northern boundary of the study area is southeast of North Bank Drive approximately along its intersection with Saticoy Avenue. The southern boundary of the study area is approximately 0.4 mile north of East Vineyard Avenue, north of an agricultural area and undeveloped field, as well as a radio control model airplane runway.

The study area shown in Figure 2 provides a conservative estimate of areas which may be accessed in order to conduct geotechnical exploratory borings, as well as related technical studies in order to evaluate potential impacts associated with geotechnical exploration. It is anticipated that the study area would be accessed from North Bank Drive, at the terminus of Saticoy Avenue; however, the site may also be accessed from pathways located along the southern boundary of the study area. Only a small portion of the area depicted within the boundaries of the study area would be affected by geotechnical exploration and related activities, and the study area boundaries depict the maximum extent of the area which may be accessed.

As depicted in Figure 3, the Phase II ESA component of the Project would be comprised of limited geophysical explorations, including one deeper geotechnical exploration boring, located within the City right-of-way, along Saticoy Avenue between Peony Street and North Bank Drive, extending into a County-owned rock and aggregate storage lot along the northern bank of the Santa Clara River. Other non-invasive geophysical investigations would occur within non-jurisdictional areas along the northern banks of the Santa Clara River. As with the geotechnical investigation, access to the Project area would be from North Bank Drive and Saticoy Avenue.

4.2 PROJECT OVERVIEW

The Project consists of two components, including the Phase II ESA and geotechnical borings within the Santa Clara River, generally aligning with that portion of Segment 2 of the SWIP. The activities related to the Project analyzed in this Addendum consist of the Phase II ESA activities (five soil borings and non-invasive electrical resistivity testing) and approximately three geotechnical borings within the Santa Clara River in support of future activities related to the SWIP. As such, a total of eight soil borings would be conducted as part of the Project, in addition to other non-invasive testing and surveys.

4.2.1 Description of Geotechnical Borings

Geotechnical investigations component of the Project would be performed along the proposed alignment for the SWIP in order to prepare a geotechnical report related to subsurface conditions along Segment 2 within the Santa Clara River. It is estimated that geotechnical borings and related supporting activities will require approximately 15 working days to complete, during a time when the river channel is free of surface water and accessible by the proposed equipment.

The approximate boring locations presented in Figure 2 are subject to minor modification based on physical and environmental conditions observed during pre-boring environmental surveys and which occur at the time of drill rig mobilization. Several drilling methods may be utilized, including mud rotary, air rotary, sonic drilling, and rock coring. The primary equipment anticipated to be used for drilling boreholes includes the following:

- Trailer and skid mounted mud systems;
- Rig tenders with water tanks up to 2,000 gallons;
- A variety of sampling equipment, including but not limited to the following: pitcher barrel samplers, coring systems, and split spoon samplers;
- Track and/or truck mounted drill rigs, which would be approximately 17 feet tall (with mast up), 18 feet long, and 8 feet wide; and,
- A dozer or similar.

The informal access way located on the north side of the Santa Clara River about 700 feet southeast of Saticoy Avenue would be utilized for equipment access to the riverbed. This previously disturbed access path has generally sufficient topography and width to allow equipment access but may require minimal grading by the dozer for safe equipment access. The dozer would also accompany the drill rig and support equipment into the riverbed in the event any of the other equipment encounters areas of loose/soft ground conditions that require pulling support to transit over. Disturbances will be minimized to the degree feasible and planned/implemented in coordination with environmental requirements.

Upon completion of drilling and sample retrieval, the drill holes will be backfilled in accordance with local requirements and applicable permit conditions. It is assumed that each drill hole will be backfilled to the ground surface with cement-bentonite grout.

Where feasible and permitted, investigation derived waste will be dispersed on the ground surface adjacent to the drill hole. In locations where it is not feasible or permitted to disperse the investigation derived waste on-site (such as during the abandonment of the monitoring wells), the waste material will be stored in 55-gallon drums and transported to a nearby location where the drummed material will be stored until arrangements for disposal are made.

4.2.2 Description of Phase II Limited ESA Activities

The Phase II ESA component of the Project is needed to further inform the selection of the final SWIP alignment which may extend within the boundaries of the former County-operated Saticoy 1962 Disposal Site (Disposal Site). As the SWIP is likely to extend within 1,000 feet of the boundaries of the former

Disposal Site, County agencies, including the Ventura County Resource Management Agency's Solid Waste Program, referred to as the Local Enforcement Agency (LEA), have requested that a Phase II ESA be prepared to assess the lateral and vertical extend of landfill material at the former Disposal Site in relation the SWIP alignment.

The Phase II ESA would consist of an initial non-invasive geophysical (electrical resistivity) survey followed by an invasive exploration that will include the advancement of four soil borings to a depth of 40 feet below ground surface (bgs) and one mud rotary geotechnical boring that would be advanced to a depth of 150 feet bgs. The Phase II ESA would be conducted along the SWIP alignment in the vicinity of the Disposal Site, as depicted in Figure 3. As the objective of the Phase II ESA component of the Project is to delineate the extent of landfill material at the Disposal Site, soil samples will be collected and analyzed. The non-invasive geophysical survey will be used to evaluate the potential presence (and potential depth) of refuse and native soils in the area of the SWIP alignment. The soil borings will be used to physically confirm the results of the geophysical survey by collecting continuous core soil samples for logging and soil sampling purposes. The invasive Phase II ESA activities would last for approximately two days. Preparation of an approved work plan would be required prior to implementation of Phase II ESA activities. The work plan would be submitted to the Ventura County Environmental Health Department and the LEA for their review and approval.

The work plan will propose an electrical resistivity survey, consisting of a total of three transects of up to 550 feet in length. Electrical resistivity testing would not require borings or consist of any activities which would extend into native soils. Electrical cables would extend the length of the three transects and would be connected by electrodes pushed into the ground surface to provide data on the conductivity of soils beneath. Two of the transects would run perpendicular to the SWIP alignment in the vicinity of the Disposal Site, starting in the County-owned yard and extending southwest to adjacent upland areas. The third transect would run along the SWIP alignment in the vicinity of the Disposal Site, starting from the north in the City right-of-way along Saticoy Avenue, running through the County-owned yard and extending to the upper bank of the Santa Clara River. During electrical resistivity testing, personnel would be required to verify that they are clear of detectable private utility lines. Underground utilities would be located and marked in assessment locations, in accordance with industry standards.

Following the utility clearance activities and electrical resistivity survey, the work plan will also propose the completion of approximately five soil borings along the preferred SWIP alignment to confirm the presence or absence of identifiable Disposal Site debris. As depicted in Figure 3, the work plan will also propose approximately two soil borings along the west shoulder of Saticoy Avenue (between Peony Street and North bank Drive), since this portion of the SWIP alignment would be located within 1,000 feet of the Disposal Site. Four of the soil borings will be advanced to a depth of 40 feet bgs, or a minimum of 10 feet below any identified Disposal Site debris, and one mud rotary geotechnical boring would extend to a depth of 150 feet bgs. Soils will be logged continuously from ground surface to the total depth of the borehole.

The proposed soil boring activities for the Phase II ESA are as follows:

- Each proposed soil boring will be hand-augered to a minimum depth of eight feet bgs.

- Following the completion of hand-clearance activities, a hollow-stem auger drill rig will be utilized to advance each soil boring to the target depth.
- Soil samples will be collected continuously for logging of observed lithology and will be logged following the Unified Soil Classification System.
- Once soil sampling has been completed, the soil borings will be backfilled with cement grout. The surface will be restored in accordance with City standards, in areas within City limits, or County standards, in areas outside the City limits.
- Waste soil cuttings and decontamination fluids will be properly containerized and labeled. A composite waste profile sample will be collected and utilized to profile the waste for off-site disposal. Following acceptance by a licensed facility to accept the waste, it would be transported for proper off-site disposal and/or recycling.

4.2.3 Environmental Commitments and Impact Avoidance and Minimization Measures

In addition to the applicable mitigation measures included in the Certified EIR which are discussed further in Section 6.4, the City has incorporated the following measures into the Project which would avoid or minimize potential environmental impacts during the proposed Phase II ESA and geotechnical investigation.

- A Project-specific health and safety plan will be prepared.
- Equipment utilized will be limited to the type, number, and size necessary to complete the geotechnical borings and will be reduced when feasible.
- Equipment and personnel ingress to and egress from the bed of the Santa Clara River will be restricted to the previously disturbed and existing informal access paths.
- Vegetation will be trimmed back as necessary to support equipment and personnel rather than completely removing vegetation including the root structures.
- Grading, if necessary, will be limited to the minimum extent needed for safe equipment and personnel access at the minimal areas of steep topography along the informal and previously disturbed riverbed access.
- Equipment will not be operated within areas of flowing or standing surface water.
- A biological monitor will select access routes and guide equipment between the borings in the riverbed to minimize temporary disturbances to native vegetation to the degree feasible based on conditions encountered at the time of Project implementation.
- The City will conduct a supplemental pre-construction clearance survey for wildlife (no more than 72-hours prior to site disturbing activities) where suitable habitat is present and potentially

impacted by construction activities. Wildlife found within the Project site or in areas potentially affected by the Project would be relocated to the nearest suitable habitat that would not be affected by the Project prior to the start of the Project. Special-status species found within a proposed Project impact area shall be relocated by an authorized biologist to suitable habitat outside the impact area. The supplemental pre-construction clearance survey for wildlife will also assist with identifying optimal access routes between borings in the riverbed.

The qualified biologist(s) will oversee compliance with the avoidance and minimization measures outlined in this document. The biologist shall be onsite during all ground disturbing activities during geotechnical testing within the Santa Clara River, as well as any Phase II ESA activities that occur in previously undeveloped areas. The qualified biologist(s) shall have the right to halt all activities that are in violation of avoidance and minimization measures. Work shall proceed only after hazards to special-status species are removed, the species are allowed to leave, or are removed (if allowed) and the species is no longer at risk. The qualified biologist(s) shall have a copy of all the compliance measures in their possession while work is being conducted onsite.

- All personnel involved with the geotechnical testing and Phase II ESA activities shall participate in an Environmental Awareness Training Program. The training program shall present the environmental regulations, mitigation measures, and applicable permit conditions that the Project team shall comply with. The training program shall include applicable measures established for the Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel. Dated sign-in sheets for attendees at these meetings shall be maintained.
- A qualified professional archaeological monitor will be present during geotechnical boring access and advancement in the Santa Clara River. Coordination with Native American tribal representatives regarding monitoring will be conducted, if needed.

5.0 CHANGED CIRCUMSTANCES

Section 15162 of the California Environmental Quality Act (CEQA) Guidelines states that a Subsequent EIR would be required if substantial changes occur with respect to the circumstances under which the subsequent SWIP is undertaken which would require major revisions of the Certified EIR due to the creation of new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

No substantial changes to the immediate environmental setting of the Phase II ESA and geotechnical investigation Project site have been identified since approval of the Certified EIR. The Project site is still the Santa Clara River and its bed, including the County-owned storage yard. Further, the built-out nature of the surrounding area and immediately adjacent uses remain as described in the Certified EIR. Accordingly, existing conditions related to the environmental topics evaluated in the Certified EIR have not materially changed.

To address the potential for other changed circumstances to result in new or substantially more severe cumulative impacts, a review was completed of plans, policies and regulations that apply to the Project. Many of the same primary plans and regulations consulted and cited in the Certified EIR that relate to land use and the analysis of Project impacts under CEQA still apply to the Project, including the City of Ventura's General Plan and the Ventura County Zoning Ordinance. Based on this review, no changes in plans, policies, and regulations that would present new conflicts or would result in significant or substantially more severe physical impacts on the environment were identified.

The changes in circumstances that have occurred since preparation of the Certified EIR would not result in new significant impacts or substantial increases in the severity of previously identified significant impacts. No other additional information of substantial importance, which would require major revisions to earlier analyses that would warrant preparation of a Subsequent EIR pursuant to Section 15162 of the CEQA Guidelines has been found.

6.0 COMPARATIVE ANALYSIS OF IMPACTS: PHASE II ESA AND GEOTECHNICAL INVESTIGATIONS AND PREVIOUSLY CERTIFIED ENVIRONMENTAL DOCUMENTATION

Section 15162 of the California Environmental Quality Act (CEQA) Guidelines states that one of the conditions that would warrant preparation of a Subsequent EIR is if substantial changes are proposed in the project which will require major revisions of the Certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. An analysis was conducted to compare the impacts of the Project's Phase II ESA and geotechnical investigations with the impacts analyzed in the prior CEQA documentation for the Certified EIR. The analysis presented in this section confirmed that the Project would not result in new or substantially more severe Project or cumulative impacts in any of the environmental topics addressed in the Certified EIR. Therefore, Project impacts would be within the envelope of impacts analyzed in the Certified EIR.

No new or substantially more severe impacts would occur as a result of the Project; as such, a Subsequent EIR would not be required to address these Project changes pursuant to Section 15162 of the CEQA Guidelines.

6.1 AESTHETICS

The Certified EIR states that various rights-of-way are identified within and near the area offering scenic value, including North Bank Drive and other highways within unincorporated County areas and Highway 101. Temporary construction activities would not substantially alter views from those roadways. The pipelines would be placed below-ground, and above-ground facilities would be relatively smally and compatible with the existing visual environment. The blending/monitoring station would be placed outside of the viewshed of any scenic corridors. As such, impacts would be less than significant with respect to views and scenic resources. Impacts to visual character and quality along the alignment would be temporary during construction, and operation of the SWIP would not create uses that would be incompatible with the existing visual character or quality of the surrounding area. There would be no substantial above-ground facilities that would create new sources of light or glare, and any lighting would be hooded and directed downward to prevent light and glare impacts. Therefore, aesthetic impacts were determined to be less than significant.[6]

The Project would consist of geotechnical borings and related monitoring activities for biological and cultural resources within the bed and banks of the Santa Clara River. Additionally, the Project would also consist of a Phase II ESA within the City's right-of-way along Saticoy Avenue extending into the County-owned yard. Other non-invasive geophysical investigation activities would occur in upland areas to the southwest of the County-owned yard, within non-jurisdictional areas along the northern banks of the

[6] Ibid, pages 2-5 to 2-6.

Santa Clara River. Land uses in the vicinity of the Project are primarily multi- and single-family residential neighborhoods to the north, agricultural uses in the unincorporated County areas to the south, with the Santa Clara River itself running east and west through the Project site. The Certified EIR indicated that scenic views were available along North Bank Drive, which borders the Project site to the north. Although aboveground equipment required for the geotechnical investigation and Phase II ESA activities may be partially visible from North Bank Drive and public rights-of-way temporarily, they would be removed upon completion of the Project. As such, similarly to Certified EIR, these activities would not be inconsistent with existing visual character or quality of the site. Due to the temporary nature of Project activities, there would be no substantial damage to scenic resources within a state scenic highway or corridors of scenic value. Existing nighttime lighting in the Project area results from residential streetlights and headlights on nearby roadways. As the Project would be limited to standard day time hours (7:00 a.m. to 7:00 p.m.) Monday through Friday, the Project would not create a substantial source of light or glare.

In relation to the construction and operational impacts as stated in the Certified EIR for the entire SWIP, the Project's potential impacts to aesthetics would be negligible and would remain less than significant without the incorporation of mitigation measures. Implementation of the Project would not result in any new significant impacts to aesthetics, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project's impacts to aesthetics are within the scope of impacts identified in the Certified EIR.

6.2 AGRICULTURE AND FORESTRY RESOURCES

The Certified EIR states that the SWIP would not convert or contribute to the conversion of farmland, as no changes to existing land uses along the alignment would be required. There would be no conflict with existing zoning for agricultural uses. Although there are two parcels enrolled in Williamson Act contracts, pipelines would be placed underground and would not result in significant impacts to these agricultural uses. There is no forest land within the area that could be impacted. There would be no significant impact to farmland, forest land or agricultural soils as a result of construction or operation of the SWIP.[7]

The Project would not be located in an area identified by the Williamson Act or Prime Farmland, Unique Farmland, or Farmland of Statewide Importance pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, nor would the Project result in the conversion of important farmland pursuant to the Farmland Mapping and Monitoring Program to non-agricultural use. As the nearest forest land is located approximately 11 miles northwest within the Los Padres National Forest, the Project would not have any impact on forestry resources. There would be no impact to agricultural soils. Therefore, there would be no potential impacts to agriculture and forestry resources as a result of Project implementation, and Project-related impacts to agriculture and forestry resources would be less than the severity of impacts identified in the Certified EIR.

In relation to the construction and operational impacts as stated in the Certified EIR for the SWIP, the Project would have no impacts to agriculture and forestry resources. No mitigation measures would be

[7] Ibid, pages 2-11 to 2-12.

required to further reduce this impact. Implementation of the Project would not result in any new significant impacts to agriculture and forestry resources, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project's impacts to agriculture and forestry resources are within the scope of impacts identified in the Certified EIR.

6.3 AIR QUALITY AND GREENHOUSE GAS EMISSIONS

6.3.1 Air Quality

The Certified EIR for the SWIP included an evaluation of construction activities, including the horizontal directional drilling (HDD) which would be required for pipeline installation under the Santa Clara River. It was concluded that temporary construction impacts would not exceed Ventura County Air Pollution Control District (APCD) thresholds of significance for criteria air pollutants, as peak day construction related oxides of nitrogen and reactive organic compounds were short-term and below threshold levels. In addition, construction activities would be required to comply with applicable regulations. Long-term operational air pollution impacts evaluated in the Certified EIR were mainly related to maintenance related vehicle trips, and these emissions were also considered less than significant.[8]

The peak daily level of construction activity associated with the Project is less than peak daily construction activity for pipeline installation analyzed in the Certified EIR for the SWIP. As such, peak daily emissions of criteria air pollutants for the Project would be below those of the SWIP which were determined to be less than significant. There would be no long-term operation phase emissions associated with the Project. Implementation of the Project would not result in any new significant air quality impacts, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project's air quality impacts are within the scope of impacts identified in the Certified EIR.

6.3.2 Greenhouse Gas Emissions

As described in the Certified EIR, implementation of the entire SWIP would result in less than significant impacts with respect to greenhouse gas (GHG) emissions. The APCD has not adopted GHG thresholds of significance; however, APCD has stated that consistency with South Coast Air Quality Management District's GHG thresholds would be appropriate. Due to the lack of any other applicable threshold, the Certified EIR determined that if a project results in emissions of less than 10,000 metric tons of carbon dioxide equivalent (CO_2E), GHG impacts would be considered less than significant. The Certified EIR determined that construction activities associated with implementation of the SWIP would result in a total of approximately 2,994 metric tons of CO_2E; therefore, this impact would be less than significant.[9]

The scale and duration of construction activity associated with the Project (geotechnical investigation and Phase II ESA) is less than the scale and duration of construction activity associated with pipeline installation analyzed in the Certified EIR for the SWIP. As such, the incremental increase in GHG

[8] Ibid, pages 2-25 to 2-26.
[9] Ibid, pages 2-26.

emissions from the Project when combined with those from pipeline installation would remain well below the applicable threshold of significance. There would be no long-term operation phase emissions associated with the Project. In relation to the GHG impacts as stated in the Certified EIR for the SWIP, the Project's potential impacts would remain less than significant, without the incorporation of mitigation measures. Implementation of the Project would not result in any new significant GHG impacts, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's GHG impacts are within the scope of impacts identified in the Certified EIR.

6.4 BIOLOGICAL RESOURCES

The Certified EIR states that special plant species are not anticipated to occur within areas affected by construction and operation of the SWIP. Pipeline installation activities would not take place in close proximity to suitable breeding habitat for special-status wildlife species, as such these impacts would be less than significant. Furthermore, the Certified EIR states that that there are no adopted habitat conservation plans in the area, and there would be no conflict with local policies protecting biological resources. There are no sensitive plant communities and/or wetlands within the areas affected by construction and operation of the SWIP. In addition, it was determined that the pipeline crossing under the bed of the Santa Clara River would not result in any barriers or loss of habitat that could adversely affect wildlife movement.[10]

With respect to special-status wildlife species, the Certified EIR determined that installation of the HDD pipeline under the Santa Clara River may result in a significant impact to the endangered least Bell's vireo. In addition, pipeline installation along Segment 2 and in the HDD construction staging areas may disrupt breeding of migratory birds. These impacts would be reduced to less than significant levels with the incorporation of mitigation measures.[11]

Implementation of the Project would occur along Segment 2 of the pipeline alignment, specifically within the bed and banks of the Santa Clara River, the County-owned yard and City right-of-way; however, previous investigations of potential impacts to biological resources within the bed of the Santa Clara River were not conducted as part of the Certified EIR. As such, additional studies were conducted to determine the presence of special-status plant and wildlife species within and adjacent to the Santa Clara River floodplain. A reconnaissance survey was conducted by Stantec biologists, on October 8, 2020, within accessible portions of the Project site in the Santa Clara River, and within a 500-foot buffer zone (approximately 72 acres), which also encompassed the areas that would be affected by Phase II ESA activities. Subsequently, a Biological Resources Technical Report (BRTR) was prepared by Stantec in order to evaluate the potential for biological resources to occur within the 72-acre Biological Study Area (BSA) and is included as Appendix A to this Addendum. In addition, a Jurisdictional Wetlands/Waters Delineation Report was prepared by Stantec in order to assess jurisdictional waters associated with the Project site and is included as Appendix B to this Addendum.

[10] Ibid, pages 2-51 to 2-53.
[11] Ibid, page 2-51.

6.4.1 Environmental Setting and Methodologies

The biological resources assessment of the BSA included but was not limited to a literature review, reconnaissance-level survey, non-protocol survey to detect the presence of special-status plant and wildlife species, and a non-protocol avian survey to document the presence of birds, including listed species, if present. The survey was conducted on foot within the BSA, where accessible, based on terrain and availability of public access. The regulatory setting presented in the BRTR (federal, state and local) has not changed from what was presented in the Certified EIR, and existing physical conditions of the Santa Clara River generally remain the same.

Biological Surveys and Habitat Assessment

Stantec conducted a habitat assessment and reconnaissance-level survey to document the environmental conditions present within the BSA. The primary goal of this initial survey was to identify and assess habitat that may be capable of supporting special-status plant or wildlife species and determine the potential need for additional focused surveys for special-status resources. Biologists recorded all incidental plant and wildlife observations. This assessment did not include focused, protocol-level surveys for special-status plants or wildlife or other sensitive resources, which were not required at that time.

Vegetation descriptions and nomenclature are based on the second edition of A Manual of California Vegetation (Sawyer et al. 2009), where applicable, and have been defined to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the Environmental Systems Research Institute (ESRI) Collector for ArcGIS app on an Apple iPad coupled with an Arrow sub-meter external global positioning system (GPS) unit. Mapping was further refined in the office using ESRI ArcGIS (version 10.7) with aerial photograph base maps with an accuracy of one foot. Most boundaries shown on the maps are accurate within approximately three feet; however, boundaries between some vegetation types are less precise due to difficulties in interpreting aerial imagery and accessing stands of vegetation.

A formal jurisdictional waters delineation per United States Army Corps of Engineers (USACE) guidelines was conducted as part of this assessment. The proposed work area, along with a 100-foot buffer (referred to as the Jurisdictional Survey Area or JSA), were evaluated for potential wetlands and/or waters subject to federal and/or state jurisdiction pursuant to Section 404 and 401 of the Clean Water Act (CWA) concurrently with the field surveys described above. This jurisdictional assessment also included an investigation of aquatic features that could meet the jurisdictional requirements pursuant to Section 1600 et seq. of the California Fish and Game Code and the Porter-Cologne Water Quality Act. Prior to conducting the field assessment, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (United States Department of Agriculture 2020), local and state hydric soils lists, and the National Wetlands Inventory (NWI) (United States Fish and Wildlife Service [USFWS] 2020a) to evaluate the potential active channels and wetland features that occur within the JSA. During the field assessment, hydrologic features were mapped using the same data collection equipment described above for the botanical surveys. Field data were further manipulated in the office using GIS and total jurisdictional area for each regulatory jurisdiction was calculated.

6.4.2 Existing Conditions

The BSA is located along a 0.3-mile segment of the SWIP and extends from the intersection of South Saticoy Avenue and North Bank Drive across/under the Santa Clara River towards Vineyard Avenue. In general, the Project site consists of dirt roads, dirt trails, a partially developed lot, a County-owned yard, City right-of-way, and the Santa Clara River, including its associated floodplain, banks, and adjacent upland areas. Land uses within and adjacent to the BSA consist of predominantly single-family residential neighborhoods and institutional land uses to the north, industrial and agricultural land uses to the south, and the Santa Clara River to the east and west. The Project is located within the Lower Santa Clara River watershed within its Santa Clara River Valley subregion. The Santa Clara River flows 83 miles from the northwestern San Gabriel Mountains to the coast and is fed by numerous named stream tributaries as it flows westward, eventually reaching the Pacific Ocean. The river and its tributaries experience high annual flow variability, multi-year droughts, and extreme seasonal flooding, which together result in a highly dynamic alluvial system (Stillwater Sciences 2011). Elevations within the Survey Area range from approximately 90 feet to 120 feet above mean sea level.

Vegetation Communities

Habitats observed within the BSA during the field survey, where vegetated, were comprised primarily of common plant species and vegetation communities found in the coastal areas of southern California. Habitat conditions within the vegetated portions of the BSA were noted to be of generally good quality, with well-established communities comprised of native and non-native shrub and herbaceous species. Within the BSA, the Stantec Biologists mapped five plant communities defined by Sawyer et al. (2009), one additional vegetation community, and one land cover type. Small, localized areas occupied by other plant communities were also observed within the BSA; however, the areas were less than the minimum mapping unit dictated by the size of the survey area and thus, were not mapped.

Upland Mustards – *Brassica nigra- Hirschfeldia incana* Herbaceous Semi-Natural Alliance: Approximately 6.78 acres of this community occurs within the northern portions of the BSA; this community was associated with disturbed areas outside of the active channel of the Santa Clara River and adjacent to a County of Ventura maintenance yard. Black mustard (Brassica nigra) and shortpod mustard (Hirschfeldia incana) are the dominant ruderal forbs in the herbaceous layer.

Mulefat Thickets – *Baccharis salicifolia* Shrubland Alliance: Approximately 6.52 acres of this community occurs within three distinct locations of the BSA. Mulefat (*Baccharis salicifolia*) is the dominant species with emergent trees and shrubs present at low cover including a sparse mix of red tamarisk (*Tamarix ramosissima*), Goodding's willow (*Salix gooddingii*), telegraph weed (*Heterotheca grandiflora*), and giant reed (*Arundo donax*). The percent coverage of mulefat varied within this community with 90 percent mulefat coverage in some areas and nearly co-dominant with giant reed in others, where near co-dominant mulefat was of a slightly higher percentage than Arundo.

Giant Reed Marsh – *Arundo donax* Herbaceous Semi-Natural Alliance: Approximately 2.37 acres of this community occurs within the eastern and western extents of the BSA. Giant reed (*Arundo donax*) is dominant in the herbaceous layer with mulefat (*Baccharis salicifolia*). Giant reed is an extremely invasive

species non-native to southern California that forms dense monotypic stands and outcompetes most of the native species for resources. In most areas, giant reed reached eight ten feet in height.

Fennel Patches – *Foeniculum vulgare* Herbaceous Semi-Natural Alliance: Approximately 0.50 acre of this community occurs within one location, adjacent to the County of Ventura maintenance yard, in the eastern/central portion of the BSA. Fennel (*Foeniculum vulgare*) is the dominant species in the herbaceous and shrub canopies with occasional black mustard interspersed in the fennel patches.

Coastal Sagebrush Scrub – *Artemisia californica* Shrubland Alliance: Approximately 3.30 acres of this community occurs in the extreme southern extent of the BSA atop the banks of the Santa Clara River. California sagebrush (*Artemisia californica*) is co-dominant in the shrub canopy with coyote bush (*Baccharis pilularis*) and black sage also present. California sagebrush and coyote bush were generally found to occur in dense stands up to four feet high. Mousehole tree (*Myoporum laetum*) was sporadically interspersed in the canopy.

Alluvial Scrub: Approximately 30.13 acres of this vegetation type occurs within a large portion of the BSA and is confined to the large terrace between the main and secondary channels of the Santa Clara River. Alluvial scrub is an open vegetation adapted to the harsh conditions of the outwash environment. Alluvial scrub has been described as a variant of coastal sage scrub characterized by a rich combination of evergreen shrubs common to chaparral together with drought-deciduous shrubs and subshrubs found in coastal sage scrub. Scale broom (*Lepidospartum* sp.), observed in the BSA, is considered an indicator species because it is faithful to alluvial substrates and was present within the BSA. Other common alluvial scrub shrubs found within the BSA include California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemesia californica*), deerweed (*Acmispon glaber*), prickly pear (*Opuntia* sp.), and yerba santa (*Eriodictyon* sp.) (Barbour, M. and Wirka J. 1997). False goldenaster (*Heterotheca sessiliflora*) was dominant in the shrub canopy and was sporadically interspersed with other species including California croton (*Croton californicus*), mulefat (*Baccharis salicifolia*), shortpod mustard (*Hirschfeldia incana*), California cudweed (*Pseudognaphalium californicum*), giant reed (*Arundo donax*), big saltbush (*Atriplex lentiformis*), coyote bush (*Baccharis pilularis*), black sage (*Salvia mellifera*), and rabbit's foot grass (*Polypogon monspeliensis*). This community had some bare or sparsely vegetated areas.

Land Cover Types

Disturbed/Developed: This land cover type was used to map approximately 22.53 acres of the BSA that are disturbed/developed. Ares mapped as this land cover type include single family residential neighborhoods, landscaped parks, paved roadways, unpaved roads/walkways, landscaped areas, and institutional, agricultural, and industrial land uses. The vegetated areas within this land cover type primarily contain ornamental planters, such as within residential yards and landscaped areas, and croplands. The most frequently observed species within these areas include pampas grass fig (*Cortaderia selloana*), Peruvian peppertree (*Schinus mole*), Mexican fan palm (*Washingtonia robusta*), foxtail agave (*Agave attenuata)*, lemon-scented gum (*Corymbia citriodora*), Brazilian peppertree (*Schinus terebinthifolia)*, and western sycamore (*Platanus racemosa*). These areas are generally periodically maintained for weed control, precluding any significant growth of non-ornamental species, but may be sparsely interspersed with ruderal pioneer plant species that readily colonize open disturbed soil. These

species may include prickly lettuce (*Lactuca serriola*), bull thistle (*Cirsium vulgare*), bristly oxtongue (*Helminthotheca echioides*), tree tobacco (*Nicotiana glauca*), wild fennel (*Foeniculum vulgare),* castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), and shortpod mustard (*Hirschfeldia incana*).

Common Plant Species Observed: Plants observed during the October 8, 2020 reconnaissance-level surveys were recorded; however, a focused, floristic-level survey was not conducted. The reconnaissance-level surveys resulted in the documentation of 51 species of native and non-native plants within the BSA, a detailed list of which is provided in Table 2 of the BRTR.

Common Wildlife

Terrestrial Invertebrates: As in all ecological systems, invertebrates inhabiting the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food sources for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. Though heavily urbanized, habitat conditions within the BSA provide a suite of microhabitat conditions for a wide variety of terrestrial insects and other invertebrates that are known to adapt to such disturbance. A focused insect survey was not performed within the BSA for this Project; however, a variety of common insects were observed during the reconnaissance survey, including species from the following orders: Aranidae (spiders), Coleoptera (beetles), Diptera (flies and mosquitoes), Lepidoptera (moths and butterflies), Odonata (dragonflies and damselflies), Hemiptera (true bugs), and Hymenoptera (wasps, bees and ants).

Fish: The Santa Clara River within the BSA is an ephemeral stream and when the Santa Clara River is actively flowing, water temperatures vary by season and are a function of depth, location, and snowpack in the upper watershed. Water was not present within the BSA during the October 8, 2020 field reconnaissance level survey. No fish were observed within the BSA; however, focused fish surveys were previously completed. Although not detected during the surveys, the watershed is known to support other exotic species including green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), mosquito fish (*Gambusia affinis*), common carp (*Cyprinus carpio*) and large-mouth bass (*Micropterus salmoides*).

Amphibians: Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These species are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris), which is generally not present within the BSA, could provide shelter and feeding sites for a variety of wildlife, including amphibians and reptiles (Aubry et al. 1988; Maser and Trappe 1984).

Amphibian species were not observed during the reconnaissance survey within the BSA. Species not observed in the BSA, but known to occur in the area, include the western toad (*Anaxyrus boreas*), California tree frog (*Pseudacris hypocondriaca*), Pacific treefrog [chorus frog] (*Pseudacris regilla*), nonnative bullfrog (*Lithobates catesbeiana*), black-bellied salamander (*Batrachoseps nigriventris*), and

African clawed frog (*Xenopus laevis*). Although perennial flows do not exist within this section of the Santa Clara River, based on the presence of ephemeral aquatic habitat within the BSA, amphibians are expected to be seasonal residents and to occur as transients. Many amphibians are often excluded by exotic fish and amphibian species, which are common the Santa Clara River watershed.

Reptiles: The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrates, soil types, and presence of refugia such as rock piles, boulders, and native debris. Many reptile species, even if present, are difficult to detect because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most species take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation, where they are protected from unsuitable environmental conditions and predators (USACE and CDFG 2010). In some cases, they are only observed when flushed from their refugia. Weather conditions during the survey were favorable for reptile activity.

Reptiles were commonly observed within the BSA during the October 8, 2020 field reconnaissance survey in both disturbed and natural areas including western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinata*), and common side-blotched lizard (*Uta stansburiana*). Although not observed, several other common reptiles are known to occur in the area include the southern Pacific rattlesnake (*Crotalus oreganus* ssp*. helleri*). gopher snake (*Pituophis catenifer*), western whiptail (*Aspidoscelis tigris*), and California king snake (*Lampropeltis getula californiae*).

Birds: Birds were identified by sight and were observed throughout the BSA; however, weather conditions were not favorable for optimal avian viewing due to overcast skies and light winds. Upland birds were observed and are expected to permanently inhabit the BSA with the significant cover and nesting opportunities present in multiple different habitat types. Upland bird species observed include American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), dark-eyed junco (*Junco hyemalis*), lesser goldfinch (*Spinus psaltria),* turkey vulture (*Cathartes aura*), redtailed hawk (*Buteo jamaicensis*), and Nuttall's woodpecker (*Dryobates nuttallii*). Although no detected, other species expected to occur include Cooper's hawk (*Accipiter cooperii),* great blue heron (*Ardea herodias*), great horned owl (*Bubo virginianus*), hooded oriole (*Icterus cucullatus*), California towhee (*Melozone crissalis*), and western bluebird (*Sialia mexicana*).

Mammals: Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas).

The BSA is approximately 72 acres in size and is largely confined between developed and residential areas; however, the large width of the flood plain does allow for connectivity to natural lands in areas upstream and downstream. Terrestrial mammal species observed during the surveys included desert

cottontail (*Sylvilagus audubonii*), and domestic dog (*Canis familiaris*). A number of common mammals habituated to urban environments may move through the BSA, including striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), coyote (*Canis latrans*) and raccoon (*Procyon lotor*), and domestic species such as house cats (*Felis cattus*). Other species that may be expected to occur include bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), American black bear (*Ursus americanus*), and mule deer (*Odocoileus hemionus*).

Although bats were not detected in the BSA, they may forage and roost in the riparian corridors in the region where insect abundance is high (California Department of Fish and Wildlife [CDFW] 2000). Because this type of foraging habitat is limited within the BSA, it is unlikely that bats permanently inhabit or forage in significant numbers in the BSA.

Soils

Prior to conducting the delineation, historic soils data from the Natural Resources Conservation Service was used to determine potential soil types that may occur with the BSA; this data was used to determine where hydric soils have historically occurred. Hydric soil is present within 17.4 acres of the BSA, as Riverwash.

Jurisdictional Waters/Wetlands

There are four key agencies that regulate activities within inland streams, wetlands, and riparian areas in California: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA and Section 10 of the Rivers and Harbors Act; the CDFW regulates activities under the Fish and Game Code (FGC) Sections 1600-1607; and the Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The NWI has mapped R4SBC (Riverine, Intermittent, Streambed, Seasonally Flooded), PUS/SSA (Palustrine, Unconsolidated Shore, Scrub-Shrub, Temporary Flooded), and Rp1SS (Riparian, Lotic, Scrub-Shrub) within the BSA.

Based on the data collected in the field, four types of jurisdictional waters occur within the JSA. These include USACE/RWQCB wetlands, USACE/RWQCB non-wetland Waters of the United States (WOTUS), Waters of the State (WOTS), and CDFW jurisdictional waters. Soil test pits were excavated along three transects that ran perpendicular to the Santa Clara River through the JSA. The JSA consisted of 3.25 acres of USACE/RWQCB wetlands, 19.59 USACE/RWQCB non-wetland WOTUS, and 30.54 acres of WOTS/CDFW jurisdictional waters.

6.4.3 Special-Status Biological Resources

The background information presented above combined with habitat assessments performed during the surveys was used to evaluate special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the BSA and adjacent habitats. For the purposes of this BRTR, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the California Endangered Species Act (CESA) or Federal Endangered Species Act (FESA)
- Are candidate species being considered or proposed for listing under these same acts
- Are recognized as SSC by the CDFW
- Are ranked by California Native Plant Society (CNPS) as CNPS Rare Plant Rank 1, 2, 3, or 4 plant species
- Are fully protected by the FGC, Sections 3511, 4700, 5050, or 5515
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions (e.g., Ventura County Locally Important Species)

Special-Status Natural Communities

Special-status natural communities are defined by CDFW (2018) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank; however, only those that are of special concern (S1-S3 rank) are evaluated under CEQA.

One vegetation community identified within the BSA is listed as sensitive – Mulefat Thickets. The vegetation community, Mulefat Thickets, has a state rank of S4 which indicates it is apparently secure; at a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. The BSA does not occur within a Natural Community Conservation Plan or Habitat Conservation Plan.

Designated Critical Habitat

Critical habitat is defined by the USFWS (2020b) as, "…a term defined and used in the Endangered Species Act. It is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery."

There is Designated Critical Habitat for southwestern willow flycatcher (*Empidonax traillii extimus*) within the Project area. Based on existing habitat conditions, there is a moderate likelihood of the species to forage and nest within the BSA.

Special-Status Plants

Record searches of the California Natural Diversity Database (CNDDB), the CNPS Online Inventory, and the Consortium of Critical Herbaria was performed for special-status plant taxa. Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- **Present:** Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Moderate:** Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal or limited within the BSA, or the BSA is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Low:** A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles), and the environmental conditions (including soil type) associated with taxa presence are marginal or limited within the BSA.
- **Not Likely to Occur:** The environmental conditions associated with taxa presence do not occur within the BSA.

While many species have potential to occur within the BSA, they are not expected to occur within the Project area due to the lack of suitable habitat. Refer to Table 6 of the BRTR for the detailed list of known and potential occurrences of special-status plant taxa within the BSA.

Special-Status Wildlife

Special-status taxa include those listed as threatened or endangered under the FESA or CESA, taxa proposed for such listing, SSC, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare and that have the potential to occur within the BSA. The CNDDB was queried for occurrences of special-status wildlife taxa within the United States Geological Survey (USGS) topographical quadrangles in which the BSA occurs and the eight surrounding quadrangles. Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- **Present:** Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.
- **High:** Habitat (including soils) for the taxa occurs onsite, and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- **Moderate:** Habitat (including soils) for the taxa occurs onsite, and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and

marginal or limited amounts of habitat occurs onsite; or the taxa's range includes the geographic area and suitable habitat exists.

- **Low:** Limited habitat for the taxa occurs within the BSA and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- **Not Likely to Occur:** The environmental conditions associated with taxa presence do not occur within the BSA.

While many of the species have potential to occur within the BSA, they are not expected to occur within the Project area due to the lack of suitable habitat. Some of the more mobile species may occasionally occur as a transient visitor but would not occupy Project areas for any significant amount of time. Refer to Table 7 of the BRTR for the detailed list of known and potential occurrences of special-status wildlife taxa within the BSA.

Wildlife Corridors and Special Linkages

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.

- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that link two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.
- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.
- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors, within larger natural habitat areas that are frequently used by animals to facilitate movement and provide access to water, food, cover, den sites, and other necessary resources. A travel route is generally preferred by a species because it provides the least amount of

topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll 1997).

- Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are human-made and include culverts, underpasses, drainage pipes, bridges, tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll 1997).

Wildlife Movements in the BSA: The proposed SWIP alignment associated with the Project is located within the lower Santa Clara River Valley, which has been highly modified by agricultural and residential development. The BSA encompasses an approximately 0.3-mile segment of the Santa Clara River that spans east to west and is surrounded by single-family residential and institutional land uses to the north, and agricultural and industrial land uses to the south. Although the Santa Clara River is confined by levees in the Project area, regional wildlife movement may occur along the riverbed from coastal areas to adjacent less developed areas and areas more inland. The BSA occurs within a known wildlife movement corridor or habitat linkage as identified by the South Coast Wildlands (2008) or Penrod et al (2001) associated with the Santa Clara River.

The Santa Clara River is considered a regionally significant habitat linkage for a variety of species and provides connectivity from coastal regions to inland valleys and important tributary drainages. The majority of the length of the main stem of the Santa Clara River is connected by a nearly continuous strip of active channel. This active channel is a key corridor for aquatic and water-dependent species throughout the length of the river, so maintaining continuity of flows within the river is especially important. The river channel is also important in the dispersal of many amphibians and plant species (VCRMA 2019).

Although the riparian areas of the Santa Clara River have been fragmented by both natural and human development, the riparian vegetation along the river is an important corridor for movement of many species, especially birds. The BSA is within the Pacific Flyway, a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Each year, at least one billion birds migrate along the Pacific Flyway (Audubon 2020). Local resident species, including raptors and large mammals, move up and down the river into adjacent uplands habitat along the riparian corridor.

These lands function as a regional wildlife network, forming a genetic and population reservoir that is important in maintaining species and genetic diversity through migration between habitat blocks.

6.4.4 Environmental Impact Analysis

The Certified EIR evaluated impacts to biological resources by considering thresholds of significance as provided in the CEQA Guidelines and Ventura County Special Project Impact Thresholds.[12] As such, the evaluation below considers the same thresholds.

Special-Status Plant Species (Certified EIR Significance Thresholds a, b, c, i, j)

As described in the BRTR, there is the potential for Project implementation to impact special-status plant species; however, the lack of suitable habitat for such species makes the potential for impacts highly unlikely. The only special-status plant species with a high likelihood to occur is the Southern California black walnut, which has limited suitable habitat in the Project area but has known occurrences immediately downstream. Compliance with Project-specific permit conditions, regulatory requirements, and Environmental Commitments and Impact Avoidance and Minimization Measures identified in Section 4.2.2 will ensure that potential impacts to special-status plant species would remain less than significant.

Special-Status Wildlife Species (Certified EIR Significance Thresholds a, b, d, g, h, i, j, k, l, m, n)

As described in the BRTR, there is the potential for Project implementation to impact special-status wildlife species. Although not observed during reconnaissance surveys, the highest occurrence potential occurs in for fish species, when flowing water is present. As Project activities will not take place in flowing water in the Santa Clara River, there would be no impact to special-status fish species. With respect to other special-status species, compliance with Project-specific permit requirements, regulatory requirements and Best Management Practices (BMPs), such as on-site monitoring, to avoid and/or protect special-status wildlife species will ensure that impacts remain less than significant.

Although significant impacts to biological resources from Project implementation are unlikely to occur, implementation of Certified EIR mitigation measures BIO MM-1 (Least Bell's Vireo Surveys) and BIO MM-2 (Breeding Migratory Bird Avoidance Measures), as well as the Environmental Commitments and Impact Avoidance and Minimization Measures identified in Section 4.2.2 would reduce potential impacts to special-status birds a less than significant level.

> **BIO MM-1: Least Bell's Vireo Surveys**
>
> Protocol surveys utilizing the January 19, 2001 Least Bell's Vireo Survey Guidelines (or equivalent approved by USFWS) shall be conducted in all suitable habitat within 500 feet of any proposed staging areas near the Santa Clara River to demonstrate absence of this species. If absence cannot be demonstrated to the satisfaction of the USFWS, least Bell's vireo avoidance measures (see below) shall be implemented.
>
> Least Bell's Vireo Avoidance Measures. If absence of this species cannot be demonstrated, all construction activity/pipeline installation work involving excavation, drilling and/or use of heavy

[12] Ibid, pages 2-47 to 2-50.

equipment or heavy-duty trucks within 500 feet of the Santa Clara River at the proposed pipeline crossing site shall be conducted when least Bell's vireo is not breeding (August 1 through April 1).

BIO MM-2: Breeding Migratory Bird Avoidance Measures

Vegetation removal and pipeline installation and related construction activity adjacent to tree windrows or native vegetation (portions of Segment 2 near Huntsinger Park and the Santa Clara River, portions of Segment 16 near the Las Posas Estates Drain, Segment 18 and Segment 19 along the blue gum windrow and native scrub vegetation, near the Saticoy Conditioning Facility) shall avoid the migratory bird and raptor breeding season (February 15 to August 15).

- If construction in these areas cannot be avoided during this period, a nest survey within the area of impact and a 200-foot buffer for passerines and any available raptor nesting areas within 500 feet shall be conducted by a qualified biologist no more than 5 days prior to any native habitat removal or ground disturbance to determine if any nests are present.
- If an active nest is discovered during the survey, a buffer of 200 feet for migratory birds or 500 feet for raptors (or as determined by the biologist based on a field assessment) would be established around the nest. No construction activity may occur within this buffer area until a biologist determines that the nest is abandoned or fledglings are adequately independent from the adults.

Conflict with Local Policies or Ordinances Protecting Biological Resources or Provisions of Adopted Habitat Conservation Plans (Certified EIR Significance Thresholds e, f)

As with SWIP, the Project would not conflict with any applicable local policies from the City, County or the City of Camarillo. The Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy of ordinance. Furthermore, the BSA does not fall within the plan area for any Natural Community Conservation Plan or adopted Habitat Conservation Plan. Implementation of the Project would be consistent with the policies and ordinances listed in the Certified EIR. As such, the Project would have no impact in this regard. This finding is consistent with the Certified EIR.

Sensitive Plant Communities and Wetlands (Certified EIR Significance Thresholds c, o, p, q, r, s, t)

As stated above, the JSA consisted of 3.25 acres of USACE/RWQCB wetlands, 19.59 acres USACE/RWQCB non-wetland WOTUS, and 30.54 acres of WOTS/CDFW jurisdictional waters. Implementation of the Project would temporarily impact 1.43 acres of USACE/RWQCB non-wetland WOTUS, and 1.69 acres of WOTS/CDFW jurisdictional waters. During initial preparation of technical studies (i.e., the Jurisdictional Delineation), it was understood that the drill rigs and other equipment supporting geotechnical testing activities would need to traverse an area that is defined as a federal wetland (WOTUS). This equipment access may have required blading through an identified wetland area (totaling approximately 0.09 acre) to ensure a path of safe travel, or to extricate vehicles which may get stuck in the sandy and sloped banks of the Santa Clara River. However, the area where geotechnical

boring activities would occur would temporarily impact less than 0.01 acre of Non-Wetland WOTUS, consisting of the diameter of the 6-inch boreholes themselves.

As more information regarding the Project and methodologies regarding site access became available, it became clear that other site access methods could be employed which would avoid and minimize these temporary access impacts to wetlands. As a result of this new understanding, it was determined that no blading activities are anticipated to occur within wetland areas and temporary impacts would be far less than originally anticipated. Additionally, the identified path of travel for drilling equipment would traverse inert herbaceous vegetation which, if compressed temporarily, would be able to spring back up to its original state. Avoidance and minimization efforts would include wildlife preconstruction clearance surveys, biological monitoring, environmental awareness training and nesting bird surveys and avoidance measures. These measures require the presence of a biologist ahead of all construction equipment to ensure that the path of travel and areas where geotechnical borings would occur would be free of sensitive plants and species, as well as avoiding wetland areas. Due to the minimal nature of this temporary impact, and the substantive avoidance and minimization requirements of the Project, no additional mitigation is warranted.

Furthermore, Project related impacts to these jurisdictional areas will require authorization under Section 404 of the CWA from the USACE, Section 401 Water Quality certification from the RWQCB, and Section 1602 permission for a Lake and Streambed Alteration Agreement from CDFW. Based on the above evaluation, implementation of avoidance and minimization measures, and compliance with these regulatory permit requirements, potential impacts to sensitive plant communities and wetlands would remain less than significant.

Habitat Connectivity/Wildlife Movement Corridors (Certified EIR Significance Thresholds u, v, w, x, y, z)

As stated above, although the riparian areas of the Santa Clara River have been fragmented by both natural and human development, the riparian vegetation along the river is an important corridor for movement of any species, especially birds. The BSA is within the Pacific Flyway, and local resident species utilize the riparian habitat along the riparian corridor. Adherence to the Environmental Commitments and Impact Avoidance and Minimization Measures identified in Section 4.2.2 that include wildlife pre-construction clearance surveys and biological monitoring, environmental awareness training and nesting bird surveys and avoidance measures, will ensure that impacts to habitat connectivity and wildlife movement corridors remain less than significant.

Conclusion

In relation to impacts to biological resources as stated in the Certified EIR for the SWIP, the Project's potential impacts would be less than significant with incorporation of Certified EIR mitigation measures BIO MM-1 and BIO MM-2 and Environmental Commitments and Impact Avoidance and Minimization Measures identified in Section 4.2.2. Implementation of the Project would not result in any new significant impacts to biological resources, nor would it result in a substantial increase in the severity of impacts as

compared to those identified in the Certified EIR. Furthermore, the Project's impacts to biological resources are within the scope of impacts identified in the Certified EIR.

6.5 CULTURAL RESOURCES

The Certified EIR determined that there were two cultural resource sites traversed by the SWIP; however, these sites are not located along Segment 2 of the alignment. Previous evaluations of cultural resources conducted as part of the Certified EIR did not provide specific information regarding potential resources within the bed and banks of the Santa Clara River and within and adjacent to the County-owned yard. Although earlier records searches identified four prehistoric sites, potentially containing subsurface Native American resources, within a 0.25-mile radius of the proposed alignment, the Certified EIR stated that there were no cultural resources observed along Segment 2.[13]

Implementation of the Project would occur along Segment 2 of the pipeline alignment, specifically within the bed and banks of the Santa Clara River, City right-of-way, along Saticoy Avenue between Peony Street and North Bank Drive, and extending into and adjacent to the County-owned yard along the northern bank of the Santa Clara River; however, previous investigations of potential impacts to cultural resources within the bed of the Santa Clara River were not conducted as part of the Certified EIR. As such, additional studies were conducted to determine the presence of archaeological resources within the Santa Clara River and adjacent upland areas. Subsequent records searches and pedestrian surveys were undertaken to determine whether cultural resources were present in the location of Project implementation. On October 8, 2020, a reconnaissance survey of the Project site was conducted by a Stantec archaeologist to determine the presence or absence of any cultural or archaeological resources in the bed and banks of the Santa Clara River, and none were discovered. The Certified EIR for the SWIP includes adequate discussions of prehistory, ethnography, and history. The discussion of background in the Archaeological Resources Survey was consistent with the information presented in the Certified EIR. The findings are documented in an Archaeological Resources Survey, included as Appendix C of this Addendum, and summarized below.

6.5.1 Cultural Resources Survey Methodology

Archaeological investigations reported herein consisted of an intensive pedestrian survey of a 21.5-acre archaeological resources survey area, including the archival records search based on the results and data obtained by Padre and Associates (Letter and Val 2018) from the South Central Coastal Information Center (SCCIC) of the California Heritage Resource Information System in 2017. Provided below is the methodology used during the current study.

Records Search

As presented in the Certified EIR, Padre and Associates (Letter and Val 2018) conducted an archival records search from the SCCIC files on June 28, 2017. The search entailed a review of all previously recorded prehistoric and historical archaeological sites, as well as a review, of all known cultural

[13] Ibid, pages 2-66 to 2-68.

resources survey reports, excavation reports, and regional overviews within the Study Area. The records search was conducted along the entire alignment of the proposed Interconnection alignment between Ventura and Springville Connections, and included the Santa Clara River HDD crossing and staging areas on both banks of the Santa Clara River (Segment 2).

Cultural Resource Studies and Resources

The records search conducted by Padre and Associates (Letter and Val 2018) revealed that 93 cultural resources studies have been completed within a 0.25-mile radius of the proposed and/or alternative pipeline alignments. Of these, 29 previous cultural resources studies have been completed in areas that overlap with the current pipeline alignment. Furthermore, the records search identified two previously recorded cultural resources within or immediately adjacent to the current pipeline alignment. Resource CA-VEN-223 appears to be located within the proposed Segment 18, and resource P-56-15001 is located directly within Segment 19. Additionally, the records search identified 11 previously recorded resources within a 0.25-mile radius of the proposed pipeline alignment. Of those 11 resources, five were identified within a 0.25-mile radius of Segment 2.

Field Methods

The current interconnection pipeline Segment 2 is located between Henderson Road and Vineyard Avenue/State Route 223 (SR223). The northern portion of Segment 2 follows existing roadways and extends through developed residential and commercial area in City. The southern portion of Segment 2 crosses Santa Clara River and continues south to Vineyard Avenue (SR 223).

A pedestrian survey of the 21.5-acre archaeological resources study area was conducted on October 8, 2020, by a Stantec archaeologist. The survey was conducted by walking parallel transects, spaced approximately 10 to 15 meters apart. Transects on the northern and southern banks of Santa Clara River were walked parallel to the riverbed, while surveys within the riverbed were walked parallel to the proposed geotechnical boring locations, roughly northwest-southeast axis. Upland areas where non-invasive electrical resistivity testing would take place were not fully surveyed, as this component of Phase II ESA activities would have extremely limited ground impacts, consisting of walking through the area, laying cables and placing probes into the ground surface beyond the reach of any native soils. Additionally, per the California Office of Historic Preservation (OHP) (OHP 1995) guidelines, Stantec examined surface and subsurface exposures such as rodent burrows and cut banks for physical manifestations of human activity greater than 45 years in age. Documentation included field notes and photographs.

The extent of the survey coverage was recorded and captured using ESRI Collector application for ArcGIS and Bad Elf GNSS Surveyor, a hand-held GPS unit, capable of achieving less than 1-meter horizontal accuracy, with the Universal Transverse Mercator, North American Datum of 1983, Zone 11, meters, as the spatial reference. Photographs were taken with a Canon PowerShot A530 digital camera and Pixel 3a cellular phone to document the environment within the Project Area and surrounding areas. The extent of the survey coverage was drawn on the Saticoy, CA (1967) USGS 7.5-minute series topographic quadrangle.

6.5.2 Survey Results

The survey was conducted on an overcast day with an average temperature of 65°F. The archaeological resources survey area was accessed from the north via Saticoy Avenue and North Bank Drive. The survey commenced on the north bank of Santa Clara River within graded areas of the County-owned yard, currently used for staging and storage of stone and aggregate materials, in which Phase II ESA activities are proposed. The survey continued southeast and examined the Santa Clara River channel, and more specifically both banks of the river for potentially buried deposits. Both banks of the Santa Clara River are between 25 to 30 feet in height, with several river-terrace levels and old erosion surfaces exposed along both banks, suggesting very high discharge rate during seasonal rains and flooding events.

The visibility throughout the cultural resources survey area was excellent, with 70 to 80 percent ground visibility. Both banks of the Santa Clara River have been extensively used as either rock quarries and/or farms, while the riverbed itself has sustained heavy erosion as a result of high river flow velocities. While the Santa Clara River is generally dry in the summer, a low active channel, was identified along the southern bank of the river, which was generally devoid of any vegetation. Modern era refuse was observed through the riverbed, and in some cases protruding from the southern bank of the river. Observed items included large tires, metal pipes, galvanized sheet of metal, wires, wood crates and pallets; however, no cultural resource deposits or surface features associated with past human occupation more than 50 years of age were observed.

6.5.3 Recommendations and Management Considerations

As part of the current archaeological study, 21.5 acres of land were inventoried to determine whether significant cultural resources would be affected by the proposed Project. The survey failed to identify any archaeological resources that could indicate human activities older than 50 years of age; therefore, no significant impacts to previously documented or undiscovered cultural resources are expected as part of the proposed geotechnical borings within Segment 2 of the Santa Clara River channel.

6.5.4 Environmental Impact Analysis

The Certified EIR evaluated impacts to cultural resources by considering thresholds of significance as provided in the CEQA Guidelines and Ventura County Special Project Impact Thresholds.[14] As such, the evaluation below considers the same thresholds.

Historical Resources (Certified EIR Significance Threshold a)

There are no historical resources present along Segment 2 or within the Project area, including the banks and bed of the Santa Clara River and areas where invasive Phase II ESA activities are proposed. Therefore, implementation of the Project would have no impact to historical resources.

[14] Ibid, page 2-66.

Archaeological Resources (Certified EIR Significance Thresholds b, c, e, f)

Based on the archaeological survey conducted within the Santa Clara River and areas where invasive Phase II ESA activities are proposed, no archaeological resources were observed. The Project will not cause a substantial adverse change to the significance of cultural resources as defined in Section 15064.5. Therefore, no additional cultural resources studies are recommended or required. Implementation of the Project would have no impact to archaeological resources.

Human Remains (Certified EIR Significance Threshold d)

Based on the archaeological survey conducted within the Santa Clara River and areas where invasive Phase II ESA activities are proposed, and consistent with the Certified EIR, in case of accidental discovery of human remains, compliance with regulatory requirements and would reduce any potential impacts to less than significant levels. Although significant impacts to cultural resources from Project implementation are unlikely to occur, implementation of Certified EIR mitigation measure CR MM-9 (Human Remains) would ensure that potential impacts would remain less than significant.

> **CR MM-9: Human Remains**
>
> If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. The agency constructing that portion of the project shall be immediately notified of any human remains found. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission.

Conclusion

Based on the findings of the Archaeological Resources Assessment prepared for the Project, and in relation to the impacts to cultural resources as stated in the Certified EIR for the SWIP, the Project's potential impacts to cultural resources would be negligible and would remain less than significant with incorporation of Certified EIR mitigation measure CR MM-9. Implementation of the Project would not result in any new significant impacts to cultural resources, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR.

6.6 ENERGY

The Certified EIR for the SWIP stated that construction and operation would not result in wasteful, inefficient, or unnecessary consumption of energy. There would be no conflict with any statewide or local plans related to renewable energy. Any potential disruption of utilities would be minor and temporary within the construction corridor of the Interconnection, and required protective measures would be in

place to prevent disruption of utility services during construction. Furthermore, there would be no resulting significant increase in utility demands.[15]

Based on the characteristics of the Project and the very limited potential for significant impacts related to energy use, and in relation to the less than significant impacts to energy as stated in the Certified EIR for the SWIP, the Project's potential energy impacts would be negligible and would remain less than significant without the incorporation of mitigation measures. Implementation of the Project would not result in any new significant energy impacts, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's potential energy impacts are within the scope of impacts identified in the Certified EIR.

6.7 GEOLOGY AND SOILS

As identified in the Certified EIR for the SWIP, the Project site is located in an area prone to seismic activity, including seismically induced landslides and liquefaction. Soil erosion and loss of topsoil would result from the SWIP would be controlled and reduced with implementation of a required Stormwater Pollution Prevention Plan (SWPPP) consistent with the requirements of the National Pollutant Discharge Elimination System Construction General Permit. No expansive soil was identified in the area, and no septic tanks or alternative wastewater disposal systems were included as part of the SWIP. Furthermore, the Certified EIR stated that the area was not subject to risk from inundation due to either seiche or tsunami. As such, all impacts were determined to be less than significant, with incorporation of mitigation measures requiring site-specific geotechnical evaluations to reduce risks associated with seismic activities.[16]

The purpose of the Project is to conduct site-specific geotechnical evaluations within the Santa Clara River and a Phase II ESA to delineate the extent of landfill material at the Disposal Site, with the County-owned yard, City right-of-way and adjacent upland areas. As the total disturbed areas would disturb less than one acre of soil, the Project would implement a Stormwater Pollution Control Plan (SWPCP), consistent with the requirements of the Countywide Stormwater Quality Management Program. There are no Project-related activities which would be subject to impacts related to geological or seismic risks, as there is no permanent construction proposed as part of the Project. Implementation of the Project would be conducted within a short period of time. Upon completion of the Project, a Geotechnical report would be generated to include recommendations based on a comprehensive evaluation of subsurface conditions that may affect design and construction of the Interconnection under Segment 2.

With respect to potential impacts to paleontological resources, the Certified EIR identified a possible paleontological deposit near Segment 18, and no such deposits were identified near Segment 2. Furthermore, should an unanticipated discovery be encountered, compliance with the cultural resource policies as stated in the Section 1.8.2 of the County General Plan would be required.[17]

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[15] Ibid, page 2-73.
[16] Ibid, pages 2-81 to 2-82.
[17] Ibid, page 2-65.

In relation to the construction and operational impacts as stated in the Certified EIR for the entire SWIP, the Project's potential impacts to geology and soil would be negligible and would remain less than significant without incorporation of mitigation measures. Implementation of the Project would not result in any new significant impacts to geology and soil, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project's impacts to geology and soil are within the scope of impacts identified in the Certified EIR.

6.8 HAZARDS AND HAZARDOUS MATERIALS

The Certified EIR stated that the SWIP would have less than significant impacts related to the transport, use, disposal or accidental release of hazardous materials, with incorporation of mitigation measures to reduce the potential for inadvertent release of drilling lubricants and muds during HDD activities. The Certified EIR identified three schools within 0.25-mile of Segment 2; however, there are no schools within 0.25 mile of the location of temporary Project activities. With respect to being located on a hazardous materials site, the implementation of the Project would not occur on a site that is on the Cortese list. There are former oil and gas wells, identified in the Certified EIR, that would potentially require proper abandonment in accordance with Division of Oil, Gas and Geothermal Resources requirements, but none are located in the vicinity of the Project.[18]

With respect to hazards related to airports, there are no major airports or private airstrips within the Project area. There is a small runway along the southern bank of the Santa Clara River operated by the Camarillo Flying Circus Radio Controlled Model Airplane Club; however, implementation of the Project in proximity to this periodic activity does not pose a risk to Project staff or increase the risk to the public. The Certified EIR found that the potential for interference or impairment with an emergency response plan or emergency evacuation plan would be less than significant.[19] In comparison, the Project's potential impacts would be even less, considering that the majority of Project activities would take place within the bed and banks of the Santa Clara River, the County-owned yard and City right-of-way, none of which are located within or along established emergency evacuation routes. With respect to wildfire risk, the Certified EIR states that the SWIP is not located in an area categorized as a high or very high fire hazard severity zone (FHSZ). Therefore, implementation of the Project would not cause an increased risk due to wildfire.

Based on the above, and in relation to the hazards and hazardous materials impacts as stated in the Certified EIR for the entire SWIP, the Project's potential impacts to hazards and hazardous materials would be negligible and would remain less than significant without the incorporation of mitigation measures. As described in Sections 4.2.1 and 4.2.2 above, upon completion of drilling and sample retrieval related to Phase II ESA and geotechnical boring activities, the drill holes will be backfilled in accordance with local requirements and applicable permit conditions. In locations where it is not feasible or permitted to disperse the investigation derived waste on-site, such as the Disposal Site investigation locations, the waste material will be stored in 55-gallon drums and transported to a nearby location where

[18] Ibid, pages 2-88 to 2-90.
[19] Ibid.

the drummed material will be stored until arrangements for disposal are made, in accordance with all applicable local health and safety regulations.

Implementation of the Project would not result in any new significant impacts from hazards or hazardous materials, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project's impacts from hazards and hazardous materials are within the scope of impacts identified in the Certified EIR.

6.9 HYDROLOGY AND WATER QUALITY

The Certified EIR states that construction activities related to the SWIP could impair surface water or groundwater, as a result of disturbance and exposure of soils during temporary trenching activities. In addition, HDD activities related to the placement of Segment 2 under the Santa Clara River would also have the potential to impact hydrology and water quality; however, the Certified EIR states that with adherence to regulatory requirements related to water quality standards and waste discharge requirements, impacts would be less than significant. A SWPPP would be implemented as part of the SWIP, which would specify BMPs to minimize the discharge of polluted runoff and specific measures for sediment and erosion control.[20] Similarly, as the Project could potentially impact water quality standards and waste discharge requirements, and a Project-specific SWPCP would be implemented to identify potential sources of pollution and specify BMPs to be implemented in order to minimize the discharge of polluted stormwater runoff to local surface waters (i.e., Santa Clara River) from Project activities.

The Certified EIR states that there would be no impacts with respect to groundwater resources, and the SWIP would not impair supplies, recharge or sustainable groundwater management.[21] For the Project, following geotechnical boring and Phase II ESA activities, all soils removed as a result of boring activities would be replaced, and ground surfaces would be restored to pre-Project conditions. Due to the temporary conditions of the Project, no impacts to groundwater resources are anticipated, including those related to supplies, recharge, or sustainable groundwater management.

The Certified EIR evaluated a water supply project that is designed and intended to offset losses in existing water supplies. Therefore, it was determined that the SWIP would not create a new water demand.[22] Similarly, minimal water supply would be required for Project implementation, and the Project would not increase or create a new water demand. While Project activities within the Santa Clara River and adjacent upland areas, the County-owned yard, and City right-of-way would have the potential to temporarily impact drainage patterns, conditions would be restored to their original state upon completion of the Project.

With respect to drainage patterns resulting in erosion, runoff and floods, the Certified EIR states that there would be no impact anticipated from the SWIP on the flow pattern of the Santa Clara River, and there would be no substantial impacts to drainage patterns due to an increase in impervious surfaces. As many

[20] Ibid, page 2-97.
[21] Ibid, page 2-98.
[22] Ibid.

of the surfaces where pipelines would be located are already in paved areas, impacts would be less than significant with respect to increasing runoff or contributing to elevated flooding potential. In addition, there is no risk due to tsunami inundation or seiche risk. Although the Interconnection would cross within the 100-year floodplain boundary where HDD activities would go under the Santa Clara River, actual construction activities would take place outside of the 100-year flood zone. Risks related to flooding and inundation were concluded to be minimal.[23] Similar to the SWIP, the Project would occur within the 100-year floodplain boundary of the Santa Clara River; however, due to the very temporary nature of the Project the low risk of pollutant discharges due to Project implementation, impacts related to inundation and release of pollutants are minimal.

Finally, the Certified EIR confirmed that the SWIP would not conflict with a water quality control plan or sustainable groundwater management plan, and compliance would be maintained by adherence to applicable regulations and implementation of BMPs provided by the project-specific SWPPP for the SWIP.[24] Likewise, the Project would not conflict with any applicable water quality control plans or sustainable groundwater management plans, and there would be no impact in this regard.

As described in Section 4.0 above, upon completion of drilling and sample retrieval related to geotechnical boring activities, the drill holes will be backfilled in accordance with local requirements and applicable permit conditions. Implementation of a Project-specific SWPCP with BMPs, consistent with the requirements of the Countywide Stormwater Quality Management Program, would be required. Considering the above as well, as well as adherence to the Environmental Commitments and Impact Avoidance and Minimization Measures identified in Section 4.2.2, implementation of the Project would not result in any new significant impacts to hydrology and water quality, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project's impacts to hydrology and water quality are within the scope of impacts identified in the Certified EIR and would remain less than significant without the incorporation of mitigation measures.

6.10 LAND USE AND PLANNING

The Certified EIR states that the SWIP would have no impact with respect to physically dividing an established community, nor would it conflict with an applicable land use plan, policy or regulation.[25] Similarly, the Project would not have the potential to physically divide an established community or conflict with an applicable land use plan, policy or regulation. The Project would be implemented within the bed and upland banks of the Santa Clara River and the County-owned yard, which is currently

[23] Ibid, pages 2-98 to 2-99.
[24] Ibid, page 2-99.
[25] Ibid, pages 2-102 to 2-103.

designated as Open Space in an unincorporated area of the County, and City right-of-way adjacent to an area zoned by the City as Residential Planned Development.[26, 27]

In relation to the land use and planning impacts as stated in the Certified EIR for the SWIP, the Project's potential impacts would also be negligible and would remain less than significant without the incorporation of mitigation measures. Implementation of the Project would not result in any new significant impacts to land use or planning, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's impacts to land use and planning are within the scope of impacts identified in the Certified EIR.

6.11 MINERAL RESOURCES

The Certified EIR states that the Santa Clara River floodplain is zoned as MRZ-2, which is an area of regional or statewide significance with respect to mineral resources (Ventura County 2011). However, no mining activities are permitted in the area, and there would be no resulting loss to mineral resources.[28] The Project would be located within this same area. Due to the nature of Project activities, implementation of the Project would likewise have no impact to mineral resources.

In relation to the mineral resources impacts as stated in the Certified EIR for the SWIP, the Project's potential impacts would also be negligible and would remain less than significant without the incorporation of mitigation measures. Implementation of the Project would not result in any new significant impacts to mineral resources, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's impacts to mineral resources are within the scope of impacts identified in the Certified EIR.

6.12 NOISE

The regional and local regulatory and environmental setting described in the Certified EIR remains unchanged with respect to noise. The Certified EIR evaluated noise and vibration impacts related to construction and operation of the SWIP, concluding that construction noise and vibration impacts during installation of the pipeline using HDD in proximity to residences would be reduced to less than significant levels with the with the incorporation of a mitigation measure which requires a noise reduction program during pipeline installation work conducted between the hours of 7:00 p.m. and 7:00 a.m. Potential

[26] County of Ventura Resource Management Agency Information Systems, Ventura County General Plan Land Use Map, April 2019. Available online at: https://docs.vcrma.org/images/pdf/planning/maps/General_Plan_LandUse_South.pdf. Accessed April 2021.
[27] City of San Buenaventura, Department of Community Development Planning Division, Zoning District Map, February 2020. Available online at: https://map.cityofventura.net/zoom/zoning/docs/ventura_zoning.pdf. Accessed April 2021.
[28] City of San Buenaventura, Ventura Water, State Water Interconnection Project, Public Draft Environmental Impact Report, page 2-105.

operational noise and vibration impacts were considered less than significant without the need for mitigation measures to reduce impacts.[29]

In comparison, potential noise impacts associated with Project implementation would be minimal. Noise impacts related to trenching and HDD activities associated with SWIP pipeline segments are far greater than those associated with short-term geotechnical drilling in the bed of the Santa Clara River. Furthermore, no drilling would occur during the hours of 7:00 p.m. to 7:00 a.m.; therefore, no mitigation measures would be required to reduce any potential noise or vibration impacts.

In relation to noise impacts as stated in the Certified EIR for the SWIP, the Project's potential impacts would be negligible and would remain less than significant without the incorporation of mitigation measures. Implementation of the Project would not result in any new significant noise impacts, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's noise impacts are within the scope of impacts identified in the Certified EIR.

6.13 POPULATION AND HOUSING

The Certified EIR states that since the SWIP does not consist of housing or businesses that would have the potential to directly induce substantial planned or unplanned population growth, potential impacts with respect to population and housing would be less than significant. Furthermore, while the SWIP provides infrastructure to enable water delivery to the City, this water supply would replace lost supplies and act as an outage supply. As such, this infrastructure would not serve to supply future demand and growth.[30]

Similarly, the Project does not consist of housing or businesses that would have the potential to directly induce substantial planned or unplanned population growth. In addition, there would be no infrastructure introduced as part of the Project that could induce growth. Therefore, the Project would have no impact with respect to population and housing impacts.

In relation to population and housing impacts as stated in the Certified EIR for the SWIP, there would be no potential for the Project to have any impacts with respect to population and housing. No mitigation measures would be required to further reduce this impact. Implementation of the Project would not result in any new significant population and housing impacts, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's population and housing impacts are within the scope of impacts identified in the Certified EIR.

6.14 PUBLIC SERVICES

The Certified EIR evaluated the SWIP's potential impacts to fire and police protection, schools, parks and other public facilities. If concluded that an increase in demand on public services is usually a result of population growth within an area. As there would be no proposed change to land uses, no increase in the

[29] Ibid, pages 2-116 to 2-117.
[30] Ibid, page 2-122.

number of housing units, no population growth, and no other activities that would increase the demand for public services beyond that existing and anticipated for the area, there would be no potential for the SWIP to impact the need for additional schools, parks and other public facilities. Furthermore, the types of facilities associated with the SWIP would not create new demand for fire or police protection services.[31]

Similarly, implementation of the Project would not consist of any activities which could increase the demand for public services, as the Project would only consist of geotechnical borings in the Santa Clara River. There would be no potential for the Project to create an increase in demand for fire and police protection, schools, parks or other public facilities. Therefore, the Project would have no impact with respect to public services.

In relation to public services impacts as stated in the Certified EIR for the SWIP, there would be no potential for the Project to have any impacts with respect to public services. No mitigation measures would be required to further reduce this impact. Implementation of the Project would not result in any new significant impacts to public services, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's impacts to public services are within the scope of impacts identified in the Certified EIR.

6.15 RECREATION

The Certified EIR stated that SWIP is not anticipated to cause an increase in population or otherwise create activities that would increase use of existing neighborhood parks or other recreational facilities. As such, there would be no construction or expansion of recreational facilities that could result in environmental impacts.[32]

Similarly, implementation of the Project would not consist of any activities which could increase the use of existing neighborhood parks or other recreational facilities. The Project would consist of geotechnical borings within the bed of the Santa Clara River which would be completed within approximately 15 days. As such, there would be no potential for the Project to cause the need for construction or expansion of recreational facilities.

In relation to recreation impacts as stated in the Certified EIR for the SWIP, there would be no potential for the Project to have any impacts with respect to recreation. No mitigation measures would be required to further reduce this impact. Implementation of the Project would not result in any new significant impacts to recreation facilities, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's impacts to recreation are within the scope of impacts identified in the Certified EIR.

[31] Ibid, page 2-126.
[32] Ibid, page 2-130.

6.16 TRANSPORTATION

The Certified EIR stated that the SWIP would cause no operational impacts and that construction traffic would be temporary. There would be no significant impacts to any intersections. No roadways currently operating at acceptable level would fall below acceptable levels. For the one roadway segment operating at an unacceptable level at Central Avenue, near Segment 10, mitigation would be implemented to reduce this impact to a less than significant level. As Segment 10 is near Rio Mesa High School, pipeline construction activities would be required to take place when school is out of session in order to avoid the impact of combined school and construction impacts. Furthermore, the Certified EIR stated that impacts to roadway access during construction would be managed by compliance with applicable traffic control plans to maintain the flow of traffic, resulting in less than significant impacts.[33]

Implementation of the Project would not cause any significant transportation-related impacts, as the Project would consist of activities primarily off the public roadway infrastructure within the bed and upland banks of the Santa Clara River, the County-owned yard and City right-of-way. There would be no potential for intersections or roadway segments to be impacted by traffic as a result of a drill rig traveling to the Project site, as there would be minimal worker trips and equipment mobilizations for a short duration (approximately two weeks). This incremental increase over existing conditions would be considered a less than significant impact. Furthermore, there would be no operational impacts, as there would be no trips associated with Project operation. Finally, there would be no potential for the Project to limit roadway access.

In relation to transportation impacts as stated in the Certified EIR for the SWIP, there would be no potential for the Project to have any impacts with respect to transportation. No mitigation measures would be required to further reduce this impact. Implementation of the Project would not result in any new significant impacts to transportation, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's impacts to transportation are within the scope of impacts identified in the Certified EIR.

6.16.1 Vehicle Miles Traveled

In accordance with Senate Bill (SB) 743, the new CEQA Guidelines section 15064.3(b) was adopted in December 2018 by the California Natural Resources Agency. The stated purpose of SB 743 and the resulting vehicle miles traveled (VMT) methodology for CEQA analysis is to facilitate denser infill development to reduce reliance on single-occupancy vehicles for the purpose of helping to achieve the State's GHG reduction goals. These revisions to the CEQA Guidelines criteria for determining the significance of transportation impacts are primarily focused on projects within transit priority areas and shifts the focus from driver delay to reduction of GHG emissions, creation of multimodal networks, and promotion of a mix of land uses. The impact that construction traffic has on GHG is addressed directly in

[33] Ibid, pages 2-139 to 2-140.

a CEQA document. Furthermore, construction traffic is considered temporary and does not result in the perpetual VMT that is being addressed by CEQA Guidelines Section 15064.3(b).[34]

The Certified EIR for the SWIP was prepared prior to the required implementation of the VMT methodology of July 1, 2020; therefore, an evaluation of traffic impacts in accordance with Section 15064.3(b) was not provided. For purposes of the Project, VMT analysis is not required or applicable because the Project would not result in any operational traffic as the Project consists of very short-term geotechnical borings in the bed of the Santa Clara River. Implementation of this Project does not include the type of activities that could trigger an increase in VMT. As such, no further analysis is required, and there would be no potential impact for the Project to cause an impact related to CEQA Guidelines Section 15064.3(b). No new mitigation measures would be required to further reduce this impact.

6.17 TRIBAL CULTURAL RESOURCES

The Certified EIR stated that the City completed consultation with Native American Tribes that requested such consultation, as required under Assembly Bill (AB) 52. In March 2018, the City sent a letter to all tribes on the Native American Heritage Commission list, and in response, the City received one request for consultation from the Barbareño/Ventureño Band of Mission Indians. The City completed consultation in compliance with AB 52, and both the City and the tribal representative agreed that mitigation measures listed in the Certified EIR for the protection of cultural resources would reduce potential impacts to tribal cultural resources to less than significant levels.[35]

Compliance with AB 52 consultation requirements in the Certified EIR for the SWIP is also considered as compliance with respect to the evaluation of tribal cultural resources for the Project as well. As this document is an Addendum to the Certified EIR, AB 52 consultation requirements related to the Project are satisfied.

In relation to tribal cultural resources impacts as stated in the Certified EIR for the SWIP, the Project's potential impacts to tribal cultural resources would remain less than significant with incorporation of mitigation measure CR MM-9. No new mitigation measures would be required to further reduce this impact. Implementation of the Project would not result in any new significant impacts to tribal cultural resources, nor would it result in a substantial increase in the severity of impacts as compared to those identified in the Certified EIR. Furthermore, the Project's impacts to tribal cultural resources are within the scope of impacts identified in the Certified EIR.

6.18 UTILITIES AND SERVICE SYSTEMS

The Certified EIR states that, overall, the SWIP would not result in significant new demands or impacts with respect to utilities of service systems, as it would constitute a modification to an existing water supply

[34] State of California Governor's Office of Planning and Research, Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.
[35] City of San Buenaventura, Ventura Water, State Water Interconnection Project, Public Draft Environmental Impact Report, pages 2-141 to 2-142.

system and would help address anticipated water supply challenges. Construction would utilize portable bathrooms. Impacts with respect to drainage patterns or increases in stormwater runoff that could require modification to existing or the construction of new stormwater drainage facilities would be less than significant. There would be minimal electrical demands in an area with adequate municipal utility providers, and there would be no use of natural gas. Wastewater impacts would be minimal, as the blending/monitoring station would generate minor wastewater from washing down analytical equipment. There would not be a substantial amount of solid waste produced that could exceed existing waste infrastructure capacity, and all activities related to solid waste would be in compliance with all federal, state and local management and reduction statutes and regulations related to solid waste.[36]

The Certified EIR states that the SWIP would not involve placement of structures in floodways. Although staging areas for HDD construction would be located within an area of 0.2 percent annual change of flood, Segment 2 would be outside of the one percent annual chance floodplain boundary for the Santa Clara River. There would be no impacts anticipated on the flow pattern of the Santa Clara River. In addition, there would be no substantial impacts to drainage patterns in or around the site due to the addition of impervious surfaces. Therefore, the SWIP is not anticipated to substantially increase surface runoff or contribute to elevated flooding potential.[37]

Based on the above, and in relation to utilities and service systems impacts as stated in the Certified EIR for the entire SWIP, the Project's potential impacts to utilities and service systems would be negligible and would remain less than significant without the incorporation of mitigation measures. As described in Section 4.0 above, upon completion of drilling and sample retrieval related to Project activities, drill holes will be backfilled in accordance with local requirements and applicable permit conditions. Implementation of the Project would not result in any new significant impacts to utilities and service systems, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project's impacts to utilities and service systems are within the scope of impacts identified in the Certified EIR.

6.19 WILDFIRE

The Certified EIR states that the SWIP would result in less than significant impacts with respect to the impairment of an emergency response or evacuation plan, as the short-term nature of the pipeline placement and the limited amount of roadway disturbance would not be anticipated to create significant interference with evacuation routes or plans. There would be no impact with respect to the uncontrolled spread of a wildfire due to slope, prevailing winds or other factors, as there is no housing, businesses or other buildings with occupants that could be impacted. No installation or maintenance of fire-related infrastructure that could exacerbate fire risk or result in temporary or ongoing impacts to the environment would be required. It was concluded that although a small area in the southern end of the alignment is subject to earthquake-induced landslides, construction-related changes to drainage, runoff, instability or

[36] Ibid, pages 2-146 to 2-147.
[37] Ibid, pages 2-147 to 2-148.

increased sedimentation would not pose significant risks related to post-fire flooding or landslides. Furthermore, the area is not located in an area deemed as a “high” or “very high” FHSZ.[38]

Project activities would take place within the bed and upland banks of the Santa Clara River, the County-owned yard and City right-of-way; and the Project site is not located in a very high FHSZ. Based on the above, and in relation to wildfire impacts as stated in the Certified EIR for the entire SWIP, there would be no impact as a result of Project implementation. No mitigation measures would be required to further reduce this impact. Implementation of the Project would not result in any new significant impacts due to wildfire, nor would it result in a substantial increase in the severity of impacts compared to those identified in the Certified EIR. Furthermore, the Project’s impacts due to wildfires are within the scope of impacts identified in the Certified EIR.

[38] Ibid, pages 2-151 to 152.

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Appendix A BIOLOGICAL RESOURCES TECHNICAL REPORT

Biological Resources Technical Report

State Water Interconnection Pipeline Project – Santa Clara River HDD

October 30, 2020

Prepared for:

City of Ventura
501 Poli St., PO Box 99
Ventura, CA 93002

Prepared by:

Stantec Consulting Services, Inc.
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

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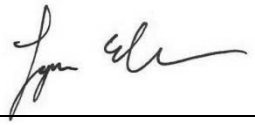
Prepared by _____
(signature)
Priya Pratap, Project Biologist



Reviewed by _____
(signature)
Logan Elms, Senior Biologist

Reviewed/Approved by _____
(signature)
Jared Varonin, Principal Biologist/Ecosystems Practice Leader

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Abbreviations

BGEPA	Bald and Golden Eagle Protection Act
BRTR	Biological Resource Technical Report
BSA	Biological Study Area
Calleguas	Calleguas Municipal Water District
Casitas	Casitas Municipal Water District
CCC	California Coastal Commission
CCH	Consortium of California Herbaria
CCMP	California Coastal Management Program
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of Ventura
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DCH	Designated Critical Habitat
ESA	Endangered Species Act
FGC	California Fish and Game Code
FR	Federal Register
GPS	Global Positioning System
HDD	Horizontal Directional Drilling
HCP	Habitat Conservation Plans
JSA	Jurisdictional Survey Area
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MCVII	Second Edition of The Manual for California Vegetation
MWD	Metropolitan Water District of Southern California
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NCCP	Natural Community Conservation Plans
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	State Water Interconnection Pipeline Project
RWQCB	Regional Water Quality Control Board
Secretary	Secretary of the Interior

SSC	Species of Special Concern
SWP	State Water Project
United	United Water Conservation District
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish & Wildlife Service
USGS	United States Geological Survey
WOTS	Waters of the State
WOTUS	Waters of the United States

1.0 INTRODUCTION

This Biological Resources Technical Report (BRTR) is intended to document the biological resources that are associated with the State Water Interconnection Pipeline Project (Project), where it occurs within and adjacent to the Santa Clara River, located in Ventura, California (Appendix A, Figure 1). The surveys conducted and the discussions presented in this BRTR are intended to support planning, regulatory agency permitting, and associated documentation required for geotechnical testing within and adjacent to the Santa Clara River; this testing is to support horizontal directional drilling (HDD) beneath the Santa Clara River to support construction of the Project. A reconnaissance survey was conducted by Stantec Principal Biologist Jared Varonin and Project Biologist Priya Pratap on October 8, 2020 within accessible portions of the Project site and within a surrounding 500-foot buffer zone (approximately 72.0 acres). This approximate 72.0-acre area is defined as the Biological Study Area (BSA) (Appendix A, Figure 2). This BRTR describes the existing environmental conditions that occur within the BSA and surrounding areas and evaluates the potential for biological resources to occur based on those conditions, with a special emphasis on special-status plant and wildlife species, wildlife corridors, and special-status and sensitive natural communities.

1.1 PROJECT LOCATION

The Santa Clara River portion of the Project is located within southern Ventura County, California within the U.S. Geological Survey (USGS) Saticoy 7.5-minute topographic quadrangle, in the City of Ventura (City). The Project is four miles northwest of the Camarillo Airport, 0.5 mile south of the Fritz Huntsinger Youth Sports Complex, 0.3 mile southwest of Brown Barranca, 0.2 mile south of Sacred Heart Church, and seven miles east of the Pacific Ocean with its northeast extent adjacent to a dog park and Enclave Park. The pipeline alignment associated with the Project extends southeast from the City, through the community of El Rio in unincorporated Ventura County, and terminates in the City of Camarillo. The City connection point would be located along an existing 24-inch diameter pipeline on Henderson Road between South Saticoy Avenue and South Wells Road. The segment of the proposed pipeline surveyed for this BRTR is included in Segment 2 and extends from the South Saticoy Avenue and North Bank Drive intersection across/under the Santa Clara River towards Vineyard Avenue. In general, the Project site consists of dirt roads, dirt trails, a partially developed lot, and a segment of the Santa Clara River and its associated floodplain, banks, and uplands. The general area surrounding the Project site is predominantly single-family residential neighborhoods to the north, industrial and agricultural to the south, and the Santa Clara River to the east and west.

1.2 PROJECT DESCRIPTION

As of May 2019, the City of Ventura's population is approximately 113,500 persons with about 32,000 water service connections (Ventura Water 2019). The City's diverse water portfolio of surface water, groundwater, and recycled water is derived from six sources throughout the region. The City has an established right to water from the State Water Project (SWP) but cannot currently take delivery due to a

lack of infrastructure to deliver that water. The City needs to provide a continued reliable water service to City water customers. This involves making up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River, and groundwater), improving water quality, and providing an emergency/backup connection for Ventura Water's potential potable reuse project.

The overall Project consists of the construction and operation of pipeline facilities that enable delivery of SWP water that has been wheeled through the Metropolitan Water District of Southern California (MWD) and Calleguas Municipal Water District (Calleguas) to the City of Ventura; the majority of the overall Project area does not fall within the BSA for this BRTR. This BRTR is focused on the portion of the Pipeline that would be installed beneath the Santa Clara River via HDD. The HDD portion of the project will require geotechnical testing as described below in Section 1.2.1. The pipeline facilities (the "interconnection") would also facilitate direct delivery of SWP water to United Water Conservation District (United) and direct or in-lieu delivery of SWP water to Casitas Municipal Water District (Casitas). In addition, the interconnection would allow the City to deliver water to Calleguas during an outage of Calleguas' imported water supplies. The interconnection would be a pipeline used to transport water between Calleguas' and the City's distribution systems. The Project consists of a connection to the Calleguas system, a pipeline of approximately 7 miles in length, a flow/pressure control and metering station at each United turnout for water delivery, a connection to the City's water distribution system, a flow/pressure control and metering station downstream of the City's connection point, and a blending/monitoring station within the City's system.

The Project would be designed to achieve the following objectives:

- Provide a near-term water supply source for the City to enhance supply reliability.
- Improve City water quality.
- Provide a backup supply for the City's other potential, long-term water supply options.
- Allow Casitas and United to receive their SWP entitlements.
- Enable the City to deliver water to Calleguas during an imported water supply outage.

1.2.1 Geotechnical Testing

A geotechnical investigation is proposed along the final approved Interconnection alignment and prepare a geotechnical report. Geotechnical engineering issues for the Interconnection pipeline will involve characterization of the soil and groundwater conditions along the Interconnection alignment. It is estimated that geotechnical borings and related supporting activities will require approximately 15 working days to complete, during a time when the river channel is free of surface water and accessible by the proposed equipment. Several drilling methods may be utilized, including mud rotary, air rotary, sonic drilling, and rock coring.

The primary equipment anticipated to be used for drilling boreholes includes the following:

- Trailer and skid mounted mud systems

- Rig tenders with water tanks up to 2,000 gallons
- A variety of sampling equipment, including but not limited to the following: pitcher barrel samplers,
- coring systems, and split spoon samplers
- Track and truck mounted drill rigs, which would be approximately 17 feet tall (with mast up), 18
- feet long, and 8 feet wide.

The informal access way located on the north side of the channel about 700 feet southeast of Saticoy Avenue will allow passage of conventional truck-mounted exploration equipment; however, some minor grading may be required. Heavy construction equipment and minor grading may be required to access the channel. In addition, the construction support equipment may also be needed to assist the exploration equipment to travel across river channel in areas where loose/soft surface conditions occur. A dozer and operator to perform the minor grading will be available or on stand-by for the drill holes within the channel to move existing traffic barriers, improve the informal access area into the channel and assist in moving the drill rig in the event that loose/soft ground conditions are encountered. Disturbances will be minimized to the degree feasible and planned/implemented in coordination with environmental requirements.

Upon completion of drilling and sample retrieval, the drill holes (and CPT soundings) will be backfilled in accordance with local requirements and applicable permit conditions. It is assumed that each drill hole will be backfilled to the ground surface with cement-bentonite grout.

Where feasible and permitted, investigation derived waste will be dispersed on the ground surface adjacent to the drill hole. In locations where it is not feasible or permitted to disperse the investigation derived waste on-site (such as during the abandonment of the monitoring wells), the waste material will be stored in 55-gallon drums and transported to a nearby location where the drummed material will be stored until arrangements for disposal are made.

2.0 METHODOLOGIES

This biological resources assessment of the BSA included but was not limited to a literature review, reconnaissance-level survey, non-protocol survey to detect the presence of special-status plant and wildlife species, and a non-protocol avian survey to document the presence of birds, including listed species, if present. Stantec Principal Biologist Jared Varonin and Project Biologist Priya Pratap conducted the initial reconnaissance-level survey on October 8, 2020. Prior to the survey, a preliminary literature review of readily available resources was performed. The survey was conducted on foot within the BSA, where accessible, based on terrain and availability of public access.

2.1 LITERATURE REVIEW

A literature search focused on the BSA was conducted prior to the field survey. The BSA is located within the USGS Saticoy, California, 7.5-minute topographic quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted in the BSA and a surrounding 10-mile buffer area to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW 2020a). The database included portions of the following quadrangles surrounding the BSA:

- Matilija
- Ojai
- Santa Paula Peak
- Ventura
- Santa Paula
- Oxnard OE W
- Oxnard
- Camarillo

Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and Federally Listed Endangered and Threatened Animals of California (CDFW 2020b)
- Special Animals List (CDFW 2020c)
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2020d)
- California Sensitive Natural Communities (CDFW 2020e)
- Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020)
- Consortium of California Herbaria (CCH 2020)

2.2 BIOLOGICAL SURVEYS AND HABITAT ASSESSMENT

2.2.1 Site Reconnaissance and Wildlife Surveys

Stantec conducted a habitat assessment and reconnaissance-level survey to document the environmental conditions present within the BSA. The primary goal of this initial survey was to identify and assess habitat that may be capable of supporting special-status plant or wildlife species and determine the potential need for additional focused surveys for special-status resources. Biologists recorded all incidental plant and wildlife observations. However, this assessment did not include focused, protocol-level surveys for rare plants or wildlife or other special-status resources.

The survey was conducted during a season and time of day when resident and migratory birds would be expected to be present and exhibiting normal activity, small mammals would be active and detectable visually or by sign, and above-ground amphibian and reptile movement would generally be detectable. However, it should be noted that some wildlife species and individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. The survey was conducted during daylight hours when temperatures were such that reptiles and other wildlife would be active (i.e., between 65-95 degrees Fahrenheit). The October 8, 2020 survey was conducted shortly after sunrise considering most birds are generally active at sunrise.

The BSA was investigated on foot (where accessible) by experienced field biologists walking throughout publicly accessible areas at an average pace of approximately 1.5 kilometers per hour while visually scanning for wildlife and their sign and listening to wildlife songs and calls. Biologists paused as necessary to listen for wildlife or to identify, record, or enumerate any observed species. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.). Species identifications conform to the most up-to-date field guides and technical literature.

2.2.2 Vegetation Mapping

Vegetation descriptions and nomenclature are based on the second edition of *A Manual of California Vegetation* (MCVII) (Sawyer et al. 2009), where applicable, and have been defined to the alliance level. Vegetation maps were prepared by recording tentative vegetation type boundaries over recent aerial photograph base maps using the ESRI Collector for ArcGIS app on an Apple iPad coupled with an Arrow sub-meter external global positioning system (GPS) unit. Mapping was further refined in the office using ESRI ArcGIS (version 10.7) with aerial photograph base maps with an accuracy of 1 foot. Most boundaries shown on the maps are accurate within approximately 3 feet; however, boundaries between some vegetation types are less precise due to difficulties in interpreting aerial imagery and accessing stands of vegetation.

Vegetation communities can overlap in many characteristics and over time may shift from one community type to another. All vegetation maps and descriptions are subject to variability for the following reasons:

- In some cases, vegetation boundaries result from distinct events, such as wildfire or flooding, but vegetation types usually tend to intergrade on the landscape, without precise boundaries

between them. Even distinct boundaries caused by fire or flood can be disguised after years of post-disturbance succession. Mapped boundaries represent best professional judgment, but usually should not be interpreted as literal delineations between sharply defined vegetation types.

- Natural vegetation tends to exist in generally recognizable types, but also may vary over time and geographic region. Written descriptions cannot reflect all local or regional variation. Many (perhaps most) stands of natural vegetation do not strictly fit into any named type. Therefore, a mapped unit is given the best name available in the classification system being used, but this name does not imply that the vegetation unambiguously matches written descriptions.
- Vegetation tends to be patchy. Small patches of one named type are often included within larger stands mapped as units of another type.

2.2.3 Jurisdictional Delineation

A formal jurisdictional waters delineation per US Army Corps of Engineers (USACE) guidelines was conducted as part of this assessment. The proposed work area, along with a 100-foot buffer (referred to has he Jurisdictional Survey Area or JSA) , were evaluated for potential wetlands and/or waters subject to federal and/or state jurisdiction pursuant to Section 404 and 401 of the Clean Water Act (CWA) concurrently with the field surveys described above. This jurisdictional assessment also included an investigation of areas that could be jurisdictional pursuant to Section 1600 et seq. of the California Fish and Game Code and the Porter-Cologne Water Quality Act. Prior to conducting the field assessment, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (USDA 2020), local and state hydric soils lists, and the National Wetlands Inventory (USFWS 2020a) to evaluate the potential active channels and wetland features that occur within the JSA. During the field assessment, hydrologic features were mapped using the same data collection equipment described above for the botanical surveys. Field data were further manipulated in the office using GIS and total jurisdictional area for each regulatory jurisdiction was calculated. The results of the delineation are summarized below in Section 4.5; a stand-alone Preliminary Jurisdictional Wetlands/Waters Delineation Report was also prepared.

3.0 REGULATORY ENVIRONMENT

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

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

DCH is defined in Section 3(5)(A) of the FESA as "(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features: (I) essential to the conservation of the species; (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species." The effects analyses for DCH must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, *Gifford Pinchot Task Force v. USFWS*.

Activities that may result in "take" of individuals are regulated by USFWS. USFWS produced an updated list of candidate species December 6, 2007 (72 Federal Register [FR] 69034). Candidate species are not afforded any legal protection under FESA; however, candidate species typically receive special attention from federal and state agencies during the environmental review process.

3.1.2 Migratory Bird Treaty Act

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

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

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

USFWS is the primary federal authority charged with the management of golden eagles in the U.S. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required for this Project. USFWS guidance on the applicability of current BGEPA statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the take of golden and bald eagles. The new rules were released under the existing BGEPA, which has been the primary regulatory protection for unlisted eagle populations since 1940.

All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in the western U.S., it is expected that permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

3.1.4 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act, as amended in 1964, requires that all federal agencies consult with NMFS, USFWS, and state wildlife agencies (i.e., CDFW) when proposed actions might result in modification of a natural stream or body of water. Federal agencies must consider effects that these projects would have on fish and wildlife development and provide for improvement of these resources. The Fish and Wildlife Coordination Act allows NMFS, USFWS, and CDFW to provide comments to USACE during review of projects under Section 404 of the Clean Water Act (concerning the discharge of dredged materials into navigable waters of the U.S. [WOTUS]) and Section 10 of the Rivers and Harbors Act (RHA) regarding obstructions in navigable waterways. NMFS comments provided under the Fish and Wildlife Coordination Act are intended to reduce environmental impacts to migratory, estuarine, and marine fisheries and their habitats. Since the Project involves impacts to waters of the U.S. and the potential modification of a federal levee, consultation with NMFS, USFWS and CDFW would be required.

3.1.5 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 requires all federal agencies to examine the environmental impacts of their actions, incorporate environmental information, and use public

participation in the planning and implementation of all actions. Federal agencies must integrate NEPA into other planning requirements and prepare appropriate NEPA documents to facilitate better environmental decision-making. NEPA requires federal agencies to review and comment on federal agency environmental plans and documents when the agency has jurisdiction by law or special expertise with respect to any environmental impacts involved (42 USC 4321- 4327; 40 CFR 1500-1508).

3.1.6 Federally Regulated Habitats

Areas meeting the regulatory definition of “Waters of the U.S.” (Jurisdictional Waters) are subject to the jurisdiction of the USACE under provisions of Section 404 of the CWA (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as “Waters of the U.S.,” tributaries of waters otherwise defined as “Waters of the U.S.,” the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to “Waters of the U.S.” (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987).

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

3.1.7 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) establishes national policy to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation’s coastal zones. In accordance with Section 307(c) of the CZMA, after approval by the Secretary of Commerce of a state’s management program, any applicant for a required federal license or permit to conduct an activity in or outside of the coastal zone affecting any land or water use or natural resource of the coastal zone of that state shall provide in the application to the licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state’s approved program and that such activity will be conducted in a manner consistent with the program. The federal government certified the California Coastal Management Program (CCMP) in 1977. The enforceable policies of that document are Chapter 3 of the California Coastal Act of 1976. All consistency documents are reviewed for consistency with these policies.

For all of the California coast except San Francisco Bay the state agency responsible for implementing the CZMA is the California Coastal Commission (CCC). The CCC is responsible for reviewing proposed federal and federally licensed or permitted activities to assess their consistency with the approved CCMP. Due to its distance from the Pacific Ocean, the Project is not subject to a state mandated Local Coastal Program or California Coastal Commission jurisdiction.

3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

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

3.2.2 California Endangered Species Act

Provisions of the California Endangered Species Act protect state-listed threatened and endangered species. The CDFW regulates activities that may result in take of individuals (i.e., take is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of take under the California Fish and Game Code (FGC). Additionally, the FGC contains lists of vertebrate species designated as “fully protected” (FGC Sections 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], and 5515 [fish]). Such species may not be taken or possessed.

In addition to federal and State-listed species, the CDFW also has produced a list of Species of Special Concern (SSC) to serve as a “watch list.” Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. SSC may receive special attention during environmental review, but they do not have statutory protection.

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

3.2.3 Section 1602 of the California Fish and Game Code

Section 1602 of the FGC requires any person, state or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement

where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that would take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials submitted, the CDFW would determine whether the proposed project may impact fish or wildlife resources.

If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) would be required. A completed CEQA document must be submitted to CDFW before an LSAA would be issued.

3.2.4 Porter-Cologne Water Quality Control Act

California Regional Water Quality Control Boards (RWQCBs) regulate the “discharge of waste” to “waters of the state” (WOTS). All projects proposing to discharge waste that could affect WOTS must file a Waste Discharge Report with the appropriate RWQCB. The board responds to the report by issuing Waste Discharge Requirements or by waiving them for that project discharge. Both terms “discharge of waste” and WOTS are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other “discharge.” Isolated wetlands within California, which are no longer considered WOTUS, as defined by Section 404 of the CWA, are addressed under the Porter Cologne Water Quality Control Act.

3.2.5 State-Regulated Habitats

The State Water Resources Control Board is the state agency (together with the RWQCBs) charged with implementing water quality certification in California.

The CDFW extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife” (CDFW 1994).

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

3.2.6 Native Plant Protection Act

Under FGC Sections 1900 to 1913, the Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would

otherwise be destroyed. a Project applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of the NPPA and sections of CEQA that apply to rare or endangered plants.

3.2.7 California Coastal Commission and Coastal Act of 1976

The CCC has planning, regulatory, and permitting responsibilities in partnership with local governments over all development taking place within the coastal zone, a 1.5 million-acre area stretching 1,100 miles along the state's coastline from Oregon to Mexico (and around nine offshore islands). The coastal zone extends seaward 3 miles, while its landward boundary varies from several miles inland in places such as the Eel River and the Elkhorn Slough, to as close as a few hundred feet from the shore in other areas.

The CCC's enabling legislation, the Coastal Act of 1976, created a comprehensive coastal protection program grounded in partnerships between CCC and local government jurisdictions (15 counties and 60 cities) within the coastal zone. Among the coastal resources specifically protected within the Coastal Act are public access to the coastline, wetlands and other environmentally sensitive habitat areas, agriculture, low-cost visitor-serving recreational uses, visual resources, commercial and recreational fishing, and community character. Coastal streams and wetlands are also protected under the Coastal Act.

The Coastal Act Section 30231 defines a wetland as:

> *…lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.*

The CCC's regulations (CCR Title 14) establishes a "one parameter definition," which requires evidence of a single parameter to establish wetland conditions:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577).*

The "one parameter" definition adopted by the Coastal Commission is based on the general definition used by USFWS and CDFW from the USFWS wetlands classification system first published in 1979 (Cowardin et al. 1979):

> *Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly*

> *undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.*

The Coastal Act definition of a wetland does not distinguish between wetlands based on their quality. Therefore, under the Coastal Act, poorly functioning or degraded areas that meet the definition of wetlands are subject to wetland protection policies.

3.2.8 City of Ventura General Plan

The City's 2005 General Plan includes policies to reduce beach and hillside erosion, protect open space, and protect native plants and animals. The four primary goals related to biological resources include:

- Policy 1A. Reduce beach and hillside erosion threats to coastal ecosystem health.
- Policy 1B. Increase the area of open space protected from development impacts.
- Policy 1C. Improve protection for native plants and animals.
- Policy 1D. Expand use of green practices (Policy 1D) (City of Ventura 2005).

3.2.9 County of Ventura General Plan

The Ventura County 2040 is a long-range plan that guides decision-making, establishes rules and standards for development and county improvements that reflects the County's ongoing commitment to collaborate with residents, cities, businesses, and non-profit organizations to meet social and economic needs in a sustainable manner, to protect the environment and address climate change, and to encourage safe, healthy, vibrant, and diverse communities to thrive. The Conservation and Open Space Element provides an overview of the County's biological resources, including vegetation, fish, and wildlife resources; endangered, threatened and rare species; and locally unique habitats. The Goals, Policies and Programs document identifies goals, policies, and programs to protect biological resources, including:

- **Policy 1.1:** Discretionary development which could potentially impact biological resources shall be evaluated by a qualified biologist to assess impacts and, if necessary, develop mitigation measures.
- **Policy 1.2:** The County shall identify sensitive biological resources as part of any land use designation change to the General Plan Land Use Diagram or zone designation change to the Zoning Ordinance that would intensify the uses in a given area. The County shall prioritize conservation of areas with sensitive biological resources.
- **Policy 1.3:** Based on the review and recommendation of a qualified biologist, the design and maintenance of road and floodplain improvements, including culverts and bridges, shall incorporate all feasible measures to accommodate wildlife passage
- **Policy 1.4:** When considering proposed discretionary development, County decision-makers shall consider the development's potential project-specific and cumulative impacts on the

movement of wildlife at a range of spatial scales including local scales (e.g., hundreds of feet) and regional scales (e.g., tens of miles).

- **Policy 1.5:** Development within the Habitat Connectivity and Wildlife Corridors overlay zone and Critical Wildlife Passage Areas overlay zone shall be subject to the applicable provisions and standards of these overlay zones as set forth in the Non-Coastal Zoning Ordinance.

- **Policy 1.6**: The County shall require discretionary development on hillsides and slopes, which have an average natural slope of 20 percent or greater in the area where the proposed development would occur, to be sited and designed in a manner that will minimize grading, alteration of natural land forms, and vegetation removal to avoid significant impacts to sensitive biological resources to the extent feasible.

- **Policy 1.7:** The County shall require that discretionary development and County-initiated projects balance the preservation of streams, wetlands, and riparian habitats with the need to adequately protect public safety and property from flooding hazards by incorporating natural or nature-based flood control infrastructure, (e.g., wetland restoration, soil conservation, vegetated levees), when feasible.

- **Policy 1.8:** The County shall require discretionary development that includes new or modified road crossings over streams, wetlands and riparian habitats to include bridging design features with bridge columns located outside the riparian habitat areas, when feasible.

- **Policy 1.9:** The County shall consult with the California Department of Fish and Wildlife, the Regional Water Quality Control Board, the U.S. Fish and Wildlife Service, National Audubon Society, California Native Plant Society, National Park Service for development in the Santa Monica Mountains or Oak Park Area, and other resource management agencies, as applicable during the review of discretionary development applications to ensure that impacts to biological resources, including rare, threatened, or endangered species, are avoided or minimized.

- **Policy 1.10:** The County shall require discretionary development that is proposed to be located within 300 feet of a wetland to be evaluated by a County-approved biologist for potential impacts on the wetland and its associated habitats pursuant to the applicable provisions of the County's Initial Study Assessment Guidelines.

- **Policy 1.11:** The County shall require discretionary development to be sited 100 feet from wetland habitats, except as provided below. The 100-foot setback may be increased or decreased based upon an evaluation and recommendation by a qualified biologist and approval by the decision-making body based on factors that include, but may not be limited to, soil type, slope stability, drainage patterns, the potential for discharges that may impair water quality, presence or absence of endangered, threatened or rare plants or animals, direct and indirect effects to wildlife movement, and compatibility of the proposed development with use of the wetland habitat area by wildlife. Discretionary development that would have a significant impact on a wetland habitat shall be prohibited unless mitigation measures are approved that would reduce the impact to a less than significant level. Notwithstanding the foregoing, discretionary

development that would have a significant impact on a wetland habitat on land within a designated Existing community may be approved in conjunction with the adoption of a statement of overriding considerations by the decision-making body.

- **Policy 1.12:** The County shall require landscaping associated with discretionary development, or subject to the California Water Efficient Landscape Ordinance (WELO), to be water-efficient and include native, pollinator-friendly plants consistent with WELO guidelines, as applicable. The planting of invasive and watch list plants as inventoried by the California Invasive Plant Council shall be prohibited, unless planted as a commercial agricultural crop or grown as commercial nursery stock.
- **Policy 1.13:** The County shall continue to work in partnership with agencies, organizations, and entities responsible for the protection, management, and enhancement of the county's biological resources.
- **Policy 1.14:** The County shall support programs that encourage awareness and respect for the natural environment.
- **Policy 1.15:** The County shall establish and support a countywide target for the County, cities in Ventura County, agencies, organizations, businesses, and citizens to plant two million trees throughout the county by 2040 (Ventura County 2020).

3.3 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS

3.3.1 California Native Plant Society Rare Plant Program

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

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

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

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 0.1 to 0.3 ranking, with 0.1 being the most endangered and 0.3 being the least endangered and are described as follows:

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

4.0 EXISTING CONDITIONS

4.1 SETTING

As depicted in Figures 1 and 2 in Appendix A, the BSA is located along a 0.3-mile segment of the proposed seven-mile pipeline and extends from the South Saticoy Avenue and North Bank Drive intersection across/under the Santa Clara River towards Vineyard Avenue. In general, the Project site consists of dirt roads, dirt trails, a partially developed lot, the Santa Clara River and its associated floodplain, banks, and uplands. Land uses within and adjacent to the BSA consist of predominantly single-family residential neighborhoods and institutional land uses to the north, industrial and agricultural land uses to the south, and the Santa Clara River to the east and west. A photographic log for the survey is included in Appendix B and depicts representative environmental conditions within the BSA and surrounding areas.

The Project is within the Lower Santa Clara River watershed within its Santa Clara River Valley subregion. The Santa Clara River flows 83 miles from the northwestern San Gabriel Mountains to the coast and is fed by numerous named stream tributaries as it flows westward, eventually reaching the Pacific Ocean. The river and its tributaries experience high annual flow variability, multi-year droughts, and extreme seasonal flooding, which together result in a highly dynamic alluvial system (Stillwater Sciences 2011). Elevations within the Survey Area range from approximately 90 – 120 feet above mean sea level.

4.2 VEGETATION COMMUNITIES AND LAND COVER TYPES

As defined in MCVII, a vegetation alliance is “a category of vegetation classification which describes repeating patterns of plants across a landscape. Each alliance is defined by plant species composition, and reflects the effects of local climate, soil, water, disturbance, and other environmental factors” (Sawyer et al. 2009). Generally, Stantec’s mapping and description of plant communities follows the classification system described in the MCVII. The MCVII is generally limited to communities that are native to or naturalized within California; therefore, the vegetation communities and land cover types discussed below may be descriptive in nature and not specifically referenced in the MCVII. The scientific and common names of each species detailed within this report correspond to those described in the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Habitats observed within the BSA during the field survey, where vegetated, were comprised primarily of common plant species and vegetation communities found in the coastal areas of southern California. Habitat conditions within the vegetated portions of the BSA were noted to be of generally good quality, with well-established communities comprised of native and non-native shrub and herbaceous species. Within the BSA, the Stantec Biologists mapped five plant communities defined by Sawyer et al. (2009), one additional vegetation community, and one land cover type. These are described below, summarized in Table 1, and depicted in Figure 2 included in Appendix A. Small, localized areas occupied by other

plant communities were also observed within the BSA; however, the areas were less than the minimum mapping unit dictated by the size of the survey area and thus, were not mapped.

4.2.1 Vegetation Communities and Land Cover Types

4.2.1.1 Vegetation Communities

Upland Mustards
***Brassica nigra- Hirschfeldia incana* Herbaceous Semi-Natural Alliance**

Approximately 6.78 acres of this community occurs within the northern portions of the BSA; this community was associated with disturbed areas outside of the active channel of the Santa Clara River and adjacent to a County of Ventura maintenance yard. Black mustard (*Brassica nigra*) and shortpod mustard (*Hirschfeldia incana*) are the dominant ruderal forbs in the herbaceous layer.

Mulefat Thickets
***Baccharis salicifolia* Shrubland Alliance**

Approximately 6.52 acres of this community occurs within three distinct locations of the BSA; refer to Figure 2 (Appendix A) for the location of this community within the BSA. Mulefat (*Baccharis salicifolia*) is the dominant species with emergent trees and shrubs present at low cover including a sparse mix of red tamarisk (*Tamarix ramosissima*), Goodding's willow (*Salix gooddingii*), telegraph weed (*Heterotheca grandiflora*), and giant reed (*Arundo donax*). The percent coverage of mulefat varied within this community with 90% mulefat coverage in some areas and nearly co-dominant with giant reed in others, where near co-dominant mulefat was of a slightly higher percentage than Arundo.

Giant Reed Marsh
***Arundo donax* Herbaceous Semi-Natural Alliance**

Approximately 2.37 acres of this community occurs within the eastern and western extents of the BSA. Giant reed (*Arundo donax*) is dominant in the herbaceous layer with mulefat (*Baccharis salicifolia*). Giant reed is an extremely invasive species non-native to southern California that forms dense monotypic stands and outcompetes
most of the native species for resources. In most areas, giant reed reached eight ten feet in height.

Fennel Patches
***Foeniculum vulgare* Herbaceous Semi-Natural Alliance**

Approximately 0.50 acres of this community occurs within one location, adjacent to the County of Ventura maintenance yard, in the eastern/central portion of the BSA. Fennel (*Foeniculum vulgare*) is the dominant species in the herbaceous and shrub canopies with occasional black mustard interspersed in the fennel patches.

Coastal Sagebrush Scrub
***Artemisia californica* Shrubland Alliance**

Approximately 3.30 acres of this community occurs in the extreme southern extent of the BSA atop the banks of the Santa Clara River. California sagebrush (*Artemisia californica*) is co-dominant in the shrub canopy with coyote bush (*Baccharis pilularis*) and black sage also present. California sagebrush and coyote bush were generally found to occur in dense stands up to four feet high. Mousehole tree (*Myoporum laetum*) was sporadically interspersed in the canopy.

Alluvial Scrub

Approximately 30.13 acres of this vegetation type occurs within a large portion of the BSA and is confined to the large terrace between the main and secondary channels of the Santa Clara River. Alluvial scrub is an open vegetation adapted to the harsh conditions of the outwash environment. Alluvial scrub has been described as a variant of coastal sage scrub characterized by a rich combination of evergreen shrubs common to chaparral together with drought-deciduous shrubs and subshrubs found in coastal sage scrub. Scale broom (*Lepidospartum* sp.), observed in the BSA, is considered an indicator species because it is faithful to alluvial substrates and was present within the BSA. Other common alluvial scrub shrubs found within the BSA include California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemesia californica*), deerweed (*Acmispon glaber*), prickly pear (*Opuntia* sp.), and yerba santa (*Eriodictyon* sp.) (Barbour, M. and Wirka J. 1997). False goldenaster (*Heterotheca sessiliflora*) was dominant in the shrub canopy and was sporadically interspersed with other species including California croton (*Croton californicus*), mulefat (*Baccharis salicifolia*), shortpod mustard (*Hirschfeldia incana*), California cudweed (*Pseudognaphalium californicum*), giant reed (*Arundo donax*), big saltbush (*Atriplex lentiformis*), coyote bush (*Baccharis pilularis*), black sage (*Salvia mellifera*), and rabbit's foot grass (*Polypogon monspeliensis*). This community had some bare or sparsely vegetated areas.

4.2.1.2 Land Cover Types

Disturbed/Developed

This land cover type was used to map approximately 22.53 acres of the BSA that are disturbed/developed. Ares mapped as this land cover type include single family residential neighborhoods, landscaped parks, paved roadways, unpaved roads/walkways, landscaped areas, and institutional, agricultural, and industrial land uses. The vegetated areas within this land cover type primarily contain ornamental planters, such as within residential yards and landscaped areas, and croplands. The most frequently observed species within these areas include pampas grass fig (*Cortaderia selloana*), Peruvian peppertree (*Schinus mole*), Mexican fan palm (*Washingtonia robusta*), foxtail agave (*Agave attenuata)*, lemon-scented gum (*Corymbia citriodora*), Brazilian peppertree (*Schinus terebinthifolia)*, and western sycamore (*Platanus racemosa*). These areas are generally periodically maintained for weed control, precluding any significant growth of non-ornamental species, but may be sparsely interspersed with ruderal pioneer plant species that readily colonize open disturbed soil. These species may include prickly lettuce (*Lactuca serriola*), bull thistle (*Cirsium vulgare*), bristly oxtongue (*Helminthotheca echioides*), tree tobacco (*Nicotiana glauca*), wild fennel (*Foeniculum vulgare),* castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), and shortpod mustard (*Hirschfeldia incana*).

Table 1: Vegetation Communities and Land Cover Types Occurring within the Biological Study Area and Impacts

Vegetation Community/Land Cover Type	Acreage within BSA	Acreage of Temporary Project Impacts
Upland Mustards	6.67	0.05
Mulefat Thickets	6.52	0.08
Giant Reed Marsh	2.37	--
Fennel Patches	0.50	--
California Sagebrush Scrub	3.30	--
Alluvial Scrub	30.13	1.44
Disturbed and Developed	22.53	0.57
Total	**72.02**	**2.15**

4.2.2 Common Plant Species Observed

Plants observed during the October 8, 2020 reconnaissance-level surveys were recorded; however, a focused, floristic-level survey was not conducted. The reconnaissance-level surveys resulted in the documentation of 51 species of native and non-native plants within the BSA, a detailed list of which is provided in Table 2.

Table 2: Plant Species Observed in the Biological Study Area

Scientific Name	Common Name
Acmispon glaber	deerweed
*Agave attenuata**	foxtail agave
Ambrosia chamissonis	Silver burr ragweed
Artemisia californica	California sagebrush
*Arundo donax**	giant reed
Atriplex canescens	fourwing saltbush
Atriplex lentiformis	big saltbush
Baccharis pilularis	coyote bush
Baccharis salicifolia	mulefat
Baccharis sarothroides	desert broom
*Brassica nigra**	black mustard
*Bromus rubens**	red brome
Cercis occidentalis	western redbud
*Cirsium vulgare**	bull thistle
Corethrogyne filaginifolia	California aster

Scientific Name	Common Name
*Cortaderia selloana**	pampas grass
*Corymbia citriodora**	lemon-scented gum
Croton californicus	California croton
Cucurbita foetidissima	buffalo gourd
*Dittrichia graveolens**	stinkwort
Eriastrum densifolium	giant woollystar
Eriodictyon crassifolium	thickleaf yerba santa
Eriogonum fasciculatum	California buckwheat
Eucalyptus sp.	eucalyptus tree
*Foeniculum vulgare**	wild fennel
Heliotropium curassavicum	alkali heliotrope
*Helminthotheca echioides**	bristly oxtongue
Heteromeles arbutifolia	toyon
Heterotheca grandiflora	telegraph weed
Heterotheca sessiliflora	false goldenaster
*Hirschfeldia incana**	shortpod mustard
Hordeum brachyantherum	California barley
Lepidospartum squamatum	scale broom
Lupinus albifrons	silver lupine
Malosma laurina	laurel sumac
*Melilotus albus**	white sweetclover
*Myoporum laetum**	mousehole tree
*Nicotiana glauca**	tree tobacco
Oenothera elata	tall evening primrose
Opuntia sp.	prickly pear
Platanus racemosa	western sycamore
*Polypogon monspeliensis**	rabbit's foot grass
Pseudognaphalium californicum	California cudweed
*Ricinus communis**	castor bean
Salix gooddingii	Goodding's willow
Salvia mellifera	black sage
*Schinus mole**	Peruvian peppertree
Stephanomeria pauciflora	desert wirelettuce
*Tamarix ramosissima**	red tamarisk

Scientific Name	Common Name
Toxicodendron diversilobum	poison oak
*Washington robusta**	Mexican fan palm

* Non-native Species

4.3 COMMON WILDLIFE

This section describes the common wildlife observed during the reconnaissance survey and those species expected to occur within the BSA based on habitat characteristics and species known to occur in the region.

4.3.1 Terrestrial Invertebrates

As in all ecological systems, invertebrates inhabiting the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food sources for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. Though heavily urbanized, habitat conditions within the BSA provide a suite of microhabitat conditions for a wide variety of terrestrial insects and other invertebrates that are known to adapt to such disturbance. A focused insect survey was not performed within the BSA for this Project; however, a variety of common insects were observed during the reconnaissance survey, including species from the following orders: Aranidae (spiders), Coleoptera (beetles), Diptera (flies and mosquitoes), Lepidoptera (moths and butterflies), Odonata (dragonflies and damselflies), Hemiptera (true bugs), and Hymenoptera (wasps, bees and ants).

4.3.2 Fish

The Santa Clara River within the BSA is an ephemeral stream and when the Santa Clara River is actively flowing, water temperatures vary by season and are a function of depth, location, and snowpack in the upper watershed. Water was not present within the BSA during the October 8, 2020 field reconnaissance level survey. No fish were observed within the BSA; however, focused fish surveys were previously completed. Although not detected during the surveys, the watershed is known to support other exotic species including green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), mosquito fish (*Gambusia affinis*), common carp (*Cyprinus carpio*) and large-mouth bass (*Micropterus salmoides*).

4.3.3 Amphibians

Amphibians often require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These species are highly cryptic and often difficult to detect. Downed logs, bark, and other woody material in various stages of decay (often referred to as coarse woody debris), which is generally not present within the BSA, could provide shelter and feeding

sites for a variety of wildlife, including amphibians and reptiles (Aubry et al. 1988; Maser and Trappe 1984).

Amphibian species were not observed during the reconnaissance survey within the BSA. Species not observed in the BSA, but known to occur in the area include the western toad (*Anaxyrus boreas*), California tree frog (*Pseudacris hypocondriaca*), Pacific treefrog [chorus frog] (*Pseudacris regilla*), nonnative bullfrog (*Lithobates catesbeiana*), black-bellied salamander (*Batrachoseps nigriventris*), and African clawed frog (*Xenopus laevis*). Although perennial flows do not exist within this section of the Santa Clara River, based on the presence of ephemeral aquatic habitat within the BSA, amphibians are expected to be seasonal residents and to occur as transients. Many amphibians are often excluded by exotic fish and amphibian species, which are common the Santa Clara River watershed.

4.3.4 Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrates, soil types, and presence of refugia such as rock piles, boulders, and native debris. Many reptile species, even if present, are difficult to detect because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most species take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation, where they are protected from unsuitable environmental conditions and predators (USACE and CDFG 2010). In some cases, they are only observed when flushed from their refugia. Weather conditions during the survey were favorable for reptile activity.

Reptiles were commonly observed within the BSA during the October 8, 2020 field reconnaissance survey in both disturbed and natural areas including western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinata*), and common side-blotched lizard (*Uta stansburiana*). Although not observed, several other common reptiles are known to occur in the area include the southern Pacific rattlesnake (*Crotalus oreganus* ssp*. helleri*). gopher snake (*Pituophis catenifer*), western whiptail (*Aspidoscelis tigris*), and California king snake (*Lampropeltis getula californiae*).

4.3.5 Birds

Birds were identified by sight and were observed throughout the BSA; however, weather conditions were not favorable for optimal avian viewing due to overcast skies and light winds. Upland birds were observed and are expected to permanently inhabit the BSA with the significant cover and nesting opportunities present in multiple different habitat types. Upland bird species observed include American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), northern mockingbird (*Mimus polyglottos*), dark-eyed junco (*Junco hyemalis*), lesser goldfinch (*Spinus psaltria),* turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), and Nuttall's woodpecker (*Dryobates nuttallii*). Although no detected, other species expected to occur include Cooper's hawk (*Accipiter cooperii),* great blue heron (*Ardea*

herodias), great horned owl (*Bubo virginianus*), hooded oriole (*Icterus cucullatus*), California towhee (*Melozone crissalis*), and western bluebird (*Sialia mexicana*).

4.3.6 Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas).

The BSA is approximately 72 acres in size and is largely confined between developed and residential areas; however, the large width of the flood plain does allow for connectivity to natural lands in areas upstream and downstream. Terrestrial mammal species observed during the surveys included desert cottontail (*Sylvilagus audubonii*), and domestic dog (*Canis familiaris*). A number of common mammals habituated to urban environments may move through the BSA, including striped skunk (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), coyote (*Canis latrans*) and raccoon (*Procyon lotor*), and domestic species such as house cats (*Felis cattus*). Other species that may be expected to occur include bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), American black bear (*Ursus americanus*), and mule deer (*Odocoileus hemionus*).

Although bats were not detected in the BSA, they may forage and roost in the riparian corridors in the region where insect abundance is high (CDFW 2000). Because this type of foraging habitat is limited within the BSA, it is unlikely that bats permanently inhabit or forage in significant numbers in the BSA.

All wildlife species observed within the BSA are summarized in Table 3.

Table 3: Wildlife Species Observed in the BSA

Scientific Name	Common Name
Invertebrates	
Aranidae sp.	spiders
Coleoptera sp.	beetles
Diptera sp.	flies and mosquitoes
Hymenoptera sp.	wasps, bees and ants
Lepidoptera sp.	moths and butterflies
Reptiles	
Elgaria multicarinata	southern alligator lizard
Sceloporus occidentalis	western fence lizard
Uta stansburiana	side-blotched lizard
Birds	
Buteo jamaicensis	red-tailed hawk

Scientific Name	Common Name
Calypte anna	Anna's hummingbird
Cathartes aura	turkey vulture
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Dryobates nuttallii	Nuttall's woodpecker
Junco hyemalis	dark-eyed junco
Mimus polyglottos	northern mockingbird
Passer domesticus	house sparrow
Spinus psaltria	lesser goldfinch
Zenaida macroura	mourning dove
Mammals	
Canis familiaris	domestic dog
Sylvilagus audubonii	desert cottontail

4.4 SOILS

Prior to conducting the delineation, historic soils data from the Natural Resources Conservation Service was used to determine potential soil types that may occur with the BSA; this data was used to determine where hydric soils have historically occurred (Appendix A, Figure 3). Hydric soil is present within 17.4 acres of the BSA, as Riverwash. Table 5 identifies the soils historically known to occur within the BSA and provides a summary of characteristics of these soils (USDA 2020).

Table 4: Historic Soil Units Occurring within the Biological Survey Area

Map Unit Symbol	Map Unit Name	Description	Acres within BSA
MeA	Metz loamy sand, 0 to 2 percent slopes	A somewhat excessively drained soil that typically occurs along alluvial fans from 30 – 2,500 feet in elevation; parent material consists of stratified alluvium derived from sedimentary rock, depth to water table > 80'; not prone to flooding; loamy sand (0 – 7"), stratified sand to sandy loam (7 – 60").	10.6
PcA	Pico sandy loam, 0 to 2 percent slopes	A well-drained soil that typically occurs along alluvial fans from 10 – 1,500 feet in elevation; parent material is alluvium derived from sedimentary rock; depth to water table > 80'; not prone to flooding; sandy loam (0-14"), stratified sandy loam to loam (14-54"). Stratified gravelly sand to gravelly loamy coarse sand (54 – 60").	9.9
PxG	Pits and dumps	A well-drained soil; extremely gravelly coarse sand (0-6"), extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand (6-60")	15.9

Map Unit Symbol	Map Unit Name	Description	Acres within BSA
Rw	Riverwash	A somewhat poorly drained soil that occurs in drainages; no elevation limits; parent material consists of alluvium; depth to water table approximately 0 – 60 inches; frequently flooded; sand (0-6”), stratified coarse sand to sandy loam (6-60”)	17.4
Sd	Sandy alluvial land	A somewhat excessively drained soil that occurs from 30 – 1,200 feet; parent material consists of alluvium; prone to occasional flooding; loamy sand (0-12”), stratified sand to loamy sand (12-38”), stratified sand to silt loam (35-60”)	18.3

4.5 JURISDICTIONAL WATERS/WETLANDS

There are four key agencies that regulate activities within inland streams, wetlands, and riparian areas in California: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA and Section 10 of the Rivers and Harbors Act; the CDFW regulates activities under the FGC Sections 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

The National Wetlands Inventory has mapped R4SBC (Riverine, Intermittent, Streambed, Seasonally Flooded), PUS/SSA (Palustrine, Unconsolidated Shore, Scrub-Shrub, Temporary Flooded), and Rp1SS (Riparian, Lotic, Scrub-Shrub) within the BSA.

Based on the data collected in the field, four types of jurisdictional waters occur within the JSA. These include USACE/RWQCB wetlands, USACE/RWQCB non-wetland WOTUS, WOTS, and CDFW jurisdictional waters (Table 4, below, and Figure 4 in Appendix A). Soil test pits were excavated along three transects that ran perpendicular to the Santa Clara River through the SA.

Table 5: Acreage of Jurisdictional Aquatic Features in the JSA

Location	USACE Wetlands	USACE Non-Wetland Waters	Waters of the State (RWQCB)	Wetlands of the State (RWQCB)	CDFW Jurisdictional Waters
Survey Area	3.25	19.59	30.54	3.25	30.54
Temporary Impact Area	0.09	1.43	1.69	0.09	1.69

(a) Wetland/Non-wetland WOTUS and Wetlands/WOTS overlap; as such, jurisdictional acreages are not additive.
(b) Wetlands fall under the jurisdiction of the USACE, LARWQCB, and CDFW, each with separate extents that overlap; as such, wetland acreages are not additive.
(c) All reported impact acreages are temporary; no permanent impacts are proposed as part of the Geotechnical Testing.
(d) Temporary impacts include overland travel of vehicles. Actual impacts from drilling operations will result in borings of up to a maximum of 10 inches in diameter.

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5.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

The background information presented above combined with habitat assessments performed during the surveys was used to evaluate special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the BSA and adjacent habitats. For the purposes of this BRTR, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the California Endangered Species Act or FESA
- Are candidate species being considered or proposed for listing under these same acts
- Are recognized as SSC by the CDFW
- Are ranked by CNPS as CRPR 1, 2, 3, or 4 plant species
- Are fully protected by the FGC, Sections 3511, 4700, 5050, or 5515
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions

5.1 SPECIAL STATUS NATURAL COMMUNITIES

Special-status natural communities are defined by CDFW (2018) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank; however, only those that are of special concern (S1-S3 rank) are evaluated under CEQA.

One vegetation community identified within the BSA is listed as sensitive – Mulefat Thickets. The vegetation community, Mulefat Thickets, has a state rank of S4 which indicates it is apparently secure; at a fairly low risk of extirpation in the jurisdiction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors. The BSA does not occur within a Natural Community Conservation Plan or Habitat Conservation Plan.

5.2 DESIGNATED CRITICAL HABITAT

Critical habitat is defined by the USFWS (2020b) as, "…a term defined and used in the Endangered Species Act. It is specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery."

There is Designated Critical Habitat for southwestern willow flycatcher (*Empidonax traillii extimus*) within the Project area. Based on existing habitat conditions, there is a moderate likelihood of the species to forage and nest within the BSA.

5.3 SPECIAL STATUS PLANTS

Table 6 presents a list of special-status plants, including federally and state listed species, Ventura County Locally Important Species, and CRPR 1-4 species that are known to occur within 10 miles of the BSA or within the USGS 7.5-minute quadrangles including and surrounding the BSA (Appendix A, Figures 5 and 5a provide a depiction of known species locations).

Record searches of the CNDDB, the CNPS Online Inventory, and the Consortium of Critical Herbaria was performed for special-status plant taxa. Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- **Present**: Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- **High**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Moderate**: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal or limited within the BSA, or the BSA is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- **Low**: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles), and the environmental conditions (including soil type) associated with taxa presence are marginal or limited within the BSA.
- **Not Likely to Occur**: The environmental conditions associated with taxa presence do not occur within the BSA.

Table 6: Known and Potential Occurrences of Special Status Plant Taxa within the Biological Study Area

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Amaranthus californicus **California amaranth**	**VC**	Spreading annual; mud flats, lake shores; much of Calif. and western N. America; about sea level to 9,200 ft. elev.	Jul-Oct	**Low:** Low quality habitat present; not detected during survey.
Ammannia coccínea **purple ammannia**	**VC**	Annual; margins and shores of ponds, lakes, streams, etc.; much of central and southern Calif.; sea level to about 1,000 ft. elev.	May-Oct	**Low:** Low quality habitat present; not detected during survey.
Aphanisma blitoides **aphanisma**	**S2, 1B.2**	Coastal bluff scrub, coastal dunes, and coastal scrub; sandy or gravelly areas; 1-305 m.	Feb-Jun	**Low:** Minimal suitable habitat occurs within the BSA associated with the presence of suitable substrate. The nearest and most recently recorded occurrence is approximately 10 miles west of the BSA; however, this occurrence was recorded over 50 years ago from 1963.
Astragalus pycnostachyus var. *lanosissimus* **Ventura Marsh milk-vetch**	**FE, SE, S1, 1B.1**	Coastal dunes, coastal scrub, marshes, and swamps (edges, coastal salt, or brackish); within reach of high tide or protected by barrier beaches, more rarely near seeps on sandy bluffs; 1-35 m.	(Jun) Aug-Oct	**Not Likely to Occur:** Suitable habitat does not occur within the BSA and the species is outside of the Project area elevation range. The nearest recorded occurrence is approximately 3 miles northwest of the BSA from 1987.
Atriplex coulteri **Coulter's saltbush**	**S1, 1B.2**	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland, ocean bluffs, ridgetops, as well as alkaline low places; alkaline, dry, or clay soils; 2-460 m.	Mar-Oct	**Low:** Minimal suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles west of the BSA from 2009.
Atriplex serenana var. *davidsonii* **Davidson's saltscale**	**S1, 1B.2**	Coastal scrub, bluffs, chenopod scrub, playas, and vernal pools from southern California to Baja California; alkaline soils; 0-200 m.	Apr-Oct	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 3 miles southwest of the BSA from 2002.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Calochortus plummerae **Plummer's mariposa-lily**	**4.2, VC**	Bulb; shrublands, woodlands, lower pine forests; mountains, foothills, and valleys; Ventura to Orange Cos., inland to Riverside and San Bernardino Cos.; about 300-5,600 ft. elev.	May-Jul	**Low.** Suitable habitat not present; possibly outside of geographic range; not detected during survey.
Calochortus clavatus var. *gracilis* **slender mariposa-lily**	**S2S3, 1B.2**	Shaded foothill canyons, rocky slopes, chaparral, coastal scrub, valley and foothill grassland, and open areas primarily in Traverse Range region; 320-1000 m.	Mar-Jun (Nov)	**Not Likely to Occur:** Suitable habitat does not occur within the BSA and the species is outside of the Project area elevation range. The nearest and most recently recorded occurrence is approximately 10 miles southeast of the BSA from 2019.
Centromadia parryi ssp. *Australis* **Southern tarplant**	**1B.1, VC**	Annual; seasonal wetlands incl. vernal pools, coastal marsh edges, etc.; clay or saline soil; sea level to about 1,400 ft. elev.; Santa Barbara Co to northern Baja Calif.	May-Nov	**Low.** Minimal suitable habitat present; not detected during survey.
Chaenactis glabriuscula var. *orcuttiana* **Orcutt's pincushion**	**S1, 1B.1**	Coastal bluff scrub (sandy) and coastal dunes; located on sandy soils; 0-100 m.	Jan-Aug	**Low:** Minimal suitable habitat occurs within the BSA associated with the presence of suitable substrate. The nearest and most recently recorded occurrence is approximately 6 miles west of the BSA; however, this occurrence was recorded nearly 60 years ago in 1961.
Chloropyron maritimum ssp. *maritimum* **salt marsh bird's-beak**	**FE, SE, S1, 1B.2**	Coastal dunes, marshes, and swamps (coastal salt); 0-30 m.	May-Oct (Nov)	**Not Likely to Occur:** Suitable habitat does not occur within the BSA and the species is outside of the Project area elevation range. The nearest recorded occurrence is approximately 6 miles southwest of the BSA; however, this occurrence was recorded ovr 30 years ago in 1984.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Dudleya blochmaniae ssp. *blochmaniae* **Blochman's dudleya**	**S2, 1B.1**	Coastal scrub, coastal bluff scrub, chaparral, valley and foothill grassland; open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil; 5-450 m.	Apr-Jun	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles southeast of the BSA from 2015.
Dudleya verity **Verity's dudleya**	**S1, 1B.1**	Volcanic outcrops, rocky areas, chaparral, cismontane woodland, coastal scrub; 60-120 m.	May-Jun	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles southeast of the BSA from 2015.
Eriogonum crocatum **Conejo buckwheat**	**SR, S1, 1B.2**	Conejo volcanic outcrops, rocky areas, chaparral, coastal scrub, valley and foothill grassland; 50-580 m.	Apr-Jun	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 10 miles southeast of the BSA from 2010.
Horkelia cuneata ssp. *puberula* **mesa horkelia**	**1B.1, VC**	Perennial herb; shrublands, woodlands; sandy soils, away from immediate coast; San Luis Obispo to San Diego Co., rarely inland to San Bernardino Co.; about 200-2,700 ft. elev.	Apr-Sep	**Low.** Limited suitable habitat present; not detected during survey.
Imperata brevifolia **satintail**	**2.1, VC**	Perennial grass; meadows, riparian scrub, or mesic flats; S Calif to Utah and mainland Mexico; sea level to about 1700 ft. elev.	Sep-May	**Low.** Low quality habitat present; not detected during survey.
Juglans californica var. *californica* **Southern California black walnut**	**4.2, VC**	Tree; woodlands, coastal sage scrub, chaparral; Santa Barbara Co. to San Diego Co., inland to western San Bernardino and Riverside Cos.; about 150-3,000 ft. elev.	Mar-Aug	**High.** Limited suitable habitat present; known occurrences immediately downstream.
Lasthenia glabrata ssp. *coulteri* **Coulter's goldfields**	**S2, 1B.1**	Marshes and swamps (coastal salt), playas, coastal dunes, coastal sage scrub, valley and foothill grassland, and vernal pools; usually found on clay and alkaline soils in playas, sinks, and grasslands; 1-1,375 m.	Feb-Jun	**Low:** Minimal suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 7 miles west of the BSA.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Malacothrix similis **Mexican malacothrix**	**SH, 2A**	Coastal dunes, beaches; presumed extant in California; 0-40 m.	Apr-May	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 9 miles southwest of the BSA; however, this occurrence was recorded over 90 years ago in 1925.
Mentzelia affinis **yellow blazing star**	**VC**	Annual; grasslands, woodlands, desert shrublands; sandy sites; much of southern and central Calif. to Arizona and Baja Calif.; near sea level to about 4,000 ft. elev.	Mar-May	**Low.** Low quality habitat present, not detected during survey.
Monardella sinuata ssp. *gerryi* **Gerry's curly-leaved monardella**	**S1, 1B.1**	Sandy openings. Coastal scrub; 150-245 m.	Apr-Jun	**Low:** Minimal suitable habitat occurs within the BSA associated with the presence of suitable substrate. The nearest and most recently recorded occurrence is approximately 6 miles southeast of the BSA; however, this occurrence was recorded over 80 years ago in 1934.
Mucronea californica var. *californica* **California spineflower**	**4.2, VC**	Annual; many habitats; sandy soils; San Luis Obispo to San Diego Cos., inland to San Bernardino and Kern Cos.; near sea level to about 4,600 ft. elev.	Apr-Jul	**Low.** Low quality habitat present; not detected during survey.
Navarretia ojaiensis **Ojai navarretia**	**S2, 1B.1**	Chaparral (openings), coastal scrub (openings), valley and foothill grassland, clay substrates; 275-620 m.	May-Jul	**Low:** Limited suitable habitat occurs within the BSA; however, suitable substrates are not present, and the species is outside of the Project area elevation range. The nearest and most recently recorded occurrence is approximately 10 miles northwest of the BSA; however, this occurrence was recorded over 50 years ago in 1963.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Pseudognaphalium leucocephalum **white rabbit-tobacco**	**S2, 2B.2**	Chaparral, cismontane woodland, coastal scrub, and riparian woodland; sandy and gravelly substrates; 0-2100 m.	(Jul) Aug-Nov (Dec)	**Moderate: S**uitable habitat is present within the BSA and suitable substrates are present. The nearest and most recently recorded occurrence is approximately 2 miles southwest of the BSA from 2015.
Ribes aureum var. *gracillimum* **slender golden currant**	**VC**	Shrub; foothills, washes and alluvial fans, forest margins; SW Calif through the central and north Coast Ranges; about 350-3,000 ft. elev.	Dec-Aug	**Low.** Suitable habitat present; not detected during recent survey.
Sagittaria sanfordii **Sanford's arrowhead**	**1B.2, VC**	Perennial herb; shallow freshwater ponds, marshes, ditches, etc.; northern Calif. coast, Central Valley; historically from Orange and Ventura Cos., but evidently now extirpated; sea level to about 2,100 ft. elev.	May-Aug	**Low.** Low quality habitat present; not detected during survey.
Senecio aphanactis **chaparral ragwort**	**S2, 2B.2**	Chaparral, cismontane woodland, coastal scrub, dry open rocky areas, drying alkaline flats. 15-800 m.	Jan-Apr (May)	**Not Likely to Occur:** Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 10 miles southeast of the BSA; however, this occurrence was recorded over 50 years ago in 1962.
Stillingia linearifolia **narrow-leaved stillingia**	**VC**	Subshrub; open shrublands; arid sites; interior southwestern Calif. through deserts to Ariz. and New Mexico; near sea level to about 5,000 ft. elev.	Mar-May	**Low.** Low quality habitat present; not detected during survey.

Status Codes

Federal Designation

FE = Federally Endangered

FC = Federal Candidate Species for Listing

CDFW State Designation

CDFW State Designation

SE = State Endangered

ST = State Threatened

SR = State Rare

State Ranking

S1 = Critically Imperiled

S2 = Imperiled

S3 = Vulnerable

S4 = Apparently Secure

CNPS CRPR Designation

1A = Plants considered by the CNPS to be extinct in California

1B = Plants rare, threatened, or endangered in California and elsewhere.

2A. Presumed extinct in California, extant and more common elsewhere

CNPS CRPR Designation

1A = Plants considered by the CNPS to be extinct in California

1B = Plants rare, threatened, or endangered in California and elsewhere.

2A. Presumed extinct in California, extant and more common elsewhere

2B. Rare or Endangered in California, more common elsewhere

3. Plants for which we need more information - Review list

4. Plants of limited distribution - Watch list

Special-Status Biological Resources

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
S5 = Secure SH = Possibly Extirpated SX = Presumed Extirpated		.1 = Seriously threatened in California (high degree/immediacy of threat). .2 = Fairly threatened in California (moderate degree/immediacy of threat). VC = Ventura County Locally Important Species BSA = Biological Study Area m = meter		

5.4 SPECIAL STATUS WILDLIFE

Special-status taxa include those listed as threatened or endangered under the FESA or California Endangered Species Act, taxa proposed for such listing, SSC, and other taxa that have been identified by USFWS, CDFW, or local jurisdictions as unique or rare and that have the potential to occur within the BSA.

The CNDDB was queried for occurrences of special-status wildlife taxa within the USGS topographical quadrangles in which the BSA occurs and the eight surrounding quadrangles, as discussed in Section 2.0. Table 7 summarizes the special-status wildlife taxa known to occur regionally and their potential for occurrence in the BSA (Appendix A, Figures 5 and 5a provide a depiction of previously reported species locations). Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- **Present**: Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.
- **High**: Habitat (including soils) for the taxa occurs onsite, and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- **Moderate**: Habitat (including soils) for the taxa occurs onsite, and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and marginal or limited amounts of habitat occurs onsite; or the taxa's range includes the geographic area and suitable habitat exists.
- **Low**: Limited habitat for the taxa occurs within the BSA and no known occurrences were found within the database search and the taxa's range includes the geographic area.
- **Not Likely to Occur**: The environmental conditions associated with taxa presence do not occur within the BSA.

Table 7: Known and Potential Occurrences of Special-Status Wildlife Taxa within the Biological Study Area

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
INVERTEBRATES					
Bombus crotchii	Crotch's bumble bee	**SC**	Coastal California east to the sierra-cascade crest and south into Mexico. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*.	Limited suitable habitat occurs within the BSA as food plant genera, *Eriogonum,* is present within the BSA. The nearest and most recently recorded occurrence is approximately 6 miles southwest of the BSA from 2012.	**Moderate**
Cicindela hirticollis gravida	sandy beach tiger beetle	**SA**	Extirpated from most sites but documented extant populations from north of San Francisco to Mexico. Occurs in areas adjacent to non-brackish water in clean, dry, light-colored sand in the upper zones and coastal sand dunes. Forages in open unvegetated areas such as marsh pannes and levees. Burrows are located in moist soils that are far enough away from water bodies to avoid being inundated with water.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 7 miles southwest from 2004.	**Not Likely to Occur**
Coelus globosus	globose dune beetle	**SA**	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 7 miles southwest of the BSA from 2017.	**Not Likely to Occur**
Danaus plexippus (pop. 1)	monarch butterfly – California overwintering population	**SA**	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation. Roosts located in wind-protected tree groves (eucalyptus, pine, cypress), with nectar and water sources nearby.	Limited suitable foraging habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 2 miles southwest of the BSA from 2014.	**Moderate**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Haplotrema caelatum	slotted lancetooth snail	**VC**	Terrestrial; southern Calif. endemic known from Santa Barbara, Ventura, Los Angeles, and San Diego Cos.	There are no known recent records for this species in the BSA; The BSA is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the BSA.	Low
Helminthoglypta phlyctaena	Zaca shoulderband snail	**VC**	Terrestrial; endemic known only from Santa Barbara and Ventura Counties.	There are no known recent records for this species in the BSA; The BSA is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the BSA.	Low
Helminthoglypta salviae	sage shoulderband snail	**VC**	Terrestrial; endemic to Ventura Co.	There are no known recent records for this species in the BSA; The BSA is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the BSA.	Low
Helminthoglypta traskii	Trask shoulderband snail	**SA, VC**	Terrestrial; southern Calif. endemic known from Ventura, Los Angeles, Orange, and San Diego Counties; prefers coastal sage scrub and chaparral.	There are no known recent records for this species in the BSA; the nearest record of this species approximately 13 miles to the southeast in La Jolla Creek in the Santa Monica Mountains; the BSA is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is limited within the BSA.	Low
Helminthoglypta venturensis	Ventura shoulderband snail	**VC**	Terrestrial; endemic to Ventura Co.	There are no known recent records for this species in the BSA; the BSA is located within the known geographical distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the BSA.	Low

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Helminthoglypta willeti	Matilija shoulderband snail	**VC**	Terrestrial; endemic to Ventura Co.; chaparral, coast live oak woodlands, riparian woodlands; mountainous areas.	There are no known recent records for this species in the BSA; the nearest record of this species is in Ventura (Lake Canyon), the Ojai area, and Sisar Canyon (Magney 2005 and Hunt 1993); the BSA is located within the known geographic distribution for this species (Magney, 2005); suitable habitat is present within the riparian and upland habitats in the BSA.	Low
Linderiella occidentalis	California linderiella	**SA**	Found only in the San Gabriel Mountains and foothills within Pasadena, Millard Canyon, Mt. Lowe, and the Dominguez Hills. limited to microhabitats with sufficient moisture and are largely sedentary, usually moving only to find food or reproduce. Typically, on rocky hills and mountains at relatively low elevations under dead cacti, logs, and vegetable debris and on rocks with lichen and moss. Aestivate underground during dry seasons.	Suitable habitat does not occur within the BSA and the Project is well outside of its remaining range. The nearest and most recently recorded occurrence is approximately 9 miles northeast of the BSA from over 30 years ago in 1986.	**Not Likely to Occur**
Timema monikensis	Santa Monica mountains timema	**VC**	Terrestrial; endemic to the Transverse Ranges in scrub habitats.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic distribution for this widespread species; suitable habitat occurs in limited portions of the BSA.	Low
Tryonia imitator	mimic tryonia (California brackishwater snail)	**S2**	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in brackish water in a variety of sediment types; able to withstand a wide range of salinities.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately miles southwest of the BSA from 2007.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
AMPHIBIANS					
Aneides lugubris	arboreal salamander	VC	Coastal live-oak woodlands, yellow pine and black oak forests in foothills; typically found on ground under leaf litter, rocks, logs; also climbs trees; not dependent on water.	This species is known to occur throughout the Coast Ranges from Humboldt Co. to Baja Calif.; there are no known records for this species in the BSA; the BSA is located within the known geographic distribution for this species.	Moderate
Anaxyrus californicus	arroyo toad	**FE, SSC**	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash; rivers with sandy banks, willows, cottonwoods, and/or sycamores.	Although not documented from the Santa Clara River, this species has been recorded upstream in the Piru Creek watershed; the BSA is located outside of the known current geographic distribution for this species; suitable habitat occurs within portions of the BSA.	Low
Rana boylii	foothill yellow-legged frog	**SE, SSC**	Occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles County. Found in or near rocky streams in a variety of habitats such as valley-foothill riparian, mixed conifer, coastal scrub, and mixed chaparral. Normal home ranges are less than 10 m in dimension. Requires a minimum of 15 weeks of permanent water for metamorphosis.	Aquatic habitat was not present within the BSA during the October 8, 2020 field reconnaissance survey. The Santa Clara River within the BSA is an ephemeral stream and there is a lack of suitable freshwater seasonal ponds that pond for sufficient durations to support breeding. The nearest and most recently recorded occurrence is approximately 7 miles northwest of the BSA from 2014.	**Low**
Rana draytonii	California red-legged frog	**FT, SSC**	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation; requires 11-20 weeks of permanent water for larval development; must have access to aestivation habitat.	Although not documented from the BSA, this species has been recorded upstream within the headwaters of Piru Creek and in the upper Santa Clara River watershed. The BSA is located within of the known geographic distribution for this species; suitable but limited habitat occurs within portions of the BSA when flowing water is present for extended periods of time.	Low

Special-Status Biological Resources

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Spea hammondii	western spadefoot	**SSC**	Occurs in numerous habitat types, primarily in grasslands but can be found in valley-foothill hardwood woodlands, sage scrubs, chaparral where pooled/ponded water, supporting typically clay-rich soils, remains through early spring (April/May); in some areas, vernal pools, stock ponds, and road pools are essential for breeding, egg-laying, and larval development.	There are no known records for this species in the Study area or surrounding areas; the BSA is located within the known geographic distribution for this species; suitable habitat does occur within the BSA. The closest CNDDB record for this species is northeast near the City of Moorpark.	Moderate
Taricha torosa	Coast Range newt	**SSC**	Breeds in ponds, reservoirs, streams; terrestrial individuals occupy various adjacent upland habitats, including grasslands, woodlands, and forests.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic distribution for this widespread species; limited breeding habitat is available (dependent on rainfall) however suitable upland habitat occurs within portions of the BSA. The closes known CNDDB record for this species is more than 10 miles to the north.	Low
FISH					
Catostomus santaanae	Santa Ana sucker	**FT, SSC**	Typically inhabits small, shallow streams and rivers less than 23 feet (7 meters) wide where water temperature is generally below 72 º F (22 º C), and where currents range from swift to sluggish (USFWS, 2000).	This species was not documented within the BSA. The BSA is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek. Currently the USFWS does not include the Santa Clara River Watershed population in the threatened listing.	High (when flowing water is present)

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Catostomus fumeiventris	Owens sucker	**SSC**	Generally found in soft-bottomed cool-run streams, lakes or reservoirs.	This species was not documented within the BSA. The BSA is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek.	High (when flowing water is present)
Cottus asper	prickly sculpin	**VC**	Occurs in coastal and inland streams; typically inhabits pools and slowly flowing waters; prefers bottoms of fine materials, sands.	This species is known to occur along portions of the Santa Clara River (United Water, 2007); the BSA is located within the known geo-graphic distribution for this species; suitable habitat occurs throughout the Santa Clara River channel within the Study area (during periods when flowing water is present).	High (when flowing water is present)
Eucyclogobius newberryi	tidewater goby	**FE, SSC**	Occurs in brackish water in shallow lagoons and in lower stream reaches where the water is fairly still but not stagnant.	This species was not documented within the BSA. Suitable habitat is not present in the BSA but is located downstream at the Santa Clara River lagoon.	Low (when flowing water is present)
Gasterosteus aculeatus microcephalus	partially armored threespine stickleback	**SA, VC**	Subspecies occurs in freshwater habitats exclusively; prefers relatively shallow inshore waters in lakes and streams.	This species was not documented within the BSA. The BSA is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek.	High (when flowing water is present)
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	**FE, SE, CFP**	Slow-moving and backwater areas of coastal and inland streams.	This species was not documented within the BSA. The BSA is outside the known geographic distribution for this species; This species is known to occur in the upper Santa Clara River watershed.	Low (when flowing water is present)

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Gila orcuttii	arroyo chub	**SSC**	Los Angeles Basin southern coastal streams; slow water stream sections with mud or sand bottoms; feeds heavily on aquatic vegetation and associated invertebrates.	This species was not documented within the BSA. The BSA is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present). This species is known to occur upstream in Santa Paula Creek and Sespe Creek.	High (when flowing water is present)
Oncorhynchus mykiss	steelhead trout–southern California DPS	**FE, SSC**	Clear-flowing streams and rivers; typically inhabit deep pools with overhanging banks; anadromous; adults spawn in runs and riffles in gravel and small cobble substrates.	This species was not documented within the BSA. The BSA is located within the known geographic distribution for this species; suitable habitat occurs throughout the Santa Clara River (during periods when flowing water is present).	High (when flowing water is present)
REPTILES					
Anniella sp.	California legless lizard	**SSC**	Generally, occurs in sandy or loose moist loamy soils under sparse vegetation in a variety of habitats. They prefer soils with a high moisture content.	Suitable habitat is present within the BSA. The nearest and most recently recorded occurrence is approximately 6 miles west of the BSA from 2014.	**Moderate**
Anniella stebbinsi	southern California legless lizard	**SSC**	Generally, south of the transverse range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute mountains in Kern County. Variety of habitats; generally, in moist, loose soil. They prefer soils with a high moisture content.	Suitable habitat is present within the BSA. The nearest recorded occurrence is approximately 7 miles southwest of the BSA from 2018.	**Moderate**
Arizona elegans occidentalis	California glossy snake	**VC**	Generally found in arid scrub, rocky washes, grasslands, and chaparral.	There are no known records for this species in the BSA; the BSA is located within the known geographic distribution for this secretive species; suitable habitat occurs within the BSA.	Low

Special-Status Biological Resources

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Aspidoscelis tigris stejnegeri	coastal whiptail	**SSC**	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Limited suitable habitat is present within the BSA. The nearest recorded occurrence is less than 5 miles northwest of the BSA from 2008.	**Moderate**
Emys marmorata	western pond turtle	**SSC**	A thoroughly aquatic turtle of small ponds and lakes, marshes, permanent and ephemeral shallow wetlands, stock ponds, reservoirs, treatment lagoons, irrigation ditches, and slow-moving permanent or intermittent rivers, streams, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying. Abundant cover necessary including logs, rocks, and submerged vegetation.	Aquatic habitat was not present within the BSA during the October 8, 2020 field reconnaissance survey. The Santa Clara River within the BSA is an ephemeral stream and there is a lack of suitable freshwater seasonal ponds that pond for sufficient durations. The nearest and most recently recorded occurrence is approximately 2 miles southwest of the BSA from 2017.	**Not Likely to Occur**
Lampropeltis zonata pulchra	San Diego mountain kingsnake	**SSC, VC**	Occurs in a variety of habitats, spends most of its time underground under objects or in crevices. Active during the day when near shaded streams on warm days.	There are no known records for this species in the BSA; the BSA is located just outside the known geographic distribution for this secretive species; suitable habitat occurs within the BSA.	Low
Phrynosoma blainvillii	coast horned lizard	**SSC**	Primarily in sandy soil in open areas, especially sandy washes and floodplains, in many plant communities. Requires open areas for sunning, bushes for cover, patches of loose soil for burial, and an abundant supply of ants or other insects. Main prey item is harvester ants. Occurs west of the deserts from northern Baja California north to Shasta County below 2,400 meters (8,000 feet) elevation.	Suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 0.2-mile northeast of the BSA from 2013.	**High**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Salvadora hexalepsis virgultea	coast patch-nosed snake	**SSC**	Occurs in coastal chaparral, desert scrub, washes, sandy flats, rocky areas; broad generalist.	There are no known records for this species within 20 miles of the BSA; the BSA is located within the known geographic distribution for this species; suitable habitat occurs within the BSA.	Low
Thamnophis hammondii	two-striped garter snake	**SSC**	Highly aquatic; found in or near permanent fresh water; often along streams with rocky beds and riparian growth.	Aquatic habitat was not present within the BSA during the October 8, 2020 field reconnaissance survey. The Santa Clara River within the BSA is an ephemeral stream and there is a lack of permanent freshwater source to support this species. The nearest recorded occurrence is approximately 8 miles northeast of the BSA from 2009.	**Not Likely to Occur**
Thamnophis sirtalis pop. 1	south coast garter snake	**SSC**	Inhabits scrub, chaparral, annual and native grassland, freshwater marsh, and agriculture.	Limited suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 4 miles northeast of the BSA from 2008.	**Moderate**
BIRDS					
Accipiter cooperii (nesting)	Cooper's hawk	**WL**	Woodland, chiefly of open, interrupted, or marginal type; nest sites mainly in riparian growths of deciduous trees.	The BSA is located within the known geographic distribution for this species and the species is known to nest downstream of the BSA; limited suitable nesting and suitable foraging habitat occurs in the BSA. The BSA is located within the known geographic distribution for this species.	High (foraging)/Low (nesting)
Accipiter striatus (nesting)	sharp-shinned hawk	**WL**	Prefers, but not restricted to riparian habitats; breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats; requires north-facing slopes with perches.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic year-round distribution for this species. Suitable breeding habitat does not occur; however, suitable foraging habitat occurs throughout the BSA. A review of online eBird data shows an occurrence of this species northwest of the BSA at the Buenaventura Golf Course.	High

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Agelaius tricolor	tricolored blackbird	**ST, SSC, BCC**	Highly colonial species, most numerous in the Central Valley and vicinity, and largely endemic to California. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, and tall herbs. Forages in grassland and cropland habitats with insect prey within a few kilometers of the colony. They are itinerant breeders, nesting more than once at different locations during the breeding season.	Suitable nesting habitat does not occur within the BSA; however, suitable foraging habitat is present within the BSA. The nearest recorded occurrence is within the BSA; however, this occurrence was recorded over 130 years ago in 1875 and the species was not observed during the survey.	**Moderate**
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	**WL**	Resident in southern Calif. coastal sage scrub and sparse mixed chap-arral; frequents relatively steep, often rocky hillsides with grass and forb patches.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Limited suitable breeding and foraging habitat occurs within the alluvial scrub terrace in the central portion of the BSA.	Moderate
Aquila chrysaetos	Golden eagle	**CFP**	Forages in open grasslands, desert scrub and agricultural fields. Nests on ledges on cliff faces, rock outcrops and occasionally in large trees.	There are no known records for this species in the BSA. Suitable nesting habitat for this species is not present but may occur in nearby areas. Suitable foraging habitat is present within limited portions of the BSA. The CNDDB reports historic occurrences of this species from the Santa Monica Mountains approximately more than 10 miles to the southeast.	Not Likely to Occur (nesting)/ Moderate (Soaring)
Ardea herodias (rookery sites)	Great blue heron	**SA**	Rookery sites typically occur in groves of large trees within proximity to aquatic foraging areas of streams, wetlands, and grasslands.	The BSA is located within the known geographic distribution for this species; suitable rookery habitat does not occur within the BSA.	High (foraging/Not Likely to Occur (nesting, no rookery observed)

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Asio flammeus (nesting)	short-eared owl	**SSC**	Usually occurs in open areas with few trees, such as grasslands, prairies, dunes, meadows, agricultural fields, emergent wetlands; requires dense vegetation for cover.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic year-round distribution, however, is outside of the known breeding range for this species. Suitable foraging habitat occurs throughout the BSA. There is a 2008 eBird record for this species approximately 6 miles west, just north of the Santa Clara River mouth.	Low
Athene cunicularia	burrowing owl	**SSC, BCC**	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Owls are found in microhabitats highly altered by humans, including flood risk management and irrigation basins, dikes, banks, abandoned fields surrounded by agriculture, and road cuts and margins. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is 4 miles northeast of the BSA from 2016.	**Not Likely to Occur**
Buteo regalis	ferruginous hawk	**WL**	Forages in grasslands and agricultural fields.	There are no known records for this species in the BSA. The nearest CNDDB record for this species occurs more than 10 miles to the southeast near Point Mugu Naval Base. A review of online eBird data shows an occurrence of this species just northwest of the BSA near Olivas Park Drive. Suitable nesting habitat is not present in the BSA although limited foraging habitat is present.	Low

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Chaetura vauxi (nesting)	Vaux's swift	**SSC**	Breeds in coniferous and mixed coniferous forests; requires large-diameter, hollow trees for breeding and roosting; forages in areas of open water where insect prey congregates.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Suitable breeding habitat does not occur in the BSA; foraging habitat occurs within pool habitats in the BSA and in the Santa Clara River when flowing water is present. There are multiple eBird records for this species approximately 6 miles west in the general vicinity of the Santa Clara River mouth.	Low
Charadrius alexandrines nivosus	western snowy plover	**ST, SSC, BCC**	Sandy or gravelly beaches, salt pond levees, shores of large alkali lakes including the Salton Sea. Needs sandy, gravelly or friable soils for nesting.	Suitable nesting habitat does not occur within the BSA, but the species may occur as a transient. The nearest recorded occurrence is 7 miles southwest of the BSA; however, this occurrence was recorded over 40 years ago in 1978.	**Not Likely to Occur(nesting)/Low (transient)**
Circus cyaneus (nesting)	northern harrier	**SSC**	Prefer open country, grasslands, steppes, wetlands, meadows, agriculture fields; roost and nest on ground in shrubby vegetation often at edge of marshes.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species; suitable breeding and foraging habitat occurs throughout the BSA. There are multiple eBird records for this species approximately 6 miles west near the mouth of the Santa Clara River.	Moderate
Coccyzus americanus occidentalis	western yellow-billed cuckoo	**FT, SE, BCC**	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with well-developed understories of blackberry, nettles, or wild grape.	Suitable nesting habitat does not occur within the BSA, but suitable foraging habitat is present. The nearest and most recently recorded occurrence is approximately 2 miles southwest of the BSA; however, this occurrence was recorded over 40 years ago in 1977.	**Not Likely to Occur (nesting)/Moderate (foraging)**
Elanus leucurus	white-tailed kite	**FP**	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Marginally suitable nesting habitat and suitable foraging habitat occurs within the BSA. The nearest recorded occurrence is 9 miles southeast of the BSA from 2009.	**Low (nesting)/Moderate (foraging)**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Empidonax traillii extimus	southwestern willow flycatcher	**FE, SE**	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S.	Suitable nesting and foraging habitat are present within the BSA and the BSA is located within Designated Critical Habitat for the species. The nearest and most recently recorded occurrence is approximately 5 miles northeast of the BSA from 2008.	**High**
Eremophila alpestris actia	California horned lark	**WL**	Coastal regions, chiefly from Sonoma County to San Diego County. Also, main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is 4 miles southeast of the BSA from 2002.	**Not Likely to Occur**
Falco columbarius (non-breeding/ wintering)	merlin	**WL**	Wide variety of habitats including marshes, deserts, seacoasts, open woodlands, fields.	There are no known records for this species in the BSA or surrounding areas. This species is a winter resident that does not breed in California; the BSA is located within the known geographic winter distribution for this species. Suitable foraging habitat occurs throughout the BSA. There is a 2009 eBird record for this species northwest of the BSA at Buenaventura Golf Course.	Moderate
Falco peregrinus anatum	American peregrine falcon	**FD, SD, FP, BCC**	Occurs in various open habitats, especially where suitable nesting cliffs are present.	Suitable nesting habitat does not occur within the BSA; however, suitable foraging habitat is present. The nearest and most recently recorded occurrence is approximately 1 mile south of the BSA from 2017.	**Not Likely to Occur (nesting)/High (foraging)**
Gymnogyps californianus	California condor	**FE, SE, CFP**	Nests in caves, crevices, behind rock slabs, or on large ledges on high sandstone cliffs; requires vast expanses of open savannah, grasslands, and foothill chaparral with cliffs, large trees and snags for roosting and nesting.	There are no known records for this species in the BSA. This species is known from the upper Sespe Creek watershed well over 10 miles northeast; suitable nesting habitat does not occur; limited foraging habitat occurs within portions of the BSA.	Low (soaring)
Icteria virens (nesting)	yellow-breasted chat	**SSC**	Inhabits riparian thickets of willow and other brushy tangles near water courses; nests in low, dense riparian vegetation; nests and forages within 10 feet of ground.	This species is known to occur immediately downstream. The BSA is located within the known geographic distribution for this species; suitable breeding and foraging habitat exist within portions of the BSA.	High

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Lanius ludovicianus (nesting)	loggerhead shrike	**BCC, SSC**	Broken woodland, savannah, pinyon-juniper woodland, Joshua tree woodland, riparian woodland, desert oases, scrub, and washes; prefers open country for hunting with perches for scanning and fairly dense shrubs and brush for nesting.	This species is known to occur immediately downstream. The BSA is located within the known geographic distribution for this species; suitable breeding and foraging habitat is present within portions of the BSA.	High
Laterallus jamaicensis coturniculus	California black rail	**ST, FP**	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 8 miles southwest of the BSA; however, this occurrence was recorded over 80 years ago in 1936.	**Not Likely to Occur**
Pandion haliaetus	osprey	**WL**	Forages and nests along rivers, lakes, and reservoirs.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Suitable foraging habitat occurs throughout the BSA. There are multiple eBird records approximately 6 miles west within the general vicinity of the Santa Clara River mouth.	Moderate
Passerculus sandwichensis beldingi	Belding's savannah sparrow	**SE**	Locally common non-migratory resident of coastal saltmarsh. An obligate breeder in middle elevation saltmarsh, nearly always characterized by pickleweed (*Salicornia* spp.), either in tidal situations or non-tidal alkaline flats nearby. Foraging primarily stems from saltmarsh and mudflat, individuals, particularly post-breeding birds, can be found foraging in a wide variety of habitats including upper marsh, adjacent ruderal and ornamental vegetation, open beach and mudflat, and even dirt and gravel parking lots.	Suitable nesting habitat does not occur within the BSA; however, suitable foraging habitat is present. The nearest and most recently recorded occurrence is approximately 7 miles southwest of the BSA from 2006.	**Not Likely to Occur (nesting)/Moderate (foraging)**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Pelecanus occidentalis californicus	California brown pelican	**CFP**	Brown Pelicans live year-round in estuaries and coastal marine habitats along both the east and west coasts. They breed between Maryland and Venezuela, and between southern Calif. and southern Ecuador—often wandering farther north after breeding as far as British Columbia or New York. On the West Coast they breed on dry, rocky offshore islands. When not feeding or nesting, they rest on sandbars, pilings, jetties, breakwaters, mangrove islets, and offshore rocks. (Cornell, 2012)	There are no known recent records for this species in the BSA. The closest CNDDB record for this species is well over 10 miles southeast near Point Mugu Naval Base. There are eBird records for this species approximately 6 miles west near McGrath State Beach and 6.5 miles northwest at the Ventura Harbor.	Low (soaring)
Polioptila californica	coastal California gnatcatcher	**FE, SSC**	Obligate, permanent resident of coastal sage scrub below 2500 feet in Southern California. Low, coastal sage scrub in arid washes and on mesas and slopes with California sagebrush (*Artemisia californica*) as a dominant or co-dominant species. Not all areas classified as coastal sage scrub are occupied.	Limited suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 5 miles northeast of the BSA from 1991; however, this occurrence was recorded over 90 years ago in 1924.	**Low**
Rallus longirostris levipes	light-footed clapper rail	**FE, SE, CFP**	Generally, occur in salt marshes with adjacent tidal sloughs where pickleweed and cord grass are the dominant vegetation.	There are no known records for this species in the BSA or surrounding areas; nearest CNDDB record for this species occurs well over 10 miles to the southeast near Point Mugu Naval Base. Suitable salt marsh habitat is not present in the BSA. There is a single eBird record for this species approximately 6 miles west.	Not Likely to Occur
Riparia riparia	bank swallow	**ST**	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole. Forage in open areas and avoid places with tree cover.	Suitable nesting habitat does not occur within the BSA; however, suitable foraging habitat is present. The nearest and most recently recorded occurrence is approximately 6 miles southwest of the BSA; however, this occurrence was recorded over 40 years ago in 1976.	**Not Likely to Occur (nesting)/Low (foraging)**

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Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Selasphorus sasin	Allen's hummingbird	**SA**	Most commonly breeds in coastal scrub, valley-foothill hardwood, and valley-foothill riparian habitats; occurs in a variety of woodland and scrub habitat as a migrant.	This species is knowon to occur immediately downstream. The BSA is located within the known geographic distribution for this species; suitable breeding and foraging habitat throughout the BSA.	High
Setophaga occidentalis	hermit warbler	**SA**	Generally occurs in tall coniferous forests.	This species is known to occur immediately downstream. he BSA is outside the known breeding geographic distribution for this species; suitable foraging habitat occurs throughout the BSA.	High
Setophaga petechia	yellow warbler	**SSC, BCC**	Inhabits riparian plant associations near water. Nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Limited suitable nesting habitat suitable foraging habitat occur within the BSA. The nearest and most recently recorded occurrence is approximately 2 miles southwest of the BSA from 2017.	**Low (nesting)/High (foraging)**
Sternula antillarum browni	California least tern	**FE, SE, FP**	Nests on sandy upper ocean beaches, open barren sites, and occasionally uses mudflats. Forages on adjacent surf line, estuaries, or the open ocean where fish is abundant. Colonies are located near the ocean shoreline (within 0.5 miles [about 800 meters]), typically on nearly flat, loose sandy substrates with lightly scattered short vegetation and debris, although some colonies have been located on hard-packed surfaces, even unused asphalt. Colony sites must provide access to the shoreline for juveniles and must be relatively free of predators or the colony may abandon breeding efforts before completion.	Suitable habitat does not occur within the BSA. The nearest recorded occurrence is approximately 7 miles southwest of the BSA; however, this occurrence was recorded over 20 years ago in 1996	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Vireo bellii pusillus	least Bell's vireo	**FE, SE**	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Often inhabits structurally diverse woodlands along watercourses including cottonwood-willow and oak woodlands and mulefat scrub. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, or mesquite.	Suitable habitat occurs within the BSA. The nearest and most recently recorded occurrence is approximately 0.1-mile south of the BSA from 2017; however, the species was not observed during the October 8, 2020 field reconnaissance survey.	**High**
MAMMALS					
Antrozous pallidus	pallid bat	**SSC**	Desert, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats form high temperatures. Very sensitive to disturbance of roosting sites.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 5 miles southeast of the BSA; however, this occurrence was recorded over 110 years ago in 1906.	**Not Likely to Occur**
Bassariscus astutus	ringtail	**CFP**	Occurs in chaparral, coastal sage scrub, riparian scrub, oak woodlands, and riparian woodlands in proximity to permanent water.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species; suitable habitat occurs throughout the BSA.	Low
Chaetodipus californicus femoralis	Dulzura pocket mouse	**SSC**	Variety of habitats including coastal scrub, chaparral and grassland in san Diego County. Attracted to grass-chaparral edges.	Limited suitable habitat occurs within the BSA. The nearest recorded occurrence is approximately 9 miles northwest of the BSA.	**Low**
Choeronycteris mexicana	Mexican long-tongued bat	**SSC**	Occasionally found in San Diego County, which is on the periphery of their range. Feeds on nectar and pollen of night-blooming succulents. Roosts in relatively well-lit caves, and in and around buildings.	Suitable habitat does not occur within the BSA. The nearest and most recently recorded occurrence is approximately 7 miles west of the BSA; however, this occurrence was recorded over 20 years ago in 1994.	**Not Likely to Occur**
Euderma maculatum	spotted bat	**SSC**	Occupies a wide variety of habitats from arid deserts and grasslands, to mixed conifer forests; feeds over water and along washes; needs rock crevices in cliffs or caves for roosting (USACE and CDFG, 2010).	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Limited suitable breeding habitat may occur within the BSA. Suitable foraging habitat occurs throughout the BSA.	Moderate

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Eumops perotis californicus	western mastiff bat	**SSC**	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral. Roosts in crevices in cliff faces, high buildings, bridges, trees, and tunnels. In California, most records are from rocky areas at low elevations.	No suitable nesting or roosting habitat occurs within the BSA, but limited suitable foraging habitat is present. The nearest and most recently recorded occurrence is approximately 9 miles northwest of the BSA; however, this occurrence was recorded over 110 years ago in 1907.	**Not Likely to Occur (nesting/roosting)/Low (foraging)**
Lasiurus cinereus	hoary bat	**SA**	Prefers deciduous and coniferous woodlands; primarily roosts in tree foliage.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Suitable roosting habitat is present within the BSA; suitable foraging habitat occurs throughout the BSA. The CNDDB reports historic occurrences of this species well over 10 miles to the north and east.	Low
Macrotus californicus	California leaf-nosed bat	**SSC**	Prefers caves, mines and rock shelters in Sonoran Desert scrub.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Very limited suitable habitat may be present in the BSA; suitable foraging habitat occurs throughout the BSA.	Low
Microtus californicus stephensi	south coast marsh vole	**SSC**	Occurs in a narrow band of wetland communities and associated grasslands in the immediate coastal zone from southern Ventura Co. to northern Orange Co.	There are no known records for this species in the BSA; the BSA is just north of the known geographical distribution of this species. The closest CNDDB record for this species is well over 10 miles southeast from the Point Mugu Naval Base, the reported northern extent for this species.	Not Likely to Occur
Myotis ciliolabrum	western small-footed myotis	**SA**	Occurs in a wide variety of arid upland habitats at elevations ranging from sea level to 2,700 meters (8,860 feet); day roosts include rock crevices, caves, tunnels and mines, and, sometimes, buildings and abandoned swallow nests. (CDFW, 2015e)	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Limited suitable roosting habitat may be present in the Study; suitable foraging habitat occurs throughout the BSA.	Low

Special-Status Biological Resources

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Neotoma lepida intermedia	San Diego desert woodrat	**SSC**	Coastal scrub; prefers moderate to dense canopies; particularly abundant in rock outcrops, rocky cliffs, and slopes.	Although not detected in the BSA, this species is known from the Santa Clara River Valley. The BSA is located within the known geographic distribution for this species; suitable habitat occurs within portions of the BSA. The closest CNDDB records for this species occur well over 10 miles to the northwest.	Moderate
Macrotus californicus	California leaf-nosed bat	**SSC**	Prefers caves, mines and rock shelters in Sonoran Desert scrub.	There are no known recent records for this species in the BSA; the BSA is located within the known geographic range for this species. Very limited suitable habitat may be present in the BSA; suitable foraging habitat occurs throughout the BSA.	Low
Taxidea taxus	American badger	**SSC**	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Suitable habitat occurs within portions of the BSA. The nearest recorded occurrence is approximately 2 miles northeast of the BSA from 2008.	**High**

Federal Rankings:
FE = Federally Endangered
FD = Federally Delisted
FC = Federal Candidate Species for Listing
BCC = USFWS Bird of Conservation Concern

State Rankings:
S1 = Critically Imperiled
S2 = Imperiled
S3 = Vulnerable
S4 = Apparently Secure
S5 - Secure
SC = State Candidate for Listing
SD = State Delisted
SA = CDFW Special Animal
SE = State Endangered
ST = State Threatened
FP= Fully Protected
SSC = Species of Special Concern
WL = Watchlist

VC = Ventura County Locally Important Species
BSA=Biological Study Area
CNDDB =California Natural Diversity Database

5.5 WILDLIFE CORRIDORS AND SPECIAL LINKAGES

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of Coast Range newts, California red-legged frogs, southwestern pond turtles, and two-striped garter snakes found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian “movement corridor” (Bulger et al. 2002; Hunt 1993; Ramirez 2002, 2003a, 2003b; Rathbun et al. 1992; Trenham 2002). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Beier 1993, 1995; Newmark 1995; Noss et al. 1996, n.d.). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.

- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that link two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.

- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.

- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors, within larger natural habitat areas that are frequently used by animals to facilitate movement and provide access to water, food, cover, den sites, and other necessary resources. A travel route is generally preferred by a species because it provides the least amount of

topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll 1997).

- Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are human-made and include culverts, underpasses, drainage pipes, bridges, tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent “choke points” along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll 1997).

5.5.1 Wildlife Movement in the BSA

The proposed pipeline alignment and blending/monitoring station sites associated with the Project are located within the lower Santa Clara River Valley, which has been highly modified by agricultural and residential development. The BSA encompasses an approximately 0.3-mile segment of the Santa Clara River that spans east to west and is surrounded by single-family residential and institutional land uses to the north, and agricultural and industrial land uses to the south. Although the Santa Clara River is confined by levees in the Project area, regional wildlife movement may occur along the riverbed from coastal areas to adjacent less developed areas and areas more inland. The BSA occurs within a known wildlife movement corridor or habitat linkage as identified by the South Coast Wildlands (2008) or Penrod et al (2001) associated with the Santa Clara River.

The Santa Clara River is considered a regionally significant habitat linkage for a variety of species and provides connectivity from coastal regions to inland valleys and important tributary drainages. The majority of the length of the main stem of the Santa Clara River is connected by a nearly continuous strip of active channel. This active channel is a key corridor for aquatic and water-dependent species throughout the length of the river, so maintaining continuity of flows within the river is especially important. The river channel is also important in the dispersal of many amphibians and plant species (VCRMA 2019).

Although the riparian areas of the Santa Clara River have been fragmented by both natural and human development, the riparian vegetation along the river is an important corridor for movement of many species, especially birds. The BSA is within the Pacific Flyway, a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Each year, at least one billion birds migrate along the Pacific Flyway (Audubon 2020). Local resident species, including raptors and large mammals, move up and down the river into adjacent uplands habitat along the riparian corridor.

These lands function as a regional wildlife network, forming a genetic and population reservoir that is important in maintaining species and genetic diversity through migration between habitat blocks.

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6.0 AVOIDANCE AND MINIMIZATION MEASURES

6.1 WILDLIFE PRE-CONSTRUCTION CLEARANCE SURVEYS AND BIOLOGICAL MONITORING

Prior to ground disturbance within the Project site, a qualified biologist shall conduct pre-construction clearance surveys for wildlife (no more than 72-hours prior to site disturbing activities) where suitable habitat is present and directly impacted by construction activities. Wildlife found within the Project site or in areas potentially affected by the Project would be relocated to the nearest suitable habitat that would not be affected by the Project prior to the start of ground disturbing activities. Special-status species found within a proposed Project impact area shall be relocated by an authorized biologist to suitable habitat outside the impact area.

The qualified biologist(s) will oversee compliance with the avoidance and minimization measures outlined in this document. The biologist shall be onsite during all ground disturbing activities during geotechnical testing. The qualified biologist(s) shall have the right to halt all activities that are in violation of avoidance and minimization measures. Work shall proceed only after hazards to special-status species are removed, the species are allowed to leave, or are removed (if allowed) and the species is no longer at risk. The qualified biologist(s) shall have a copy of all the compliance measures in their possession while work is being conducted onsite.

6.2 ENVIRONMENTAL AWARENESS TRAINING

All personnel involved with the geotechnical testing activities shall participate in an Environmental Awareness Training Program. The training program shall present the environmental regulations and applicable permit conditions that the Project team shall comply with. The training program shall include applicable measures established for the Project to minimize impacts to water quality and avoid sensitive resources, habitats, and species. Subsequent training events shall be scheduled to support the training of new personnel. Dated sign-in sheets for attendees at these meetings shall be maintained and submitted to the City of Ventura.

6.3 NESTING BIRD SURVEYS AND AVOIDANCE MEASURES

If site disturbance is scheduled to begin during the avian nesting season (February 15 through September 15; January 1 through August 15 for raptors), breeding/nesting bird surveys shall be conducted by a qualified biologist; three separate survey events shall be conducted with the final survey occurring no more than 72-hours prior to the start of site disturbance. Surveys shall be conducted within 500 feet of all Project activities.

If endangered or threatened species are observed, consultation with U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife is required. If breeding birds with active nests are found prior to or during construction, a qualified biological monitor shall establish a 300-foot buffer around the nest, and no activities would be allowed within the buffer(s) until the young have fledged from the nest or the nest

fails; initial buffers for nesting raptors shall be 500 feet. The prescribed buffers for common species may be adjusted by the qualified biologist based on existing conditions around the nest, planned construction activities, tolerance of the species, and other pertinent factors; for example, buffers for common passerines, often found to be habituated to human activity, may be adjusted down to 25 - 50 feet depending on the disturbance tolerance of each specific species. Buffer adjustments for listed and/or other special-status species shall be done in coordination with the United States Fish and Wildlife Service and California Department of Fish and Wildlife as applicable. The qualified biologist shall conduct regular monitoring of the nest to determine success or failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails.

7.0 REFERENCES

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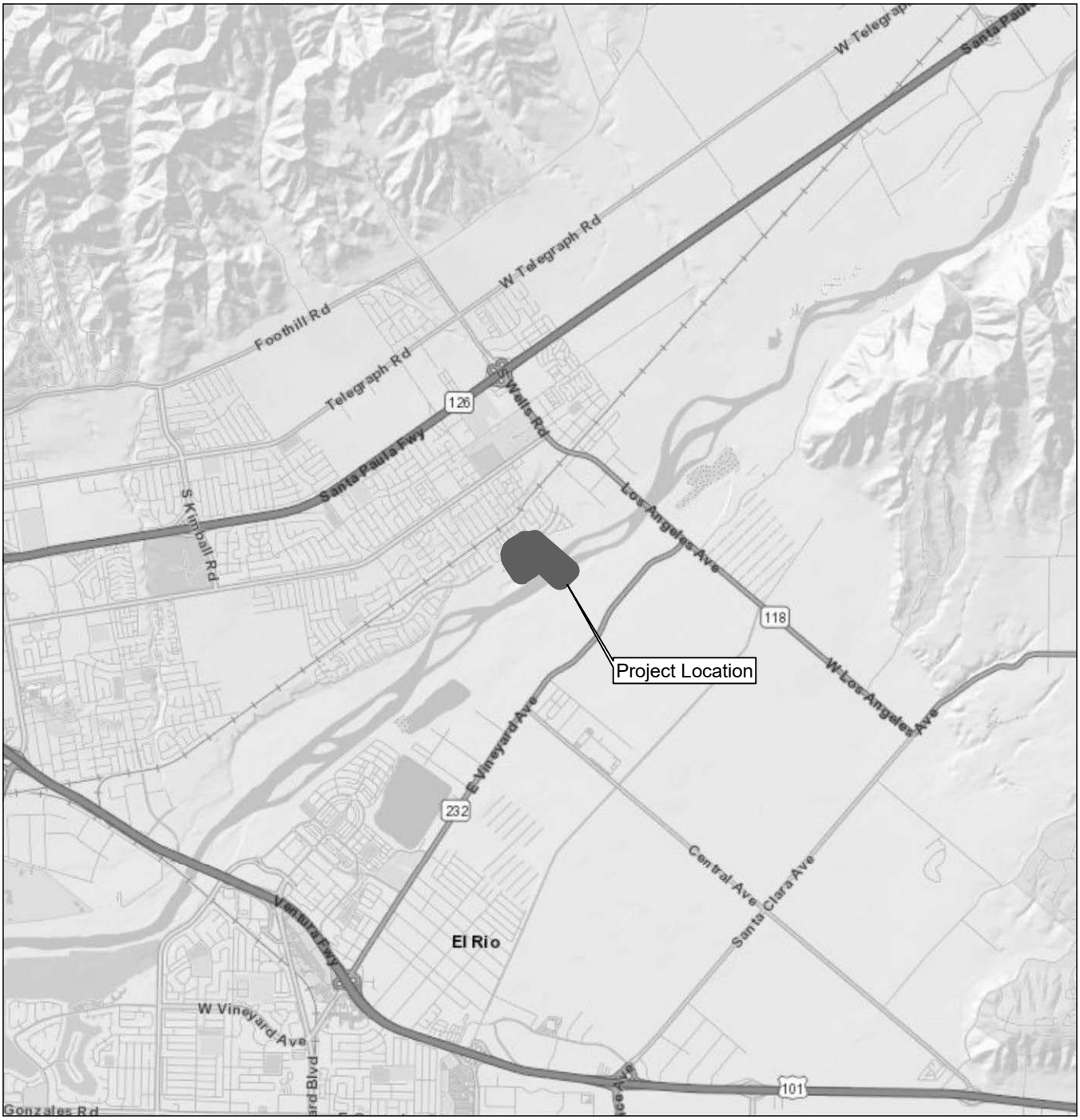
Appendix A FIGURES



Project Location

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Stantec

Project Location	Prepared by DL on 2020-10-16
	TR by ST on 2020-10-16
City of Ventura, California	IR by JV on 22020-10-16
Client/Project	184031328

City of Ventura
State Water Interconnection Pipeline and Blending Station
Projects - Geotechnical Borings
Biological Resources Technical Report

Figure No.
1

Title
Project Location Map

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

V:\1858\business development\184031328 City of Ventura Interconnection\Figure1 LocationMap 09212020.mxd Revised: 2020-10-15 By: dalaw

Biological Study Area

Temporary Impact Area

Vegetation Communities & Land Cover Types

- Alluvial Scrub
- Coastal Sagebrush Scrub
- Disturbed/ Developed
- Fennel Patches
- Giant Reed Marsh
- Mulefat Thickets
- Upland Mustards

0 200 400 Feet

(At original document size of 8.5x11)
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Stantec

Project Location
City of Ventura, California

Prepared by DL on 2020-10-16
TR by ST on 2020-10-16
IR by JV on 22020-10-16

Client/Project 184031328
City of Ventura
State Water Interconnection Pipeline and Blending Station Projects - Geotechnical Borings
Biological Resources Technical Report

Figure No.
2

Title
Vegetation Communities & Land Cover Types

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\184031328\business development\184031328 City of Ventura Interconnection\Figure2_VegMap_09212020.mxd Revised: 2020-10-27 By: dalaw

Biological Study Area

Temporary Impact Area

Soils Map Unit Symbol

- MeA; Metz loamy sand, 0 to 2 percent slopes
- PcA; Pico sandy loam, 0 to 2 percent slopes
- PxG; Pits & Dump
- Rw; Riverwash
- Sd; Sandy alluvial land

0 200 400 Feet

(At original document size of 8.5x11)
1:4,800

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Stantec

Project Location	Prepared by DL on 2020-10-16
	TR by ST on 2020-10-16
City of Ventura, California	IR by JV on 22020-10-16
Client/Project	184031328
City of Ventura	
State Water Interconnection Pipeline and Blending Station	
Projects - Geotechnical Borings	
Biological Resources Technical Report	
Figure No.	
3	
Title	
Historical Soils Map	

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020. NRCS 2020.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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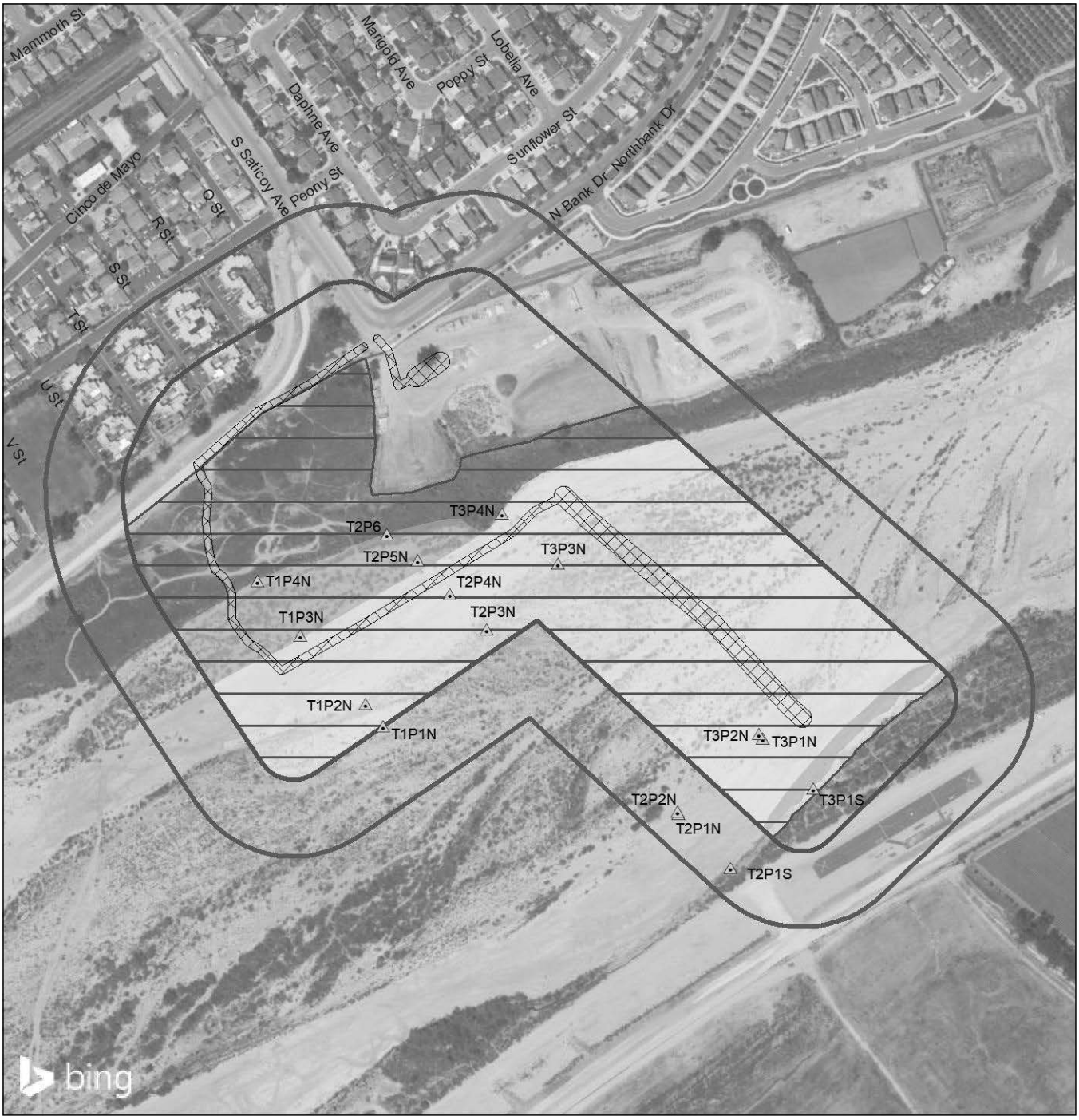

- Biological Study Area
- Jurisdictional Delineation Study Area
- Temporary Impact Area
- Sample Test Pits
- CDFW Jurisdictional Waters/ Waters of the State
- USACE Wetland "Waters of the U.S"
- USACE Non-Wetland "Waters of the U.S"

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(At original document size of 8.5x11)
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Stantec

Project Location
City of Ventura, California

Prepared by DL on 2020-10-16
TR by ST on 2020-10-16
IR by JV on 22020-10-16

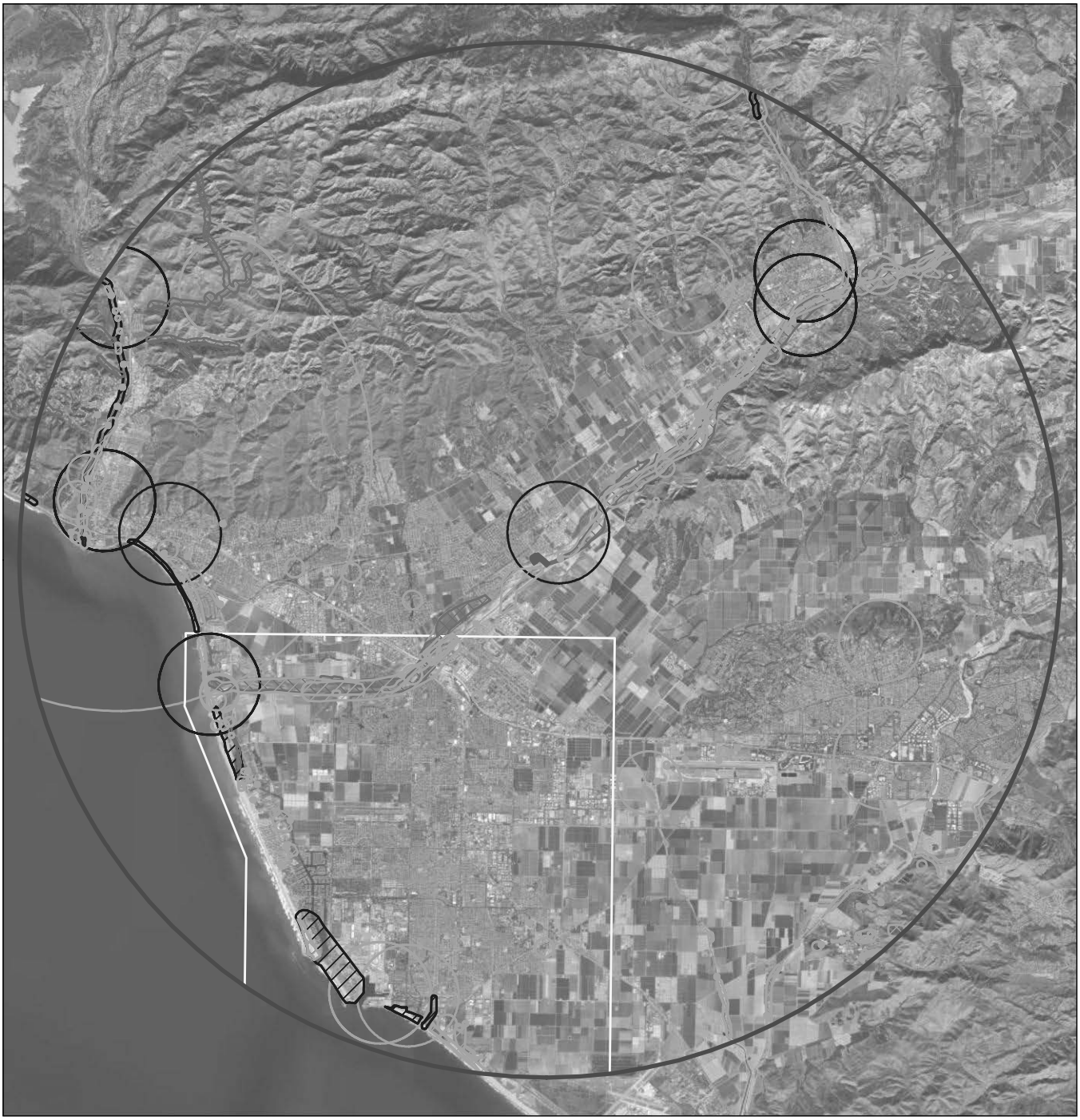
Client/Project 184031328
City of Ventura
State Water Interconnection Pipeline and Blending Station Projects - Geotechnical Borings
Biological Resources Technical Report

Figure No.
4

Title
Jurisdictional Features Map

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: © 2020 Microsoft Corporation © 2020 Maxar ©CNES (2020) Distribution Airbus DS

V:\1858\business development\184031328 City of Ventura Interconnection\Figure4 WatersMap 09212020.mxd Revised: 2020-10-27 By: dalaw



Biological Study Area
10 Mile Search Radius
Plant (80m)
Plant (specific)
Plant (non-specific)
Plant (circular)
Animal (80m)
Animal (specific)
Animal (non-specific)
Animal (circular)
Terrestrial Comm. (specific)
Aquatic Comm. (non-specific)
Multiple (non-specific)
Multiple (circular)
Sensitive EO's (Commercial only)

0 1.5 3 Miles

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Stantec

Project Location
City of Ventura, California

Prepared by DL on 2020-10-16
TR by ST on 2020-10-16
IR by JV on 2020-10-16

Client/Project 184031328
City of Ventura
State Water Interconnection Pipeline and Blending Station Projects - Geotechnical Borings
Biological Resources Technical Report

Figure No.
5

Title
10 Mile CNDDB Results

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020. CNDDB 2020.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\18581\business_development\184031328 City of Ventura Interconnection\Figure5_10Mile_CNDDB_09212020.mxd Revised: 2020-10-15 By: dalaw

Potential Work Area

2 Mile Search Radius

Results

American peregrine falcon

Southern Riparian Scrub

coast horned lizard

least Bell's vireo

tricolored blackbird

unarmored threespine stickleback

western pond turtle

western yellow-billed cuckoo

3,727:125 Feet

(At original document size of 8.5x11)
1:42,000

N

Stantec

Project Location	Prepared by DL on 2020-10-16
	TR by ST on 2020-10-16
City of Ventura, California	IR by JV on 22020-10-16
Client/Project	184031328
City of Ventura	
State Water Interconnection Pipeline and Blending Station	
Projects - Geotechnical Borings	
Biological Resources Technical Report	
Figure No.	
5a	
Title	
2 Mile CNDDB Results	

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020. CNDDB 2020.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\1858\business_development\184031328 City of Ventura Interconnection\Figure5a_2Mile_CNDDB_09212020.mxd Revised: 2020-10-23 By: dalaw

Appendix B PHOTOGRAPHIC LOG

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap

Photo 1: October 8, 2020

View from the northern boundary of the BSA from S Saticoy Street I1st Street looking northwest towards single family residential neighborhoods.

Photo 2: October 8, 2020

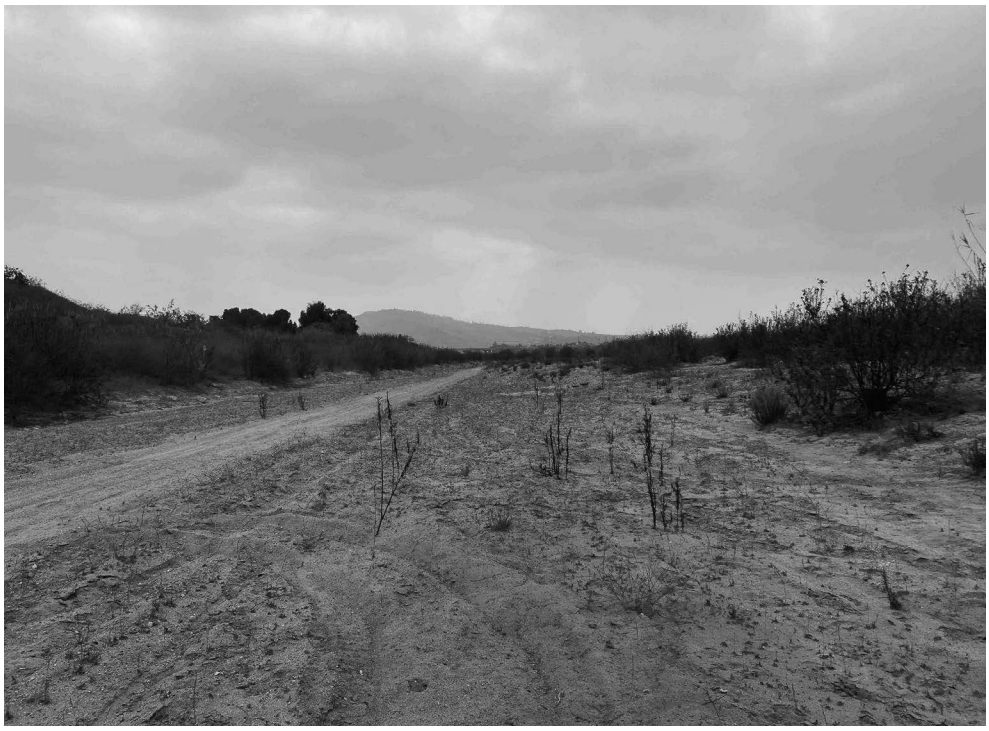
View from the northwestern BSA looking east towards the open areas around the graded dirt roads and trails.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap

Photo 3: October 8, 2020

View from the eastern portion of the BSA downslope of developed areas looking west downstream of a dry channel within the Santa Clara River floodplain.

Photo 4: October 8, 2020



View from the eastern portion of the BSA downslope of developed areas looking east upstream of a dry channel within the Santa Clara River floodplain.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap

Photo 5: October 8, 2020

View from the southern portion of the BSA within the Santa Clara River channel looking northeast upstream.

Photo 6: October 8, 2020

View from the southern portion of the BSA within the Santa Clara River channel looking southwest downstream.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap

Photo 7: October 8, 2020

View near the southern boundary of the BSA looking southwest at the southern bank demonstrating mulefat thickets with the river margins and the upland areas of California sagebrush scrub.

Photo 8: October 8, 2020

View from the center of the BSA looking east demonstrating alluvial scrub that dominated the central regions of the BSA.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap
Photo 9: October 8, 2020	

View from a path along the northern margins of the Santa Clara River floodplain within the BSA looking west demonstrating mulefat thickets and upland mustards.

Appendix B JURISDICTIONAL WETLANDS/WATERS DELINEATION REPORT

Preliminary Jurisdictional Wetlands/Waters Delineation Report

State Water Interconnection Pipeline Project – Santa Clara River HDD

October 30, 2020

Prepared for:

City of Ventura
501 Poli St., PO Box 99
Ventura, CA 93002

Prepared by:

Stantec Consulting Services Inc
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

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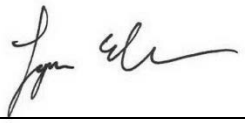
Reviewed by  (signature)

StephAnnie Roberts, Senior Project Manager

Reviewed by  (signature)

Logan Elms, Senior Biologist

Prepared and Approved by  (signature)

Jared Varonin, Principal Biologist/Ecosystems Practice Leader

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Abbreviations

Calleguas	Calleguas Municipal Water District
Casitas	Casitas Municipal Water District
CDFW	California Department of Fish and Wildlife
City	City of Ventura
Client	City of Ventura
CWA	Clean Water Act
FAC	Facultative
FACU	Facultative-Upland
FACW	Facultative-Wetland
HDD	Horizontal Directional Drilling
LACDPW	Los Angeles County Department of Public Works
NRCS	Natural Resources Conservation Service
OBL	Obligate
OHWM	ordinary high-water mark
Project	State Water Interconnection Pipeline and Blending Station Project
RWQCB	Regional Water Quality Control Board
SA	Survey Area
Stantec	Stantec Consulting Services Inc.
SWP	State Water Project
UPL	Upland
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Service
VCWPD	Ventura County Watershed Protection District
WOTS	Waters of the State
WOTUS	Waters of the United States
°F	Degrees Fahrenheit

1.0 INTRODUCTION

This report presents the findings of an investigation of potentially jurisdictional features conducted by Stantec Consulting Services Inc. (Stantec) to support geotechnical testing for the State Water Interconnection Pipeline and Blending Station Project (Project), where it occurs within and adjacent to the Santa Clara River, in Ventura, California (refer to Appendix A, Figure 1). This report is focused on the Santa Clara River portion of the Project and is intended to support planning, regulatory agency permitting, and associated documentation required for geotechnical testing within and adjacent to the Santa Clara River; this testing is to support horizontal directional drilling (HDD) beneath the Santa Clara River to support construction of the Project. The assessment of jurisdictional wetlands, other "Waters of the United States (WOTUS)," Waters of the State (WOTS), and California Department of Fish and Wildlife (CDFW) jurisdictional waters was conducted on October 8, 2020, by Stantec Principal Biologist Jared Varonin and Project Biologist Priya Pratap. This assessment was conducted to determine the extent of resources under the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW that occur within the jurisdictional delineation survey area (Study Area or SA) that includes the Project components and a surrounding 100-foot buffer zone (approximately 41.37 acres). Refer to Appendix A, Figure 2 for a graphical depiction of the SA.

1.1 PROJECT LOCATION

The Santa Clara River portion of the Project is located within southern Ventura County, California within the U.S. Geological Survey (USGS) Saticoy 7.5-minute topographic quadrangle, in the City of Ventura (City). The Project is four miles northwest of the Camarillo Airport, 0.5 mile south of the Fritz Huntsinger Youth Sports Complex, 0.3 mile southwest of Brown Barranca, 0.2 mile south of Sacred Heart Church, and seven miles east of the Pacific Ocean with its northeast extent adjacent to a dog park and Enclave Park. The pipeline alignment associated with the Project extends southeast from the City, through the community of El Rio in unincorporated Ventura County, and terminates in the City of Camarillo. The City connection point would be located along an existing 24-inch diameter pipeline on Henderson Road between South Saticoy Avenue and South Wells Road. The segment of the proposed pipeline surveyed for this BRTR is included in Segment 2 and extends from the South Saticoy Avenue and North Bank Drive intersection across/under the Santa Clara River towards Vineyard Avenue. In general, the Project site consists of dirt roads, dirt trails, a partially developed lot, and a segment of the Santa Clara River and its associated floodplain, banks, and uplands. The general area surrounding the Project site is predominantly single-family residential neighborhoods to the north, industrial and agricultural to the south, and the Santa Clara River to the east and west.

1.2 PROJECT DESCRIPTION

As of May 2019, the City of Ventura's population is approximately 113,500 persons with about 32,000 water service connections (Ventura Water 2019). The City's diverse water portfolio of surface water, groundwater, and recycled water is derived from six sources throughout the region. The City has an established right to water from the State Water Project (SWP) but cannot currently take delivery due to a

lack of infrastructure to deliver that water. The City needs to provide a continued reliable water service to City water customers. This involves making up for losses in annual yield from existing supply sources (Lake Casitas, Ventura River, and groundwater), improving water quality, and providing an emergency/backup connection for Ventura Water's potential potable reuse project.

The overall Project consists of the construction and operation of pipeline facilities that enable delivery of SWP water that has been wheeled through the Metropolitan Water District of Southern California (MWD) and Calleguas Municipal Water District (Calleguas) to the City of Ventura; the majority of the overall Project area does not fall within the BSA for this BRTR. This BRTR is focused on the portion of the Pipeline that would be installed beneath the Santa Clara River via HDD. The HDD portion of the project will require geotechnical testing as described below in Section 1.2.1. The pipeline facilities (the "interconnection") would also facilitate direct delivery of SWP water to United Water Conservation District (United) and direct or in-lieu delivery of SWP water to Casitas Municipal Water District (Casitas). In addition, the interconnection would allow the City to deliver water to Calleguas during an outage of Calleguas' imported water supplies. The interconnection would be a pipeline used to transport water between Calleguas' and the City's distribution systems. The Project consists of a connection to the Calleguas system, a pipeline of approximately 7 miles in length, a flow/pressure control and metering station at each United turnout for water delivery, a connection to the City's water distribution system, a flow/pressure control and metering station downstream of the City's connection point, and a blending/monitoring station within the City's system.

The Project would be designed to achieve the following objectives:

- Provide a near-term water supply source for the City to enhance supply reliability.
- Improve City water quality.
- Provide a backup supply for the City's other potential, long-term water supply options.
- Allow Casitas and United to receive their SWP entitlements.
- Enable the City to deliver water to Calleguas during an imported water supply outage.

1.2.1 Geotechnical Testing

A geotechnical investigation is proposed along the final approved Interconnection alignment and prepare a geotechnical report. Geotechnical engineering issues for the Interconnection pipeline will involve characterization of the soil and groundwater conditions along the Interconnection alignment. It is estimated that geotechnical borings and related supporting activities will require approximately 15 working days to complete, during a time when the river channel is free of surface water and accessible by the proposed equipment. Several drilling methods may be utilized, including mud rotary, air rotary, sonic drilling, and rock coring.

The primary equipment anticipated to be used for drilling boreholes includes the following:

- Trailer and skid mounted mud systems

- Rig tenders with water tanks up to 2,000 gallons
- A variety of sampling equipment, including but not limited to the following: pitcher barrel samplers,
- coring systems, and split spoon samplers
- Track and truck mounted drill rigs, which would be approximately 17 feet tall (with mast up), 18
- feet long, and 8 feet wide.

The informal access way located on the north side of the channel about 700 feet southeast of Saticoy Avenue will allow passage of conventional truck-mounted exploration equipment; however, some minor grading may be required. Heavy construction equipment and minor grading may be required to access the channel. In addition, the construction support equipment may also be needed to assist the exploration equipment to travel across river channel in areas where loose/soft surface conditions occur. A dozer and operator to perform the minor grading will be available or on stand-by for the drill holes within the channel to move existing traffic barriers, improve the informal access area into the channel and assist in moving the drill rig in the event that loose/soft ground conditions are encountered. Disturbances will be minimized to the degree feasible and planned/implemented in coordination with environmental requirements.

Upon completion of drilling and sample retrieval, the drill holes (and CPT soundings) will be backfilled in accordance with local requirements and applicable permit conditions. It is assumed that each drill hole will be backfilled to the ground surface with cement-bentonite grout.

Where feasible and permitted, investigation derived waste will be dispersed on the ground surface adjacent to the drill hole. In locations where it is not feasible or permitted to disperse the investigation derived waste on-site (such as during the abandonment of the monitoring wells), the waste material will be stored in 55-gallon drums and transported to a nearby location where the drummed material will be stored until arrangements for disposal are made..

2.0 EXISTING SITE CONDITIONS

2.1 TOPOGRAPHY AND SURROUNDING LAND USES

As depicted in Appendix A ,Figures 1 and 2, the SA is located along a 0.3-mile segment of the proposed seven-mile pipeline and extends from the South Saticoy Avenue and North Bank Drive intersection across/under the Santa Clara River towards Vineyard Avenue. In general, the Project site consists of dirt roads, dirt trails, a partially developed lot, and a segment of the Santa Clara River and its associated floodplain, banks, and uplands. The land within the SA consists of predominantly single-family residential neighborhoods and institutional land uses to the north, industrial and agricultural land uses to the south, and the Santa Clara River to the east and west. The photographic log for the survey is included in Appendix B and depicts representative environmental conditions within the SA and surrounding areas.

The Project is within the Lower Santa Clara River watershed within the Santa Clara River Valley subregion. The Santa Clara River flows 83 miles from the northwestern San Gabriel Mountains to the coast and is fed by numerous named stream tributaries as it flows westward, eventually reaching the Pacific Ocean. The river and its tributaries experience high annual flow variability, multi-year droughts, and extreme seasonal flooding, which together result in a highly dynamic alluvial system (Stillwater Sciences 2011). Elevations within the SA range from approximately 90 to 120 feet above mean sea level.

2.2 VEGETATION COMMUNITIES AND LAND COVER TYPES

As defined in MCVII, a vegetation alliance is defined as:

> *"a category of vegetation classification which describes repeating patterns of plants across a landscape. Each alliance is defined by plant species composition, and reflects the effects of local climate, soil, water, disturbance, and other environmental factors" (Sawyer et al. 2009).*

Generally, Stantec's mapping and description of plant communities follows the classification system described in the MCVII. The MCVII is generally limited to communities that are native to or naturalized within California; therefore, the vegetation communities and land cover types discussed below may be descriptive in nature but not specifically referenced in the MCVII. The scientific and common names of each species detailed within this report correspond to those described in the second edition of *The Jepson Manual* (Baldwin et al. 2012).

Habitats observed within the SA during the field survey, where vegetated, were comprised primarily of common plant species and vegetation communities found in the coastal areas of southern California. Habitat conditions within the vegetated portions of the SA were noted to be of generally good quality, with well-established communities comprised of native and non-native shrub and herbaceous species. Within the SA, the Stantec Biologists mapped five plant communities defined by Sawyer et al. (2009), one additional vegetation community, and one land cover type. These are described below, summarized in Table 1, and depicted in Appendix A, Figure 2. Small, localized areas occupied by other plant

communities were also observed within the SA; however, the areas were less than the minimum mapping unit dictated by the size of the SA and therefore, not mapped.

2.2.1 Vegetation Communities

Upland Mustards
***Brassica nigra- Hirschfeldia incana* Herbaceous Semi-Natural Alliance**

Approximately 6.40 acres of this community occurs within the northern portions of the SA; this community was associated with disturbed areas outside of the active channel of the Santa Clara River and adjacent to a County of Ventura maintenance yard. Black mustard (*Brassica nigra*) and shortpod mustard (*Hirschfeldia incana*) are the dominant ruderal forbs in the herbaceous layer.

Mulefat Thickets
***Baccharis salicifolia* Shrubland Alliance**

Approximately 4.08 acres of this community occurs within three distinct locations of the SA; refer to Appendix A, Figure 2 for the location of this community within the BSA. Mulefat (*Baccharis salicifolia*) is the dominant species with emergent trees and shrubs present at low cover including a sparse mix of red tamarisk (*Tamarix ramosissima*), Goodding's willow (*Salix gooddingii*), telegraph weed (*Heterotheca grandiflora*), and giant reed (*Arundo donax*). The percent coverage of mulefat varied within this community with 90 percent mulefat coverage in some areas and nearly co-dominant with giant reed in others; where near co-dominant mulefat was of a slightly higher percentage than Arundo.

Giant Reed Marsh
***Arundo donax* Herbaceous Semi-Natural Alliance**

Approximately 1.55 acres of this community occurs within the eastern and western extents of the SA. Giant reed (*Arundo donax*) is dominant in the herbaceous layer with mulefat (*Baccharis salicifolia*). Giant reed is an extremely invasive species non-native to southern California that forms dense monotypic stands and outcompetes most of the native species for resources. In most areas, giant reed reached eight ten feet in height.

Fennel Patches
***Foeniculum vulgare* Herbaceous Semi-Natural Alliance**

Approximately 0.31 acres of this community occurs within one location, adjacent to the County of Ventura maintenance yard, in the eastern/central portion of the SA. Fennel (*Foeniculum vulgare*) is the dominant species in the herbaceous and shrub canopies with occasional black mustard interspersed in the fennel patches.

Coastal Sagebrush Scrub
***Artemisia californica* Shrubland Alliance**

Approximately 1.62 acres of this community occurs in the extreme southern extent of the SA atop the banks of the Santa Clara River. California sagebrush (*Artemisia californica*) is co-dominant in the shrub

canopy with coyote bush (*Baccharis pilularis*) and black sage also present. California sagebrush and coyote bush were generally found to occur in dense stands up to four feet high. Mousehole tree (*Myoporum laetum*) was sporadically interspersed in the canopy.

Alluvial Scrub

Approximately 18.56 acres of this vegetation type occurs within a large portion of the SA and is confined to the large terrace between the main and secondary channels of the Santa Clara River. Alluvial scrub is an open vegetation adapted to the harsh conditions of the outwash environment. Alluvial scrub has been described as a variant of coastal sage scrub characterized by a rich combination of evergreen shrubs common to chaparral together with drought-deciduous shrubs and subshrubs found in coastal sage scrub. Scale broom (*Lepidosparatum* sp.), observed in the SA, is considered an indicator species because it is faithful to alluvial substrates and was present within the SA. Other common alluvial scrub shrubs found within the BSA include California buckwheat (*Eriogonum. Fasciculatum*), California sagebrush (*Artemesia californica*), deerweed (*Acmispon glaber*), prickly pear (*Opuntia* sp.), and yerba santa (*Eriodictyon* sp.) (Barbour, M. and Wirka J. 1997). False goldenaster (*Heterotheca sessiliflora*) was dominant in the shrub canopy and was sporadically interspersed with other species including California croton (*Croton californicus*), mulefat (*Baccharis salicifolia*), shortpod mustard (*Hirschfeldia incana*), California cudweed (*Pseudognaphalium californicum*), giant reed (*Arundo donax*), big saltbush (*Atriplex lentiformis*), coyote bush (*Baccharis pilularis*), black sage (*Salvia mellifera*), and rabbit's foot grass (*Polypogon monspeliensis*). This community had some bare or sparsely vegetated areas.

2.2.2 Land Cover Types

Disturbed/Developed

This land cover type was used to map approximately 8.87 acres of the SA that are disturbed/developed. Ares mapped as this land cover type include single family residential neighborhoods, landscaped parks, paved roadways, unpaved roads/walkways, landscaped areas, and institutional, agricultural, and industrial land uses. The vegetated areas within this land cover type primarily contain ornamental planters, such as within residential yards and landscaped areas, and croplands. The most frequently observed species within these areas include pampas grass fig (*Cortaderia selloana*), Peruvian peppertree (*Schinus mole*), Mexican fan palm (*Washingtonia robusta*), foxtail agave (*Agave attenuata)*, lemon-scented gum (*Corymbia citriodora*), Brazilian peppertree (*Schinus terebinthifolia)*, and western sycamore (*Platanus racemosa*). These areas are generally periodically maintained for weed control, precluding any significant growth of non-ornamental species, but may be sparsely interspersed with ruderal pioneer plant species that readily colonize open disturbed soil. These species may include prickly lettuce (*Lactuca serriola*), bull thistle (*Cirsium vulgare*), bristly oxtongue (*Helminthotheca echioides*), tree tobacco (*Nicotiana glauca*), wild fennel (*Foeniculum vulgare),* castor bean (*Ricinus communis*), black mustard (*Brassica nigra*), and shortpod mustard (*Hirschfeldia incana*).

2.3 CLIMATE

The climate in the Santa Clara River Watershed consists of warm, dry summers and mild, wet winters. Seventy-five percent of annual rainfall occurs from December to March. The mean seasonal precipitation varies from about eight inches in the valley floors near the eastern boundary of the basin to over 40 inches in the highest mountains in the basin; seasonal rainfall is approximately 14 inches near the coast at the river outlet into the Pacific Ocean (Ventura County Watershed Protection District [VCWPD], 2005). The VCWPD monitors daily precipitation at 101 stations throughout the county; many of these 101 stations are located within the Santa Clara River Watershed. Long-term monitoring data from these 101 stations show that the watersheds within the County rarely receive their average annual precipitation, but instead cycle through periods of above average rainfall to periods of drought conditions (Calleguas Creek Watershed Management Plan, 2004). [Aspen 2015]

2.4 HYDROLOGY AND GEOMORPHOLOGY

The Santa Clara River system originates at Pacifico Mountain of the San Gabriel Mountains and flows westward for approximately 84 miles to the Pacific Ocean. It drains a total area of about 1,634 square miles. Ninety percent of the watershed consists of rugged mountains up to 8,800 feet elevation; the remainder consists of valley floor and coastal plain (VCWPD and Los Angeles County Department of Public Works [VCWPD and LACDPW], 1996). Principal tributaries of the Santa Clara River are Castaic Creek in Los Angeles County, and Piru, Sespe, and Santa Paula Creeks in Ventura County, with drainage areas of 197, 441, 269 and 42 square miles, respectively. Four major reservoirs, Lake Piru and Pyramid Lake on Piru Creek, Castaic Lake on Castaic Creek, and the Bouquet Reservoir on Bouquet Creek control about 37 percent of the watershed (VCWPD and LACDPW, 1996). [Aspen, 2015]

Stream flows in some portions of the river and its tributaries are seasonal and can be of high intensity during and following rainfall events. The other portions of the river have surface flows year-round. Controlled water conservation releases, wastewater effluent discharges, agricultural runoff, “rising” groundwater and other flows contribute to the year-round flow. For instance, in the Piru subbasin, under low-flow conditions, all the streamflow of the Santa Clara River from above the confluence with Piru Creek infiltrates into the Piru basin so that there is no continuity of river flow. Flows below the confluence of the Santa Clara River and Piru Creek are partially controlled by water conservation releases of captured winter floodwaters at Lake Piru (United Water Conservation District and Castaic Lake Water Agency, 1996). The Freeman Diversion near Saticoy diverts natural runoff of the lower Santa Clara River, along with water releases from Lake Piru. [Aspen, 2015]

The California Department of Water Resources delineates two groundwater basins in the Santa Clara River floodplain: Acton Valley Basin and Santa Clara River Valley Basin. Both valleys are drained by the Santa Clara River toward the Pacific Ocean to the west. The Acton Valley and Santa Clara River Valley groundwater basins are located within the Santa Clara-Calleguas surface hydrologic unit, as designated by the State Water Resources Control Board. The Santa Clara-Calleguas hydrologic unit has a drainage area of 1,760 square miles and is the largest in the Ventura and Los Angeles counties region (RWQCB, 1994). [Aspen, 2015]

The Lower Santa Clara River, in which the SA occurs, becomes a typical braided stream, characterized by braided channels, wide floodplain, and coarser size (coarse sand to gravel) alluvial deposits. The river floodplain at the eastern boundary of the Piru groundwater subbasin is about 1,000 feet wide and varies in width between 2,000 feet and 6,000 feet downstream to the Fillmore Fish Hatchery. The floodplain then narrows to about 1,000 feet wide just east of the City of Santa Paula. The river meanders to the south side of the valley near Peck Road due to natural structural controls (Oak Ridge Fault) and stays about 1,000 feet wide from that point to the western boundary of the Santa Paula subbasin. The floodplain below Santa Paula and across the Oxnard Plain varies in width between 1,000 and 4,000 feet. The Santa Clara River forms a coastal lagoon and an estuary at its mouth at the Pacific Ocean near the Ventura Marina and McGrath State Beach. [Aspen, 2015]

2.5 GEOLOGY

The Santa Clara River watershed is located within a geologically active area, within the San Andreas Fault system, which forms the dynamic boundary between the Pacific and North America tectonic plates. Relative motion of the plates includes strike-slip displacement (along the trend of the fault zone) and convergence (acting perpendicular to the fault zone). Convergence along the boundary has led to rapid uplift in coastal and interior mountain ranges throughout the region (Orme, 1998; Duvall et al., 2004; Blythe et al., 2000). [Aspen, 2015]

Persistent regional geologic instability since about 28 million years ago (Ma) has exposed a wide variety of highly deformed, fractured, and faulted rock types in the Santa Clara River watershed (Yeats and Rockwell, 1991; Rockwell et al., 1984; Rockwell, 1988). Igneous and metamorphic rocks, including gneiss, schist, and granite, dominate in the upper watershed to the east, while younger sedimentary and volcanic rocks are more prevalent in the lower watershed, west of the San Gabriel Fault. Fractures, deformation, and faulting contribute to high bedrock erodibility throughout the watershed. For example, the sedimentary bedrock along the mainstem valley flanks is often poorly consolidated, intensely folded, and has steeply tilted beds, making it susceptible to landsliding (e.g., Harp and Jibson, 1996) and erosion by dry raveling (Scott and Williams 1978). Even areas underlain by granite, gneiss, and schist (which are normally thought to be relatively resistant to erosion) have been described as being highly erodible (e.g., Scott and Williams 1978; Wells et al. 1987), due to extensive deformation and fracturing. The position of unchanneled valleys, creeks, and the Santa Clara River itself are strongly influenced by geologic structure and the location of active faults. Below its confluence with Sespe Creek, the river roughly follows the axis of a west-trending synclinal valley, which is bounded by active strands of the San Cayetano Fault (Rockwell, 1988) to the north and the Oak Ridge Fault (Azor et al., 2002) to the south. [Aspen, 2015]

Intense seismic activity in the region is reflected in frequent ruptures along faults. Seven of the roughly 30 high-magnitude (MW [moment magnitude] ≥6) earthquakes that have shaken southern California over the past 80 years have occurred in the Transverse Ranges (numbers updated from Rockwell, 1988). Seismic shaking during the magnitude 6.7 Northridge event in 1994 triggered nearly 7,400 landslides in the watershed (Harp and Jibson, 1996), highlighting the importance of geologic factors in the production of sediment, which ultimately affects geomorphic processes in the lower river corridor. [Aspen, 2015]

2.6 SOILS

Table 1 Historic Soil Types in the Study Area

Map Unit Symbol	Soil Name	Description	Acres in Study Area
MeA	Metz loamy sand, 0 to 2 percent slopes	A somewhat excessively drained soil that typically occurs along alluvial fans from 30 to 2,500 feet in elevation; parent material consists of stratified alluvium derived from sedimentary rock, depth to water table to > 80'; not prone to flooding; loamy sand (0 to 7"), stratified sand to sandy loam (7 to 60").	6.86
PcA	Pico sandy loam, 0 to 2 percent slopes	A well-drained soil that typically occurs along alluvial fans from 10 to 1,500 feet in elevation; parent material is alluvium derived from sedimentary rock; depth to water table > 80'; not prone to flooding; sandy loam (0 to 14"), stratified sandy loam to loam (14 to 54"). Stratified gravelly sand to gravelly loamy coarse sand (54 to 60").	3.27
PxG	Pits & Dump	A well-drained soil; extremely gravelly coarse sand (0 to 6"), extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand (6 to 60")	12.72
Rw	Riverwash	A somewhat poorly drained soil that occurs in drainages; no elevation limits; parent material consists of alluvium; depth to water table approximately 0 to 60"; frequently flooded; sand (0 to 6"), stratified coarse sand to sandy loam (6 to 60")	10.30
Sd	Sandy alluvial land	A somewhat excessively drained soil that occurs from 30 to 1,200 feet; parent material consists of alluvium; prone to occasional flooding; loamy sand (0 to 12"), stratified sand to loamy sand (12 to 38"), stratified sand to silt loam (35 to 60")	8.24

3.0 REGULATORY BACKGROUND

The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA); the CDFW regulates activities under California Fish and Game Code Sections 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. Refer to Appendix E for additional information on regulatory background information.

4.0 WATERS/WETLANDS DELINEATION

4.1 DELINEATION METHODOLOGY

This section describes the methods employed by Stantec during the survey conducted on October 8, 2020, to determine the extent of potentially jurisdictional wetlands and/or waters that occur within the SA. Prior to conducting the field assessment, Stantec reviewed current and historic aerial photographs, detailed topographic maps, and soil maps of the SA (USDA, 2020), the United States Fish and Wildlife (USFWS) National Wetlands Inventory (USFWS, 2020), and local and state hydric soil lists (Natural Resources Conservation Service [NRCS], 2020a; NRCS, 2020b) to evaluate the potential jurisdictional features that may occur within the SA. Methodology for the delineation followed, following USACE guidelines for a routine delineation (with the establishment of a baseline and transects), was used to map potentially jurisdictional wetlands within the SA. This included the excavation of soil test pits at each change in vegetation community and/or topography along transects established prior to conducting field work. A field data sheet was completed for each soil test pit; refer to Appendix F for a compilation of collected data sheets.

During the field assessment, hydrologic features were mapped over recent aerial photograph base maps using the ESRI® Collector for ArcGIS app on an Apple® iPad® coupled with an Arrow® GNSS sub-meter external global positioning system unit (refer to Appendix A, Figure 4). Mapping was further refined in the office using ArcGIS (version 10.6) using aerial photograph base maps with an accuracy of one foot, and the total jurisdictional area for each regulatory jurisdiction was calculated.

4.1.1 Federal Waters

Where present, jurisdictional non-wetland “WOTUS.” are delineated based on the limits of the ordinary high-water mark (OHWM) as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics.

4.1.2 Federal Wetlands

Where present, jurisdictional wetlands are delineated using a routine determination in accordance with the methods outlined in the USACE Wetland Delineation Manual (Environmental Laboratory, 1987) and the Arid West Supplement (Environmental Laboratory, 2011) and based on three wetland parameters: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. See Appendix D, Tables 1 and 2 (Potential Geomorphic and Vegetative Indicators of OHWM for the Arid West) for a list of key physical features used to determine the OHWM identified by the Arid West Manual.

4.1.2.1 Wetland Vegetation

Vegetation percent cover is visually estimated for plant species in each of the four strata (tree, sapling/shrub, herb, and woody vine), and species in each stratum are ranked based on canopy dominance (USACE, 2016). Species with a total percent cover of at least 50 percent and species with 20

percent coverage within each stratum are recorded on the Field Data Sheets (50/20 Rule). Wetland indicator status is assigned to each dominant species using the USACE Arid West Regional Wetland Plant List (2016), the California subregion of the National List of Vascular Plan Species that Occur in Wetlands: 1996 National Summary (USFWS, 1997); and Wetland Plants of Specialized Habitats in the Arid West (USACE, 2007). If greater than 50 percent of the dominant species from all strata are Obligate (OBL), Facultative-Wetland (FACW), or Facultative (FAC) species, the criteria for wetland vegetation is considered met (refer to Appendix D, Table 3, Summary of Wetland Indicator Status). Facultative Upland (FACU) species usually occur in non-wetlands but are occasionally found in wetlands. Appendix G provides a list of plant species observed during the October 8, 2020 survey.

4.1.2.2 Wetland Hydrology

The presence of wetland hydrology is assessed by evaluating the presence of primary and secondary hydrology indicators (refer to Appendix D, Tables 4 and 5). Wetland hydrology indicators are tiered into two categories (primary and secondary indicators). The presence of one primary indicator from either group is indicative of sufficient wetland hydrology, while two or more secondary indicators must be present to indicate sufficient wetland hydrology. Indicators are intended to be one-time observations of site conditions representing evidence of wetland hydrology when hydrophytic vegetation and hydric soils are present (Environmental Laboratory, 2011). OHWM is estimated using the boundaries of in-stream channels or the change in slope at the toe of the bank, as appropriate.

4.1.2.3 Wetland Soils

Soils data from the NRCS are referenced to determine if hydric soils have been previously documented and/or historically occurred in or near the SA (Appendix A, Figure 3). Appendix D, Tables 6 and 7 include a complete list of hydric soils indicators. Soil pits were excavated during the October 8, 2020 survey (Refer to Appendix C for detailed soils information).

4.1.3 CDFW Jurisdictional Waters

CDFW jurisdiction is delineated to the top of the banks of the channel and/or to the edge of contiguous riparian canopy/riparian habitat. Therefore, the total acreage of CDFW jurisdictional waters is often greater than the combined acreage of federal/state jurisdictional waters/wetlands. The top of the bank is determined based on changes in slope (“hinge points”) and the uppermost point is used in order to conservatively estimate the top of the bank.

4.1.4 Wetlands/Waters of the State

4.1.4.1 Waters

WOTS are defined as all waters within the jurisdiction of this state, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state. Mapping of WOTS follows

the same general guidelines as described above for Federal Waters, however, WOTS often extend beyond the federal limits to the top of bank (where present).

4.1.4.2 Wetlands

Wetlands of the State are mapped where, under normal circumstances the following conditions are present outside of any mapped federal wetlands:

- The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both.
- The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- The area's vegetation is dominated by hydrophytes or the area lacks vegetation.

4.2 RESULTS

The National Wetlands Inventory has mapped R4SBC (Riverine, Intermittent, Streambed, Seasonally Flooded), PUS/SSA (Palustrine, Unconsolidated Shore, Scrub-Shrub, Temporary Flooded), and Rp1SS (Riparian, Lotic, Scrub-Shrub) within the SA.

Based on the data collected in the field, four types of jurisdictional waters occur within the SA. These include USACE/RWQCB wetlands, USACE/RWQCB non-wetland WOTUS, WOTS, and CDFW jurisdictional waters (Table 2, below, and Appendix A, Figure 4). Soil test pits were excavated along three transects that ran perpendicular to the Santa Clara River through the SA. Field data sheets for these test pits are presented in Appendix F.

Table 2 Acreage of Jurisdictional Aquatic Features in the Study Area

Location	USACE Wetlands (acres)	USACE Non-Wetland Waters (acres)	Waters of the State (RWQCB) (acres)	Wetlands of the State (RWQCB) (acres)	CDFW Jurisdictional Waters (acres)
Study Area	3.25	19.59	30.54	3.25	30.54
Temporary Impact Area	0.09	1.43	1.69	0.09	1.69

(a) Wetland/Non-wetland WOTUS and Wetlands/WOTS overlap; as such, jurisdictional acreages are not additive.
(b) Wetlands fall under the jurisdiction of the USACE, LARWQCB, and CDFW, each with separate extents that overlap; as such, wetland acreages are not additive.
(c) All reported impact acreages are temporary; no permanent impacts are proposed as part of the Geotechnical Testing.
(d) Temporary impacts include overland travel of vehicles. Actual impacts from drilling operations will result in borings of up to a maximum of 10 inches in diameter.

4.2.1 Federal Waters

Approximately 19.59 acres of the SA meet the definition of WOTUS as outlined in 33 CFR Part 328 (Figure 4, Appendix A); the Project would temporarily impact approximately 1.43 acres of federal non-wetland waters. This assessment is based on Stantec's professional opinion following an assessment of hydrology and the limits of the OHWM as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetation and soils characteristics noted during the

field surveys, Some of the key hydrology indicators, (Refer to Appendix D for additional information) that were noted during the delineation included:

- A5 – Gravel sheets to rippled sands
- B2 – Active floodplain
- B3 – Benches: low, mid, most prominent
- B11 – Silt deposits
- B13 – Drift (organic debris, larger than twigs)
- D4 – Annual herbs, hydromesic ruderals
- F15/18 – Upland Species

Due to the broad nature of the flood plain throughout a large portion of the SA, the OHWM was determined, in most cases, to occur some distance away from the main low-flow channel (no flow was present during the survey events). A review of historic aerial photography identified drainage patterns not easily discernible from the ground.

4.2.2 Federal Wetlands

Based on Stantec's professional opinion following an assessment of hydrology, vegetation, and soils, approximately 3.25 acres of the SA satisfies the three-criteria definition required to be considered federal wetlands (Environmental Laboratory, 1987 and 2011; USACE, 2008a; USACE, 2008b). The Project would temporarily impact approximately 0.09 acres of federal wetlands. Refer to the discussion below and the data sheets in Appendix F for additional information.

The majority of the vegetation observed within the established plots at each soil pit included species that were FACW, FAC, UPL, or were not assigned an indicator status. A complete list of species observed within the SA and established plots is presented in Appendix G. Due to the large amount of sediment present on the wetland transects, native soils were generally not visible within the accessible soil horizon(s). The 2008 Arid West Supplement provides guidance when soils "lack hydric soil indicators due to seasonal or annual deposition of new soil material" (USACE, 2008).

Portions of the SA that typically act as primary low flow channels within the Santa Clara River exhibited signs of seasonal and/or annual sediment deposition as described above. These areas however do not have a dominance of hydrophytic vegetation and therefore do not meet the federal wetland criteria. Portions of the SA, exhibiting these same signs of seasonal and/or annual sediment deposition, did express a dominance of wetland vegetation and therefore met the federal wetland definition as outlined in the Arid West Supplement (refer to Appendix A, Figure 4 for the location of federal wetlands within the SA).

A review of historic aerial photography was conducted to assist in mapping the maximum extent of inundation across the SA. For the purposes of this delineation, inundated areas are defined as those areas experiencing ponded or flowing water of any duration. In some cases, mapping of the maximum

extent of inundation resulted in a few of the sample areas, noted as having a primary indicator of hydrology in the field (with the assumption of inundation), not meeting the wetland hydrology requirements. In many cases, it was difficult to identify one or more primary indicators of hydrology along the delineation transects. While conducting the delineation, in areas where secondary indicators of hydrology and hydrophytic vegetation were present, historic aerial photos were consulted to determine the extent of inundation within a specific sampling area; where applicable, aerial evidence of inundation was used as a primary indicator of hydrology. With no wetland hydrology present, according to guidance provided in the 2008 Arid West Supplement, cases in which soils "lack hydric soil indicators due to seasonal or annual deposition of new soil material" was no longer applicable (USACE, 2008). These areas, while not jurisdictional wetlands, do meet the requirements for jurisdictional waters (see Section 4.2.1 above).

4.2.3 CDFW Jurisdictional Waters

Based on Stantec's professional opinion following an assessment of hydrology, the presence of bed and bank, and associated riparian vegetation, there is a total of approximately 30.54 acres of CDFW jurisdictional waters present within the SA; the Project would temporarily impact approximately 1.69 acres.

4.2.4 Wetlands/Waters of the State

4.2.4.1 Waters of the State

Approximately 30.54 acres of WOTS mapped within the SA; this acreage mirrors the acreage reported for CDFW Jurisdictional Waters reported above in Section 4.2.3. This acreage represents the area between the north and south bank of the Santa Clara river within the SA.

4.2.4.2 Wetlands of the State

Based on Stantec's professional opinion following an assessment of hydrology, vegetation, and soils, approximately 3.25 acres of the SA satisfies the criteria required to be considered Wetlands of the State. Refer to the discussion above in Section 4.2.2 and the data sheets in Appendix F for additional information.

5.0 RESULTS

The SA supports federal wetlands, non-wetland WOTUS, CDFW jurisdictional waters, WOTS, and Wetlands of the State. Surface water was not present within the Santa Clara River during the October 2020 surrey event. Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, there is a total of approximately 0.09 acre of federally jurisdictional wetlands/Wetlands of the State, 1.43 acres of non-wetland WOTUS, 1.69 acres of Waters of the State/CDFW jurisdictional waters within the SA.

The Project would temporarily impact approximately 0.09 acre of federally jurisdictional wetlands/Wetlands of the State. Additionally, the Project would temporarily impact approximately 1.43 acres of non-wetland WOTUS and approximately 1.69 acres of CDFW jurisdictional waters/WOTS. Project-related impacts to jurisdictional areas will require the Project proponent to obtain authorization under Section 404 of the CWA from the USACE, a Section 401 Water Quality Certification from the RWQCB, Waste Discharge Requirements from the RWQCB under the Porter Cologne Water Quality Act, and apply for a Lake and Streambed Alteration Agreement permit from the CDFW.

The conclusions presented above represent Stantec's professional opinion based on our knowledge and experience with the applicable regulatory agencies, including their technical guidance documents and manuals. However, the USACE, CDFW, and RWQCB have final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries.

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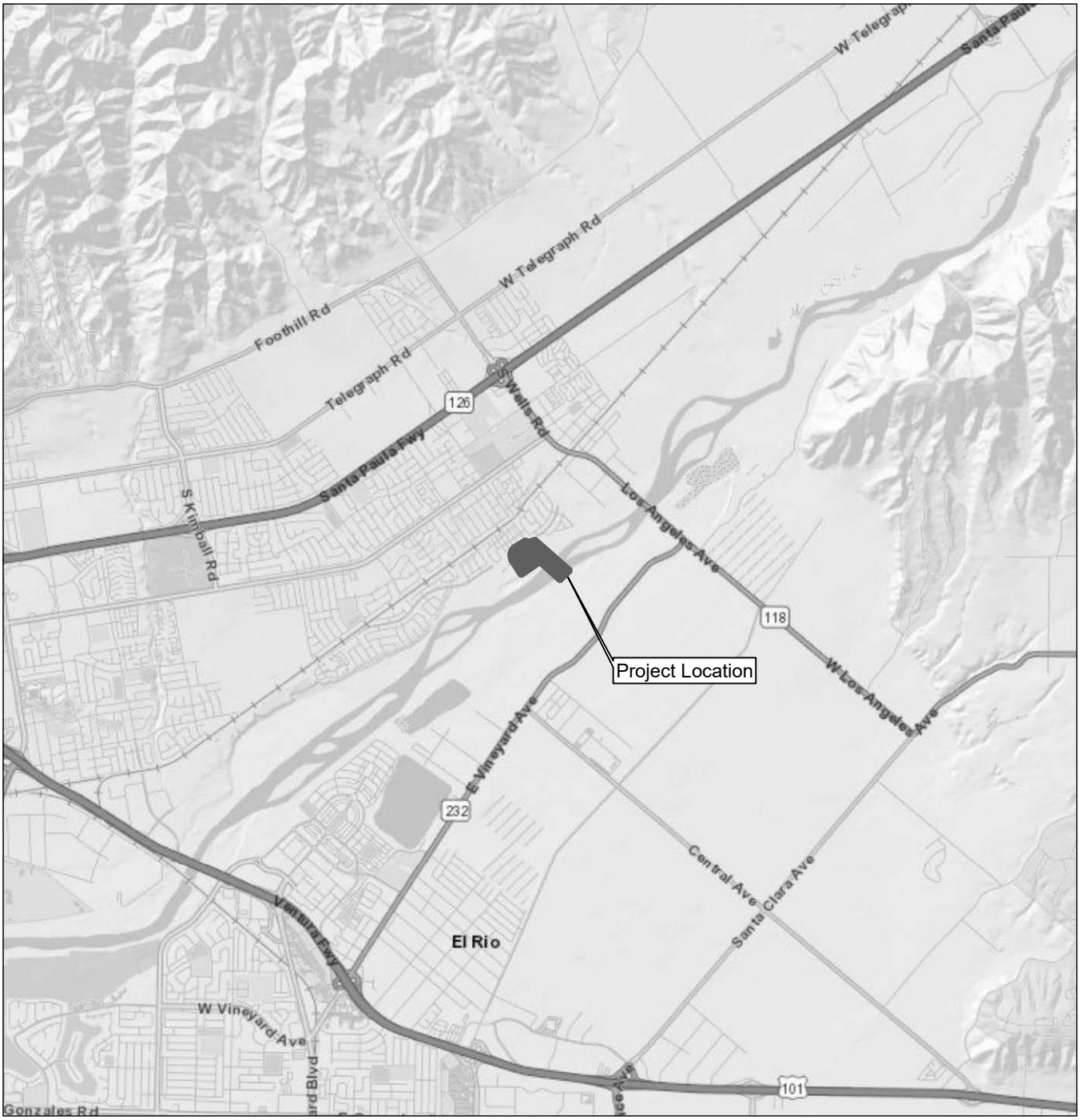
Appendix A FIGURES



Project Location

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Stantec

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	TR by ST on 2020-10-16
City of Ventura, California	IR by JV on 22020-10-16
Client/Project	184031328
City of Ventura	
State Water Interconnection Pipeline and Blending Station	
Projects - Geotechnical Borings	
Jurisdictional Delineation Report	
Figure No.	
1	
Title	
Project Location Map	

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
National Geographic, Esri, Garmin, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

V:\1858\business development\184031328 City of Ventura Interconnection\Figure1 JD LocationMap 09212020.mxd Revised: 2020-10-22 By: dalaw

Jurisdictional Delineation Study Area

Temporary Impact Area

Vegetation Communities & Land Cover Types

- Alluvial Scrub
- Coastal Sagebrush Scrub
- Disturbed/ Developed
- Fennel Patches
- Giant Reed Marsh
- Mulefat Thickets
- Upland Mustards

0 170 340 Feet

(At original document size of 8.5x11)
1:4,200

N

Stantec

Project Location
City of Ventura, California

Prepared by DL on 2020-10-16
TR by ST on 2020-10-16
IR by JV on 22020-10-16

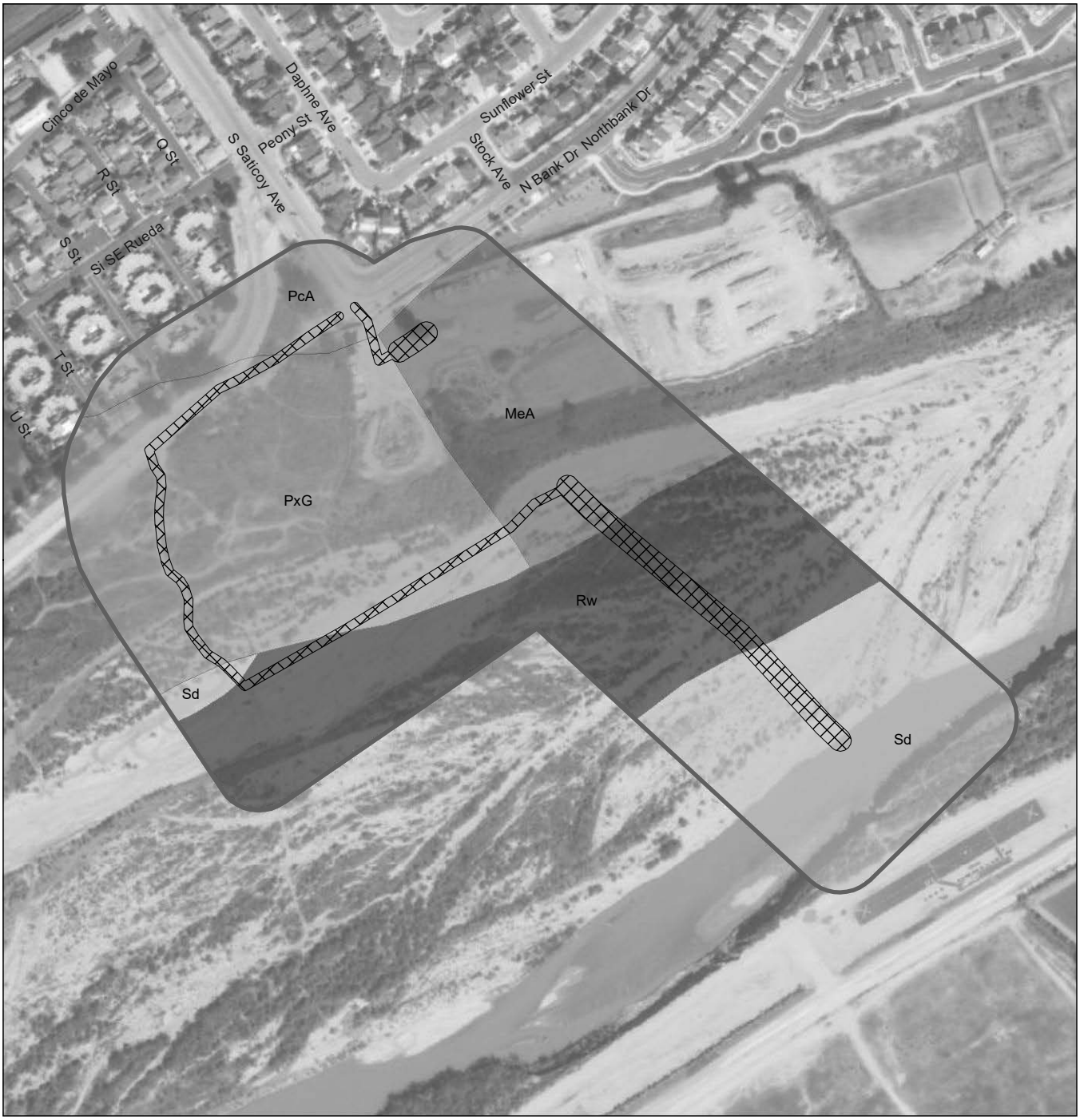
Client/Project 184031328
City of Ventura
State Water Interconnection Pipeline and Blending Station Projects - Geotechnical Borings
Jurisdictional Delineation Report

Figure No.
2

Title
Vegetation Communities & Land Cover Types

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\1858\business development\184031328 City of Ventura Interconnection\Figure2_JD_VegMap_09212020.mxd Revised: 2020-10-27 By: dalaw



Jurisdictional Delineation Study Area

Temporary Impact Area

Soils Map Unit Symbol

- MeA; Metz loamy sand, 0 to 2 percent slopes
- PcA; Pico sandy loam, 0 to 2 percent slopes
- PxG; Pits & Dump
- Rw; Riverwash
- Sd; Sandy alluvial land

0 175 350 Feet

(At original document size of 8.5x11)
1:4,200

N

Stantec

Project Location	Prepared by DL on 2020-10-16
	TR by ST on 2020-10-16
City of Ventura, California	IR by JV on 22020-10-16
Client/Project	184031328
City of Ventura	
State Water Interconnection Pipeline and Blending Station	
Projects - Geotechnical Borings	
Jurisdictional Delineation Report	
Figure No.	
3	
Title	
Historical Soils Map	

Notes

1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

2. Data Sources: Stantec 2020. NRCS 2020.

3. Background: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

V:\185681business development\184031328 City of Ventura Interconnection\Figure3_JD_SoilsMap_09212020.mxd Revised: 2020-10-26 By: dalaw

Jurisdictional Delineation Study Area

Temporary Impact Area

Sample Test Pits

CDFW Jurisdictional Waters/ Waters of the State

USACE Wetland "Waters of the U.S"

USACE Non-Wetland "Waters of the U.S"

0 175 350 Feet

(At original document size of 8.5x11)
1:4,200

N

Stantec

Project Location
City of Ventura, California

Prepared by DL on 2020-10-16
TR by ST on 2020-10-16
IR by JV on 22020-10-16

Client/Project 184031328
City of Ventura
State Water Interconnection Pipeline and Blending Station
Projects - Geotechnical Borings
Jurisdictional Delineation Report

Figure No.
4

Title
Jurisdictional Features Map

Notes
1. Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
2. Data Sources: Stantec 2020.
3. Background: © 2020 Microsoft Corporation © 2020 Maxar ©CNES (2020) Distribution Airbus DS

V:\18568\business development\184031328 City of Ventura Interconnection\Figure4_JD_WatersMap_09212020.mxd Revised: 2020-10-27 By: dalaw

Appendix B PHOTOGRAPHIC LOG

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** J. Varonin

Photo 1: October 8, 2020

View of soil test pit No. T1P3N; wetland hydrology and vegetation were present. Hydric soils not observed however this location met the hydric soil requirement per conditions in the Arid West Supplement

Photo 2: October 8, 2020

View from the north at the low flow channel of the Santa Clara River from soil test pit No. T2P1S.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** J. Varonin

Photo 3: October 8, 2020

View of soil test pit no. T3P2N; no wetland criteria were met at this location.

Photo 4: October 8, 2020

View looking south from soil test pit No. T2P5N.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap

Photo 5: October 8, 2020

View from the southern portion of the SA within the Santa Clara River channel looking northeast upstream.

Photo 6: October 8, 2020

View from the southern portion of the SA within the Santa Clara River channel looking southwest downstream.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap

Photo 7: October 8, 2020

View near the southern boundary of the SA looking southwest at the southern bank demonstrating mulefat thickets with the river margins and the upland areas of California sagebrush scrub.

Photo 8: October 8, 2020

View from the center of the SA looking east demonstrating alluvial scrub that dominated the central regions of the BSA.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: City of Ventura	**Job Number:** 184031328
Site Name: State Water Interconnection Pipeline Project Geotechnical Testing	**Photographer:** P. Pratap
Photo 9: October 8, 2020	

View from a path along the northern margins of the Santa Clara River floodplain within the SA looking west demonstrating mulefat thickets and upland mustards.

Appendix C HISTORIC SOILS INFORMATION

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Ventura Area, California

October 13, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Soil Map


119° 9' 23" W
119° 8' 49" W
34° 16' 28" N
34° 16' 10" N
301500
301590
301680
301770
301860
301950
302040
302130
302220
302310
3794690
3794600
3794510
3794420
3794330
3794240
3794150
T St
PcA
MeA
PxG
Rw
Sd
Sd
Santa Clara River
Soil Map may not be valid at this scale.
Map Scale: 1:3,890 if printed on A landscape (11" x 8.5") sheet.
N
0 50 100 200 300 Meters
0 150 300 600 900 Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ventura Area, California
Survey Area Data: Version 15, May 27, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 12, 2018—May 7, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MeA	Metz loamy sand, 0 to 2 percent slopes	6.9	16.6%
PcA	Pico sandy loam, 0 to 2 percent slopes	3.3	7.9%
PxG	Pits and dumps	12.7	30.7%
Rw	Riverwash	10.3	24.9%
Sd	Sandy alluvial land	8.2	19.9%
Totals for Area of Interest		**41.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Ventura Area, California

MeA—Metz loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: hc9j
Elevation: 30 to 2,500 feet
Mean annual precipitation: 20 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 200 to 340 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Metz and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Metz

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 7 inches: loamy sand
H2 - 7 to 60 inches: stratified sand to sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Anacapa

Percent of map unit: 4 percent
Hydric soil rating: No

Corralitos
Percent of map unit: 4 percent
Hydric soil rating: No

Pico
Percent of map unit: 3 percent
Hydric soil rating: No

Hueneme
Percent of map unit: 2 percent
Hydric soil rating: No

Metz, loamy substratum
Percent of map unit: 2 percent
Hydric soil rating: No

PcA—Pico sandy loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: hcb6
Elevation: 10 to 1,500 feet
Mean annual precipitation: 10 to 20 inches
Mean annual air temperature: 57 to 63 degrees F
Frost-free period: 200 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Pico and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pico

Setting
Landform: Alluvial fans
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile
H1 - 0 to 14 inches: sandy loam
H2 - 14 to 54 inches: stratified sandy loam to loam
H3 - 54 to 60 inches: stratified gravelly sand to gravelly loamy coarse sand

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups
Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Cortina
Percent of map unit: 3 percent
Hydric soil rating: No

Anacapa
Percent of map unit: 3 percent
Hydric soil rating: No

Corralitos
Percent of map unit: 3 percent
Hydric soil rating: No

Mocho
Percent of map unit: 2 percent
Hydric soil rating: No

Metz
Percent of map unit: 2 percent
Hydric soil rating: No

Pico, sandy substratum
Percent of map unit: 2 percent
Hydric soil rating: No

PxG—Pits and dumps

Map Unit Composition
Pits and dumps: 45 percent
Dumps: 35 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pits And Dumps

Typical profile
H1 - 0 to 6 inches: extremely gravelly coarse sand

H2 - 6 to 60 inches: extremely gravelly sand, extremely gravelly coarse sand, very gravelly coarse sand
H2 - 6 to 60 inches:
H2 - 6 to 60 inches:

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Description of Dumps

Setting

Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

H1 - 0 to 60 inches: variable

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: No

Minor Components

Sandy alluvial land

Percent of map unit: 5 percent
Hydric soil rating: No

Riverwash

Percent of map unit: 5 percent
Hydric soil rating: No

Sedimentary rock land

Percent of map unit: 5 percent
Hydric soil rating: No

Igneous rockland

Percent of map unit: 5 percent
Hydric soil rating: No

Rw—Riverwash

Map Unit Composition

Riverwash: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Riverwash

Setting

Landform: Drainageways

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile
H1 - 0 to 6 inches: sand
H2 - 6 to 60 inches: stratified coarse sand to sandy loam

Properties and qualities
Slope: 0 to 5 percent
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 to 60 inches
Frequency of flooding: FrequentNone
Available water capacity: Very low (about 2.9 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Yes

Minor Components

Corralitos
Percent of map unit: 3 percent
Hydric soil rating: No

Sandy alluvial land
Percent of map unit: 3 percent
Hydric soil rating: No

Cortina
Percent of map unit: 2 percent
Hydric soil rating: No

Metz
Percent of map unit: 2 percent
Hydric soil rating: No

Sd—Sandy alluvial land

Map Unit Setting
National map unit symbol: hcbq
Elevation: 30 to 1,200 feet
Mean annual precipitation: 12 to 20 inches
Mean annual air temperature: 57 degrees F
Farmland classification: Not prime farmland

Map Unit Composition
Sandy alluvial land: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Sandy Alluvial Land

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 12 inches: loamy sand
H2 - 12 to 38 inches: stratified sand to loamy sand
H3 - 38 to 60 inches: stratified sand to silt loam

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydric soil rating: No

Minor Components

Cortina

Percent of map unit: 3 percent
Hydric soil rating: No

Corralitos

Percent of map unit: 3 percent
Hydric soil rating: No

Metz

Percent of map unit: 2 percent
Hydric soil rating: No

Riverwash

Percent of map unit: 2 percent
Hydric soil rating: No

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Appendix D ARID WEST INDICATOR TABLES

Table 1. Potential Geomorphic Indicators of Ordinary High Water Marks for the Arid West

(A) Below OHW	(B) At OHW	(C) Above OHW
1. In-stream dunes 2. Crested ripples 3. Flaser bedding 4. Harrow marks 5. Gravel sheets to rippled sands 6. Meander bars 7. Sand tongues 8. Muddy point bars 9. Long gravel bars 10. Cobble bars behind obstructions 11. Scour holes downstream of obstructions 12. Obstacle marks 13. Stepped-bed morphology in gravel 14. Narrow berms and levees 15. Streaming lineations 16. Desiccation/mud cracks 17. Armored mud balls 18. Knick Points	1. Valley flat 2. Active floodplain 3. Benches: low, mid, most prominent 4. Highest surface of channel bars 5. Top of point bars 6. Break in bank slope 7. Upper limit of sand-sized particles 8. Change in particle size distribution 9. Staining of rocks 10. Exposed root hairs below intact soil layer 11. Silt deposits 12. Litter (organic debris, small twigs and leaves) 13. Drift (organic debris, larger than twigs)	1. Desert pavement 2. Rock varnish 3. Clast weathering 4. Salt splitting 5. Carbonate etching 6. Depositional topography 7. Caliche rubble 8. Soil development 9. Surface color/tone 10. Drainage development 11. Surface relief 12. Surface rounding

Table 2. Potential Vegetation Indicators of Ordinary High Water Marks for the Arid West

	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	1. Herbaceous marsh species 2. Pioneer tree seedlings 3. Sparse, low vegetation 4. Annual herbs, hydromesic ruderals 5. Perennial herbs, hydromesic clonals	1. Annual herbs, hydromesic ruderals 2. Perennial herbs, hydromesic clonals 3. Pioneer tree seedlings 4. Pioneer tree saplings	1. Annual herbs, xeric ruderals 2. Perennial herbs, non-clonal 3. Perennial herbs, clonal and non-clonal co-dominant 4. Mature pioneer trees, no young trees 5. Mature pioneer trees w/upland species 6. Late-successional species
Mesoriparian Indicators	6. Pioneer tree seedlings 7. Sparse, low vegetation 8. Pioneer tree saplings 9. Xeroriparian species	5. Sparse, low vegetation annual herbs, hydromesic 6. ruderals 7. Perennial herbs, hydromesic clonals 8. Pioneer tree seedlings 9. Pioneer tree saplings 10. Xeroriparian species 11. Annual herbs, xeric ruderals	7. Xeroriparian species 8. Annual herbs, xeric ruderals 9. Perennial herbs, non-clonal 10. Perennial herbs, clonal and non-clonal codominent 11. Mature pioneer trees, no young trees 12. Mature pioneer trees, xeric understory 13. Mature pioneer trees w/upland species 14. Late-successional species 15. Upland species
Xeroriparian indicators	10. Sparse, low vegetation 11. Xeroriparian species 12. Annual herbs, xeric ruderals	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species

Table 3. Summary of Wetland Indicator Status

Category		Probability
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability of 67–99%)
Facultative	FAC	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34–66%)
Facultative Upland	FACU	Usually occur in non-wetlands (estimated probability 67–99%)
Obligate Upland	UPL	Almost always occur in non-wetlands (estimated probability >99%)
Non-Indicator	NI	No indicator status has been assigned

Source: Reed, 1988; USFWS, 1997; USACE, 2012.

Table 4. Wetland Hydrology Indicators*

Primary Indicators	Secondary Indicators
Watermarks	Oxidized Rhizospheres Associated with Living Roots
Water-Borne Sediment Deposits	FAC-Neutral Test
Drift Lines	Water-Stained Leaves
Drainage Patterns Within Wetlands	Local Soil Survey Data

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 5. Wetland Hydrology Indicators for the Arid West*

	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)
Group A – Observation of Surface Water or Saturated Soils		
A1 – Surface Water	X	
A2 – High Water Table	X	
A3 – Saturation	X	
Group B – Evidence of Recent Inundation		
B1 – Water Marks	**X** (Non-riverine)	**X** (Riverine)
B2 – Sediment Deposits	**X** (Non-riverine)	**X** (Riverine)
B3 – Drift Deposits	**X** (Non-riverine)	**X** (Riverine)
B6 – Surface Soil Cracks	X	
B7 – Inundation Visible on Aerial Imagery	X	
B9 –Water-Stained Leaves	X	
B10 – Drainage	X	X
B11 – Salt Crust	X	
B12 – Biotic Crust	X	
B13 – Aquatic Invertebrates	X	

Table 5. Wetland Hydrology Indicators for the Arid West*		
	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	**Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)**
Group C – Evidence of Current or Recent Soil Saturation		
C1 – Hydrogen Sulfide Odor	X	
C2 – Dry-Season Water Table		X
C3 – Oxidized Rhizospheres along Living Roots	X	

*Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

Table 6. Field Indicators of Hydric Soil Conditions*	
1. Indicators of Historical Hydric Soil Conditions	**2. Indicators of Current Hydric Soil Conditions**
a. Histosols b. Histic epipedons; c. Soil colors (e.g., gleyed or low-chroma colors, soils with bright mottles (Redoximorphic features) and/or depleted soil matrix d. High organic content in surface of sandy soils e. Organic streaking in sandy soils f. Iron and manganese concretions g. Soil listed on county hydric soils list	a. Aquic or peraquic moisture regime (inundation and/or soil saturation for *7 continuous days) b. Reducing soil conditions (inundation and/or soil saturation for *7 continuous days) c. Sulfidic material (rotten egg smell)

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 7. Hydric Soil Indicators for the Arid West*			
Hydric Soil Indicators	**Hydric Soil Indicators**	**Hydric Soil Indicators**	**Hydric Soil Indicators**
A1 – Histosol	S1 – Sandy Mucky Mineral	F1 – Loamy Mucky Mineral	A9 – 1 cm Muck
A2 – Histic Epipedon	S4 – Sandy Gleyed Matrix	F2 – Loamy Gleyed Matrix	A10 – 2 cm Muck
A3 – Black Histic	S5 – Sandy Redox	F3 – Depleted Matrix	F18 – Reduced Verti
A4 – Hydrogen Sulfide	S6 – Stripped Matrix	F6 – Redox Dark Surface	TF2 – Red Parent Material
A5 – Stratified Layers	—	F7 – Depleted Dark Surface	Other (See Section 5 of Regional Supplement, Version 2.0)
A9 – 1 cm Muck	—	F8 – Redox Depressions	—
A11 – Depleted Below Dark Surface	—	F9 – Vernal Pools	—
A12 – Thick Dark Surface	—	—	—

* Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0. ** Indicators of hydrophytic vegetation and wetland hydrology must be present

Appendix E REGULATORY BACKGROUND

Regulatory Background Information

Section 404 of the Clean Water Act (CWA)

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within “waters of the U.S.” (resulting in more than incidental fallback of material) and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The USACE has adopted several revisions to their regulations in order to more clearly define “waters of the U.S.” Until the beginning of 2001, “waters of the U.S.” included, among other things, isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable “waters of the U.S.”

The jurisdictional extent of USACE regulation changed with the 2001 SWANCC (Solid Waste Agency of Northern Cook County) ruling. The U.S. Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend Federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

Section 401 of the CWA

Section 401 of the CWA requires that any applicant for a Federal permit for activities that involve a discharge to ‘waters of the State,’ shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Applications to the RWQCB must include a complete CEQA document (e.g., Initial Study/Mitigated Negative Declaration).

Section 1602 of the California Fish and Game Code

Section 1602 of the California Fish and Game Code requires any person, State or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials

submitted, the CDFW will determine if the proposed project may impact fish or wildlife resources. If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (SAA) will be required. A completed CEQA document must be submitted to CDFW before a SAA will be issued.

Waters/Wetlands of the State (Porter-Cologne Water Quality Control Act)

The Porter-Cologne Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected,
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason, and
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Regional Water Boards regulate discharges under the Porter-Cologne Act primarily through issuance of NPDES permits for point source discharges and waste discharge requirements (WDRs) for NPS discharges. Anyone discharging or proposing to discharge materials that could affect water quality (other than to a community sanitary sewer system regulated by an NPDES permit) must file a report of waste discharge. The SWRCB and the RWQCBs can make their own investigations or may require dischargers to carry out water quality investigations and report on water quality issues. The Porter-Cologne Act provides several options for enforcing WDRs and other orders, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, civil court actions, and criminal prosecutions.

Waters of the State are defined as all waters within the jurisdiction of this state, including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the state. Mapping of WOTS follows the same general guidelines as described for Federal Waters, however, WOTS often extend beyond the federal limits to the top of bank (where present).

Wetlands of the State are defined as those areas where, under normal circumstances the following conditions are present outside of any mapped federal wetlands:

- The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both.
- The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- The area’s vegetation is dominated by hydrophytes or the area lacks vegetation.

Appendix F FIELD DATA SHEETS

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T1P1N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'14.76"N | Long: 119° 9'11.32"W | Datum: WGS84

Soil Map Unit Name: Riverwash | NWI classification: PUS/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	10	No	FAC
2. *Arundo donax*	30	Yes	FACW
3.			
4.			
5.			
Total Cover:	40 %		
Herb Stratum			
1. *Corethrogyne filaginifolia*	5	No	Not Listed
2. *Croton californicus*	5	No	UPL
3. *Heterotheca sessiliflora*	5	No	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	15 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 85 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	30	x 2 =	60
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	15	x 5 =	75
Column Totals:	55 (A)		165 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: T1P1N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 4/3						Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit on high terrace above all low flow channels.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T1P2N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'15.39"N | Long: 119° 9'11.78"W | Datum: WGS84

Soil Map Unit Name: Riverwash | NWI classification: PUS/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	10	No	FAC
2. *Salix exigua*	10	No	FACW
3.			
4.			
5.			
Total Cover:	20 %		
Herb Stratum			
1. *Corethrogyne filaginifolia*	30	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	30 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	50 (A)		200 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: T1P2N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5 Y 5/3						Silt	
6-12	2.5 Y 4/3						Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit in low flow channel at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T1P3N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'17.14"N | Long: 119° 9'13.83"W | Datum: WGS84

Soil Map Unit Name: Pits & Dump | NWI classification: PUS/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	40	Yes	FAC
2. *Arundo donax*	20	No	FACW
3.			
4.			
5.			
Total Cover:	60 %		
Herb Stratum			
1. *Corethrogyne filaginifolia*	5	No	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 55 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	20	x 2 =	40
FAC species	40	x 3 =	120
FACU species		x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	65 (A)		185 (B)

Prevalence Index = B/A = 2.85

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: 40% Leaf litter in herb stratum

SOIL

Sampling Point: T1P3N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 4/3						Sand	some gravel/cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Test pit kept collapsing in on itself due to presence of sand. Due to presence of wetland hydrology and vegetation, and per direction in the Arid West manual, hydric soils are presumed due to presence of vegetated sand or gravel bar.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit in low flow channel at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T1P4N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'18.40"N | Long: 119° 9'15.15"W | Datum: WGS84

Soil Map Unit Name: Pits & Dump | NWI classification: Rp1SS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	10	No	FAC
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Brassica nigra*	50	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	50 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	50	x 5 =	250
Column Totals:	60 (A)		280 (B)

Prevalence Index = B/A = 4.67

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: T1P4N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 3/3						Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of secondary terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T2P1S

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of bank | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'11.24"N | Long: 119° 9'0.31"W | Datum: WGS84

Soil Map Unit Name: Sandy alluvial land | NWI classification: Rp1SS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	35	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	35 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	35	x 3 =	105
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	35 (A)		105 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- [x] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: 50% leaf litter

SOIL

Sampling Point: T2P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-2	2.5 Y 4/4						Silty Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 2

Hydric Soil Present? Yes ◉ No ○

Remarks: Restrictive rock ayer at 2 inches. Due to presence of wetland hydrology and vegetation, and per direction in the Arid West manual, hydric soils are presumed due to presence of vegetated sand or gravel bar.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of steep bank

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T2P1N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'12.54"N | Long: 119° 9'2.00"W | Datum: WGS84

Soil Map Unit Name: Sandy alluvial land | NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	15	No	FAC
2. *Ricinus communis*	5	No	FACU
3.			
4.			
5.			
Total Cover:	20 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 90 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	15	x 3 =	45
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	20 (A)		65 (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: 10% leaf litter

SOIL

Sampling Point: T2P1N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 5/3						Silty Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T2P2N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): top of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'12.63"N | Long: 119° 9'2.05"W | Datum: WGS84

Soil Map Unit Name: Sandy alluvial land | NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	20	No	FAC
2. *Ricinus communis*	20	No	FACU
3.			
4.			
5.			
Total Cover:	40 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 90 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species		x 5 =	0
Column Totals:	40 (A)		140 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks: 10% leaf litter

SOIL

Sampling Point: T2P2N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 4/4						Silty Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at top of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T2P3N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'17.29"N | Long: 119° 9'8.04"W | Datum: WGS84

Soil Map Unit Name: Pits & Dump | NWI classification: PUS/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Tamarix ramosissima*	5	No	Not Listed
2.			
3.			
4.			
Total Cover:	5 %		
Sapling/Shrub Stratum			
1. *Artemisia californica*	20	No	UPL
2. *Arundo donax*	5	No	FACW
3.			
4.			
5.			
Total Cover:	25 %		
Herb Stratum			
1. *Corethrogyne filaginifolia*	35	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	35 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 65 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	60	x 5 =	300
Column Totals:	65 (A)		310 (B)

Prevalence Index = B/A = 4.77

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: T2P3N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-13	2.5 Y 4/4						Silty Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T2P4N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'18.18"N | Long: 119° 9'9.18"W | Datum: WGS84

Soil Map Unit Name: Pits & Dump | NWI classification: PUS/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Heterotheca sessiliflora*	10	Yes	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 90 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species		x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	10 (A)		50 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: T2P4N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 4/3						Silty Sand	some gravel/cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T2P5N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'19.04"N | Long: 119° 9'10.21"W | Datum: WGS84

Soil Map Unit Name: Pits & Dump | NWI classification: PUS/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	40	Yes	FAC
2. *Arundo donax*	10	No	FACW
3.			
4.			
5.			
Total Cover:	50 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 80 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	40	x 3 =	120
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	50 (A)		140 (B)

Prevalence Index = B/A = 2.80

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: 20% leaf litter

SOIL

Sampling Point: T2P5N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 5/4						Sand	some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Test pit kept collapsing in on itself due to presence of sand. Due to presence of wetland hydrology and vegetation, and per direction in the Arid West manual, hydric soils are presumed due to presence of vegetated sand or gravel bar.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T2P6N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'19.68"N | Long: 119° 9'11.18"W | Datum: WGS84

Soil Map Unit Name: Pits & Dump | NWI classification: Rp1SS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	75	Yes	FAC
2. *Foeniculum vulgare*	5	No	FACU
3.			
4.			
5.			
Total Cover:	80 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 50 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	75	x 3 =	225
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	80 (A)		245 (B)

Prevalence Index = B/A = 3.06

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: 50% leaf litter

SOIL

Sampling Point: T2P6N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-16	2.5 Y 5/3						Silty sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◯ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◯ No ◉ Depth (inches):

Water Table Present? Yes ◯ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ◯ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◯ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T3P1S

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of bank | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'13.31"N | Long: 119° 8'57.86"W | Datum: WGS84

Soil Map Unit Name: Sandy alluvial land | NWI classification: Rp1SS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	15	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	15 %		
Herb Stratum			
1. *Polypogon monspeliensis*	5	No	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 95 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species	15	x 3 =	45
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	20 (A)		55 (B)

Prevalence Index = B/A = 2.75

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: T3P1S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-8	2.5 Y 3/3						Silty sand	some cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 8

Hydric Soil Present? Yes ◉ No ○

Remarks: Test pit kept collapsing in on itself due to presence of sand. Due to presence of wetland hydrology and vegetation, and per direction in the Arid West manual, hydric soils are presumed due to presence of vegetated sand or gravel bar.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of bank

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T3P1N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'14.56"N | Long: 119° 8'59.43"W | Datum: WGS84

Soil Map Unit Name: Sandy alluvial land | NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	20	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	20 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	20 (A)		60 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: T3P1N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-8	2.5 Y 4/3						Sand	some gravel/cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T3P2N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): top of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'14.67"N | Long: 119° 8'59.53"W | Datum: WGS84

Soil Map Unit Name: Sandy alluvial land | NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	10	No	FAC
2.			
3.			
4.			
5.			
Total Cover:	10 %		
Herb Stratum			
1. *Heterotheca sessiliflora*	10	No	Not Listed
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	10 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 90 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	20 (A)		80 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: T3P2N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	2.5 Y 5/3						Sand	some gravel/cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at top of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T3P3N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'19.01"N | Long: 119° 9'5.89"W | Datum: WGS84

Soil Map Unit Name: Riverwash | NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	10	No	FAC
2. *Arundo donax*	5	No	FACW
3.			
4.			
5.			
Total Cover:	15 %		
Herb Stratum			
1. *Croton californicus*	5	No	UPL
2. *Pseudognaphalium californicum*	15	Yes	Not Listed
3. *Corethrogyne filaginifolia*	5	No	Not Listed
4.			
5.			
6.			
7.			
8.			
Total Cover:	25 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 75 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species	10	x 3 =	30
FACU species		x 4 =	0
UPL species	25	x 5 =	125
Column Totals:	40 (A)		165 (B)

Prevalence Index = B/A = 4.13

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: T3P3N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 4/4						Silty sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: SCR Ventura Water Interconnect | City/County: Ventura/Ventura | Sampling Date: 10-8-2020

Applicant/Owner: City of Ventura | State: CA | Sampling Point: T3P4N

Investigator(s): J. Varonin, P. Pratap | Section, Township, Range: S 02, T 02N, R 22W

Landform (hillslope, terrace, etc.): edge of terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 34°16'20.31"N | Long: 119° 9'7.62"W | Datum: WGS84

Soil Map Unit Name: Metz loamy sand, 0 to 2 percent slopes | NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [X] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	5	No	FAC
2. *Arundo donax*	50	Yes	FACW
3. *Foeniculum vulgare*	5	No	FACU
4.			
5.			
Total Cover:	60 %		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 95 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	50	x 2 =	100
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species		x 5 =	0
Column Totals:	60 (A)		135 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: 5% leaf litter

SOIL

Sampling Point: T3P4N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	2.5 Y 5/4						Silty sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 8

Hydric Soil Present? Yes ○ No ◉

Remarks: Test pit kept collapsing in on itself due to presence of sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
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- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☒ Sediment Deposits (B2) (**Riverine**)
- ☒ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

n/a

Remarks: Test pit at edge of terrace.

Appendix G PLANTS OBSERVED IN THE STUDY AREA

Plant Species Observed in the Study Area

Scientific Name	Common Name	Wetland Indicator Status
Acmispon glaber	deerweed	--
*Agave attenuata**	foxtail agave	--
Ambrosia chamissonis	Silver burr ragweed	--
Artemisia californica	California sagebrush	UPL
*Arundo donax**	giant reed	FACW
Atriplex canescens	fourwing saltbush	--
Atriplex lentiformis	big saltbush	FAC
Baccharis pilularis	coyote bush	UPL
Baccharis salicifolia	mulefat	FAC
Baccharis sarothroides	desert broom	FACU
*Brassica nigra**	black mustard	UPL
*Bromus rubens**	red brome	--
Cercis occidentalis	western redbud	--
*Cirsium vulgare**	bull thistle	FACU
Corethrogyne filaginifolia	California aster	--
*Cortaderia selloana**	pampas grass	FACU
*Corymbia citriodora**	lemon-scented gum	FACU
Croton californicus	California croton	UPL
Cucurbita foetidissima	buffalo gourd	--
*Dittrichia graveolens**	stinkwort	--
Eriastrum densifolium	giant woollystar	--
Eriodictyon crassifolium	thickleaf yerba santa	UPL
Eriogonum fasciculatum	California buckwheat	UPL
Eucalyptus sp.	eucalyptus tree	--
*Foeniculum vulgare**	wild fennel	FACU
Heliotropium curassavicum	alkali heliotrope	FACU
*Helminthotheca echioides**	bristly oxtongue	FAC
Heteromeles arbutifolia	toyon	--
Heterotheca grandiflora	telegraph weed	UPL
Heterotheca sessiliflora	false goldenaster	--
*Hirschfeldia incana**	shortpod mustard	--
Hordeum brachyantherum	California barley	FACW
Lepidospartum squamatum	scale broom	FACU
Lupinus albifrons	silver lupine	--
Malosma laurina	laurel sumac	--

Scientific Name	Common Name	Wetland Indicator Status
*Melilotus albus**	white sweetclover	FACU
*Myoporum laetum**	mousehole tree	FACU
*Nicotiana glauca**	tree tobacco	FAC
Oenothera elata	tall evening primrose	FACW
Opuntia sp.	prickly pear	--
Platanus racemosa	western sycamore	FAC
*Polypogon monspeliensis**	rabbit's foot grass	FACW
Pseudognaphalium californicum	California cudweed	--
*Ricinus communis**	castor bean	FACU
Salix exigua	narrow leaved willow	FACW
Salix gooddingii	Goodding's willow	FACW
Salvia mellifera	black sage	UPL
*Schinus mole**	Peruvian peppertree	FACU
Stephanomeria pauciflora	desert wirelettuce	--
*Tamarix ramosissima**	red tamarisk	--
Toxicodendron diversilobum	poison oak	UPL
*Washington robusta**	Mexican fan palm	--

* Non-native Species

Appendix C ARCHAEOLOGICAL SURVEY REPORT

ARCHAEOLOGICAL SURVEY REPORT FOR THE PROPOSED STATE WATER INTERCONNECTION PIPELINE PROJECT GEOTECHNICAL STUDIES, SEGMENT 2, BETWEEN VENTURA AND SATICOY, VENTURA COUNTY, CALIFORNIA

- *Phase I Cultural Resources Survey for the Ventura Water Interconnection Project Geotechnical Studies, Segment 2*
- *21.5 acres of land in unsectioned portion of El Cajon, CA (1991) USGS 7.5-minute series topographic quadrangle*

Stantec

Submitted to:
City of Ventura
501 Poli Street, P.O. Box 99
Ventura, CA 93002

Submitted by:
Hubert Switalski and Mitch Marken
Stantec Consulting Services Inc.

October 2020

This document entitled *ARCHAEOLOGICAL SURVEY REPORT FOR THE PROPOSED STATE WATER INTERCONNECTION PIPELINE PROJECT GEOTECHNICAL STUDIES, SEGMENT 2, BETWEEN VENTURA AND SATICOY, VENTURA COUNTY, CALIFORNIA,* was prepared by Stantec Consulting Services Inc. for the account of *the City of Ventura* (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document

Prepared by 
(signature)

Hubert Switalski, Senior Archaeologist

Reviewed by 
(signature)

Mitch Marken, Ph.D., RPA, Principal Investigator

Cover page: Overview of the Project Area showing location of the proposed borings within the Santa Clara River channel, view southeast. Photo taken on October 8, 2020 (Stantec IMG_165258957).

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1.0 MANAGEMENT SUMMARY

On October 8, 2020, Stantec Consulting Services, Inc. (Stantec) conducted a Phase I archaeological investigation on behalf of the City of Ventura (the City) of approximately 21.5 acres of land along the Santa Clara River channel, Ventura County, California. This archaeological investigation was conducted in support of proposed geotechnical borings as part of the State Water Interconnection Project.

Because the proposed project will require permits from the County of Ventura, the project is subject to compliance with the California Environmental Quality Act (CEQA) requirements regarding the project's potential impacts on cultural resources. As part of CEQA compliance, a cultural resources investigation was conducted to determine potential impacts of the proposed project on any significant cultural resources potentially eligible for nomination to California Register of Historical Resources (CRHR) and/or the National Register of Historic Places (NRHP).

This archaeological investigation was conducted to supplement a previous archeological study conducted by Padre and Associates (Letter and Val 2018) and included an intensive pedestrian survey along Segment 2 (Santa Clara River) to include areas that were previously not inventoried for cultural resources. As a result of the archaeological investigation no cultural resources were encountered during the course of the study, and no further archaeological studies are recommended at this time. Based on the findings in this study the proposed project will not cause a substantial adverse change to the significance of cultural resources as defined in Section 15064.5.

2.0 REGULATORY FRAMEWORK

This archaeological study was conducted to meet the CEQA requirements regarding cultural resources on lands proposed for development. CEQA (Public Resources Code Sections 21000 etc.) requires that before approving most discretionary projects, the Lead Agency must identify and examine any significant adverse environmental effects that may result from activities associated with such projects (Public Resources Code Sections 21083.2 and 21084.1). CEQA explicitly requires that the initial study examine whether the project may have a significant effect on "historical resources" and "unique archaeological resources." Under these requirements, a cultural resources inventory was conducted to determine impacts of the proposed project on cultural resources potentially eligible for nomination to the CRHR.

CEQA (California Public Resources Code Section 21000 et seq.) (1970) established that historical and archaeological resources are afforded consideration and protection by the California Environmental Quality Act (CEQA) (14 CCR Section 21083.2, 14 CCR Section 15064). CEQA Guidelines define significant cultural resources under three regulatory designations: historical resources, tribal cultural resources, and unique archaeological resources. These designations permit for a fair amount of overlap.

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR"; or "a resource listed in a local register of historical resources or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]). Historical resources automatically listed in the CRHR include California cultural resources listed in or formally determined eligible for the NRHP and California Registered Historical Landmarks from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Tribal cultural resources (TCRs) are similar to the traditional cultural property designation within the National Historic Preservation Act guidance. These can be sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a Tribe. To qualify as a TCR, it must either be 1) listed on or eligible for listing on the California Register or a local historic register or, 2) or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR (PRC Section 21074). TCRs can include "non-unique archaeological resources" (see "unique archaeological resource" below) that, rather than being important for "scientific" value as a resource, can also be significant because of the sacred and/or cultural tribal value of the resource. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC Section 21080.3.1(a)).

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."
3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.
4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation."

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if "it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Public Resources Code 5097.98. This section discusses the procedures that need to be followed upon the discovery of Native American human remains. The NAHC, upon notification of the discovery of human remains is required to contact the County Coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code and shall immediately notify those persons it believes to be most likely descended from the deceased Native American.

Health and Safety Code 7050.5. This code establishes that any person, who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American human remains.

2.1 Project Area

The *Project Area* for the proposed geotechnical borings is confined to the location of three geotechnical borings, including a 100- meter radius, as wells as the banks of the Santa Clara River for access, for a total of 21.5 acres. It is expected that any potential adverse impacts arising from geotechnical activities will be contained within this acreage. The *Study Area* for this project consists of the Project Area and a ½-mile buffer surrounding the Project Area.

3.0 PROJECT DESCRIPTION

The proposed State Water Interconnection Pipeline Projects proposes to install a water line roughly between the City of Ventura and the City of Camarillo. Prior to the installation of the proposed water line, a series of geotechnical borings will be placed along the final approved interconnection alignment. The purpose of the geotechnical investigation is to characterize the soil and groundwater conditions along the final interconnection alignment. The proposed geotechnical investigation may utilize several drilling methods, including mud rotary, air rotary,

sonic drilling, an/or rock coring. Primary equipment anticipated in the geotechnical work may include, but is not limited, to the following: trailer and skid mounted mud systems, rig tenders with water tanks up to 2,000 gallons, a number of sampling equipment such as pitcher barrel samplers, coring systems, split spoon samplers, and track and truck mounted drill rigs.

The informal access way located on the north side of the channel about 700 feet southeast of Saticoy Avenue will allow passage of conventional truck-mounted exploration equipment; however, some minor grading may be required. Heavy construction equipment and minor grading may be required to access the channel. In addition, the construction support equipment may also be needed to assist the exploration equipment to travel across river channel in areas where loose/soft surface conditions occur. A dozer and operator to perform the minor grading will be available or on stand-by for the drill holes within the channel to move existing traffic barriers, improve the informal access area into the channel and assist in moving the drill rig in the event that loose/soft ground conditions are encountered. Disturbances will be minimized to the degree feasible and planned/implemented in coordination with environmental requirements.

4.0 PROJECT LOCATION

The Project Area is located along the Santa Clara River channel, immediately south of the city limits of the City of Ventura in southern Ventura County (Figure 1). The Project Area, on the northern side of the channel, is located just south of the intersection of Saticoy Avenue and North Bank Drive, while the southern side is located roughly along East Vineyard Avenue. Specifically, the Project Area is located in unsectioned portions of the Santa Paula y Saticoy and Santa Clara del Norte Mexican land grants, as depicted on the Saticoy, CA (1967) USGS 7.5-minute series topographic quadrangle (Figure 2). Location of proposed geotechnical borings is shown on Figure 3.

5.0 ENVIRONMENTAL BACKGROUND

The Project Area is located within the Oxnard Plain, along the Santa Clara River channel, between Ventura to the west and the small community of Saticoy to the northeast. The Santa Clara River flows from its source on the north side of the western San Gabriel Mountains to the coast south of present-day Ventura. The largest tributaries of the Santa Clara River include Piru, Sespe, and Santa Paula Creeks, which drain into the Santa Clara River, which flows westerly into the Pacific Ocean and follows the major structural depression of the region (Winterer and Durham 1962:278). The Santa Clara River, before it enters the Pacific Ocean, flows through Oxnard Plain, which is surrounded by portion of the Western Transverse Ranges, and it is bound by the Santa Ynez mountains to the north, South Mountains to the east, and Santa Monica Mountains further to the north. These ranges are aligned on an east-west axis, an orientation quite different from other ranges of the state, as well as most other mountain ranges in the United States. Such alignment is caused by northward motion of the Pacific plate along the San Andreas Fault (Schoenherr 1992:314).

The Oxnard Plain has been formed by the deposition of the Santa Clara River and it contains a series of marshes, salt flats, sloughs, and lagoons. Oxnard Plain occupies larger geologic province known as the Ventura Basin, which extends east and west, and it parallels the Western Transverse Ranges, measuring roughly 54 miles in width and 183 miles in length. As portions of the Ventura Basin extend as far west as the Channel Islands, only the eastern and north parts of the basin are above sea level (Rand 1951). During the middle Pleistocene the entire area was subjected to strong uplifting, folding, and faulting, which produced today's topography. Elevations within the basin range from 15 to 400 feet, while elevations within the Project Area range from 100 to 120 feet (above mean sea level) amsl.

The climate within the Project Area is Mediterranean, which is characterized by long, hot summers. While four distinct seasons occur in southern California, the primary growing season is winter. Winter

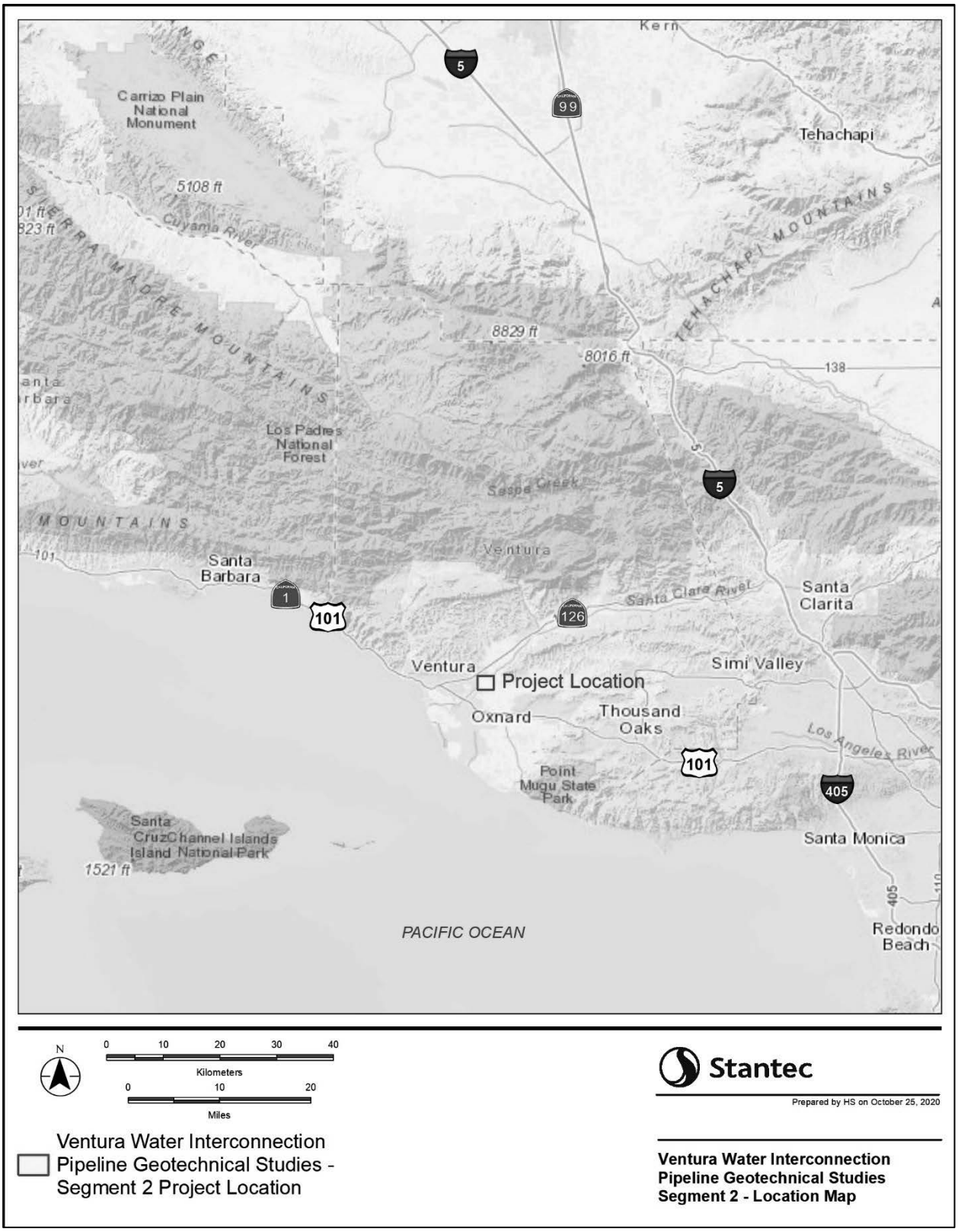

Figure 1. Project location and vicinity map.

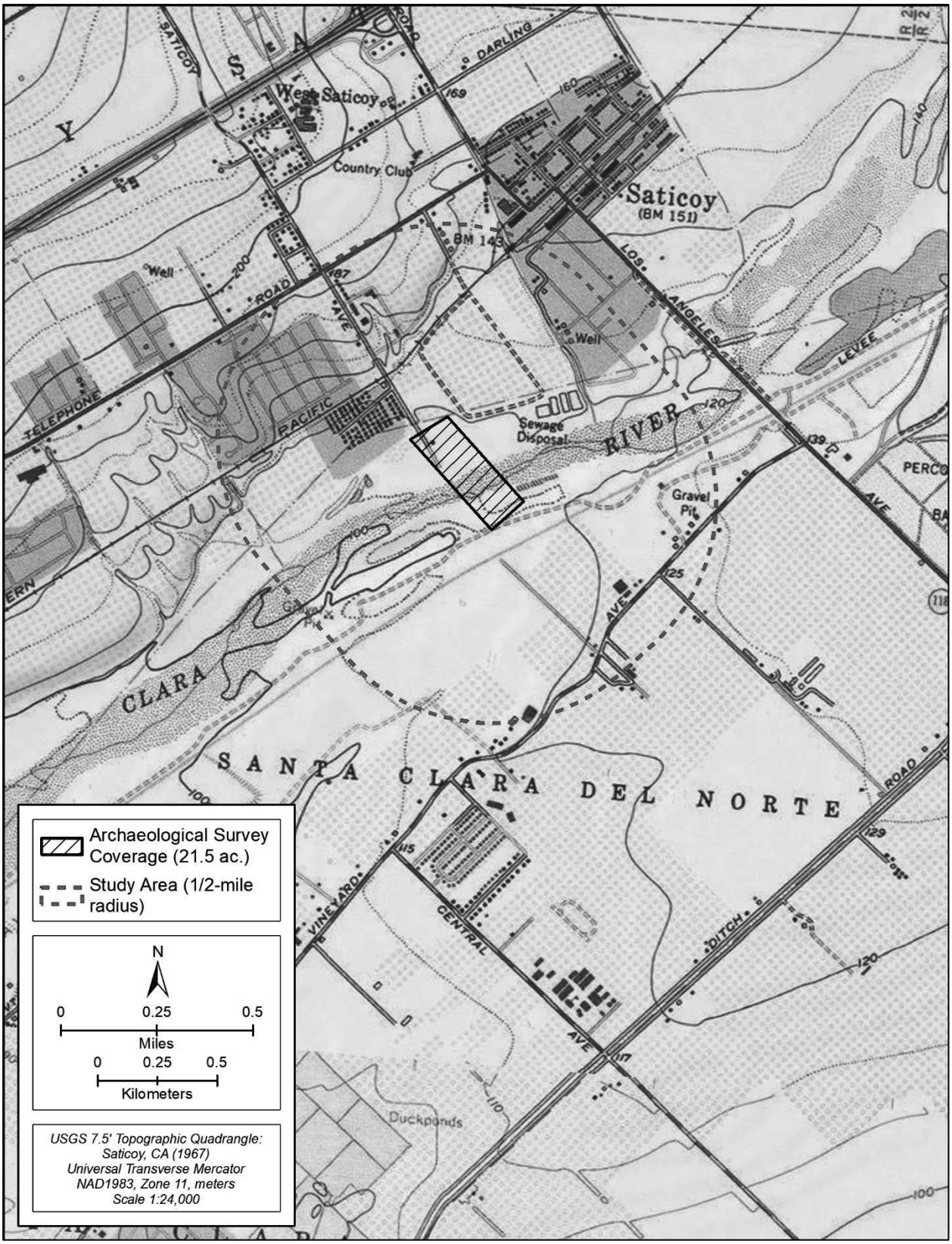

Figure 2. Archaeological survey coverage with the Study Area depicted on the Saticoy, CA (1967) USGS 7.5-minute series topographic quadrangle.

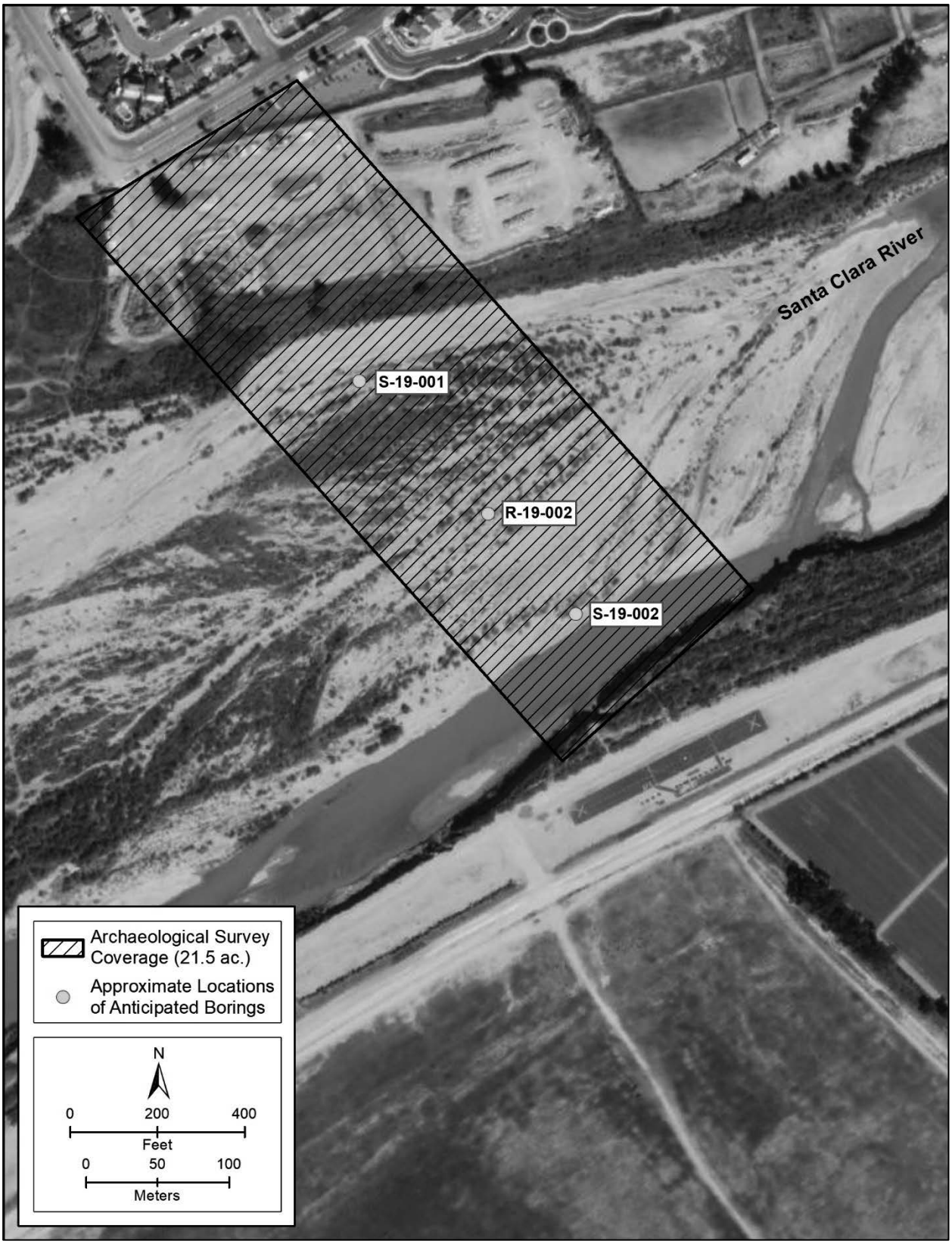

Figure 3. Archaeological survey coverage and approximate location of anticipated geotechnical borings depicted on aerial imagery (2019).

rain is followed by spring fogs, which give way to summer haze and smog. Summer temperatures are often in the high 80's and 90's °F (Schoenherr 1992:316). Mean annual precipitation ranges from 20 to 40 inches, with lower elevations receiving mostly rain, while the higher elevations commonly have more snow (Miles and Goudey 1997).

Animals frequenting scrub habitats are presumably common in the Project Area; however, animals that live in scrub must deal with problems similar to those of animals that live in the desert. As in the desert there is an abundance of small, ectothermic animals, such as arthropods and reptiles. Most mammals are small and nocturnal. Probably the most common large mammal is the coyote (*Canis latrans*), but the black tailed deer (*Odocoileus hemionus*), bobcat (*Lynx rufus*), and gray fox (*Urocyon cinereoargenteus*) are present as well. The mountain lion (*Felis concolor*) can be found at higher elevations but likely descends on prey which dominate lower elevations (Schoenherr 1992). There are many species of rodents (rabbits, hares, squirrels and gophers), predatory birds (owls, hawks), and reptiles (snakes, lizards) present in Coastal Sage Scrub habitat as well.

6.0 ARCHAEOLOGICAL BACKGROUND

The local prehistoric chronology is divided into four major periods: Paleo-Indian, Early Period, Middle Period, and Late Period. It is generally accepted that humans entered the New World during the latter part of the Wisconsin glaciation between 40,000 and 20,000 years before present (B.P.). The earliest unquestioned evidence of human occupation in southern Santa Barbara County is dated to between 10,000 to 8,000 B.P. (Erlandson and Colten 1991). Paleo-Indian groups during this time may have focused on hunting Pleistocene megafauna, including mammoth and bison. Plants and smaller animals were undoubtedly part of the Paleo-Indian diet as well, and when the availability of large game was reduced by climatic shifts near the end of the Pleistocene, the subsistence strategy changed to a greater reliance on these resources. Arlington Springs Woman from Santa Rosa Island (CA-SRI-173) is one of the earliest finds of human remains in North America with radiocarbon dates derived from human bones and rodent bones in the vicinity of the human remains have yielded dates in excess of 9,000 B.P. On the coastal side, site SBA-1951 yielded a basal corner of a Clovis point, which may indicate mainland occupation of a comparable age (Glassow et al. 2007:191-192).

Post-Pleistocene changes in climate and environment are reflected in the local archaeological record by approximately 8,000 B.P., the beginning of the Early Period, as defined by Chester King (1981, 1990). During the Early Period the population of the Santa Barbara Coast, as well as of the whole southern California coast, began to expand. The most distinct characteristic of sites dating to this period is the abundance of manos and metate milling stones, which were used to grind hard seeds for consumption, and hammerstones that appear to have been originally cores or core tools. These were most likely used to shape metates and manos and to keep their working surfaces pitted in order to maintain milling efficacy (Glassow et al. 2007:194). Toward the end of the Early Period, sea mammal hunting appears to have supplemented subsistence strategies (Glassow et al. 1988).

The Middle Period (3,350 to 800 B.P.) is characterized by larger and more permanent settlements, related to a generally wetter environment. Materials from Middle Period sites reflect a greater reliance on marine resources and include marine shells, fish remains, and fishhooks. A major shift in vegetable food exploitation occurred, as the mano and metate milling stones were replaced by stone mortars and pestles. This indicates a transition from seed gathering to oak tree acorn gathering and processing, a result of cooler temperatures and more expansive oak woodland habitats. Arguably, the most significant change during this time interval is the introduction of the plank canoe, or *tomol,* making ocean fishing and trade with Channel Islands safer and more

efficient (Arnold 1987). Terrestrial resources continued to be exploited as evidenced by the presence of contracting-stemmed and corner-notched projectile points from Middle Period sites (Bamforth 1984).

Another technological change with important cultural implications was the introduction of bow and arrow, which replaced the atlatl and dart sometime around 1,500 B.P. or shortly thereafter (Glassow et al. 2007:204; Moratto 1984:283). Evidence for the introduction of bow and arrow is substantial decrease in the size of projectile points. The earliest well-documented arrow points are leaf shaped, convex based in form and appear to be the dominant projectile point type at SBA-117, which have yielded radiocarbon date of A. D. 500. This new weaponry also was used in hunting large game, but it is yet not clear whether subsistence was affected by this technological shift (Glassow et al. 2007:204).

The Late Period (800 to 150 B.P. or approximately A.D. 1150 to 1800) was a time of increased social and economic complexity. The Santa Barbara coastal areas, along with the western areas of Ventura County and the Los Angeles Basin, were occupied by the Chumash, who spoke one of the southern California Takic languages. During this period, the coastal populations expanded greatly and probably took advantage of a wide variety of ecological niches, especially marine resources. Specialty items such as basketry, ollas or large water vessels, shell and stone beads, and shell and bone fishhooks appear, as does elaborate rock painting (Grant 1965). Arrow points also changed form and style around the beginning of the Late Period, or slightly before. The leaf shaped form was replaced with a concave base form, typically called the Cottonwood triangular type, which is typical of many regions of California and the Great Basin.

During the Late Prehistoric Period, a highly advanced fishing and hunting strategy developed that included the exploitation of a wider variety of fish and shellfish. These new subsistence strategies, coupled with the appearance of the bow and arrow, enabled a substantial increase in local populations, the development of permanent settlements, and a "money" economy based on the shell trade. The Chumash were highly sea oriented at this time, and both deep-sea fishing and marine mammal hunting became a prominent subsistence strategy at the time which required the production blue-water vessels capable of the endeavor. However, Chumash culture changed dramatically with the establishment of the Missions of San Buenaventura, Santa Barbara, Santa Ynez, and La Purísima.

7.0 ETHNOGRAPHY

Europeans first encountered the Chumash in 1542, when Cabrillo landed on the shores of Ventura. The Spanish later contacted the Chumash in 1602, when Vizcaíno entered the Santa Barbara Channel (Grant 1978a). The pre-European-contact Chumash probably numbered between 10,000 and 15,000 individuals. Anthropologists and linguists note that the Hokan language stock of the Chumash appears to be one of the oldest language groups in California, suggesting that Chumash ancestors must have been present in the area for at least several thousand years prior to European contact. At the time of contact, the Chumash ranged from San Luis Obispo to Malibu Canyon along the coast, inland as far as the southwestern margin of the southern San Joaquin Valley, and out to the Channel Islands. There were at least six Chumash languages. The Project Area is located within the ethnographic boundaries of the coastal Ventureño Chumash. The Chumash were incorporated rather quickly into the Spanish mission system. This precipitated the rapid demise of their native culture and language, enough so that by the time anthropologists were interviewing Chumash individuals, most of their culture had long since disappeared. By the early 1800s, nearly the entire Chumash population, except for individuals who had escaped to the interior, was incorporated into the mission system (Grant 1978a). The early Spanish travelers

provided valuable details concerning Chumash dwellings and to some extent their subsistence patterns.

The huts were described as hemispherical in shape, with many containing internal subdivisions, possibly for privacy. Some of the larger dwelling structures could house up to 70 people, and the Spanish noted that many villages also contained sweathouses. The Chumash were composed of patrilineal descent groups, with most villages having one "chief" and three or four "captains" (Grant 1978b). Most Chumash marriages were monogamous, except for village chiefs. Puberty rites are not well known. Girls entering puberty were not allowed to eat meat and could not look into a burning fire. Boys were taken out at night and given a psychotropic concoction made from Datura root to induce visions (Grant 1978b; Harrington 1942).

The Chumash had a high level of material culture and craftsmanship, including intricate basketry, woodcarving, fine stone objects, well-developed rock art, and excellent oceangoing plank canoes (tomol) that highly impressed Spanish explorers. The Coastal Chumash had an extensive trading network that reached well beyond the Santa Barbara Channel region. Most Chumash lived in permanent villages, composed of large round houses up to feet in diameter, which might be home to as many as 10 families. The dietary staple for all Chumash groups was the acorn, though the addition of pine nuts, soap root, berries, mushrooms, seeds, mollusks, fish, and game varied the diet. Coastal Chumash village sites were often located at the mouths of creeks and rivers, usually on higher ground just above the shoreline (Grant 1978b). Smaller hunting camps and resource exploitation sites were located in smaller perennial creek areas, in the upper elevations, and in the immediate interior (Landberg 1965). In 1775, Spaniard Pedro Fages commented that the Chumash were very inclined to trade, barter, and general commerce (Erlandson 1994). Johnson also notes that the Spanish observed persistent Chumash intervillage warfare (McLendon and Johnson 1999), possibly due to raids of neighboring groups' stored resources (Landberg 1965).

8.0 HISTORICAL BACKGROUND

The historic occupation of the project vicinity can be divided into several settlement periods: the Mission Period (A.D. 1769 – 1830), the Rancho Period (ca. A.D. 1830 -1865), and the American Period (ca. A.D. 1865 – present).

An expedition led by Juan Bautista de Anza passed through the Santa Barbara and Ventura area in spring of 1776. A presidio was established at Santa Barbara in 1782 to fill the gap between the previously established presidios in Monterey and San Diego. This established a permanent European presence in the area and was followed shortly by the establishment of the Mission San Buenaventura in Ventura by Father Junipero Serra that same year. Personally dedicated by Father Serra, this Mission San Buenaventura had a strong effect on the region. Subsequent construction of Mission Santa Barbara in 1786, Mission la Purísima Concepcíon in 1787, and Mission Santa Ynez in 1804, altered both the physical and cultural landscape of the region. The neighboring Chumash area began to adopt many phases of mission life (Schaefer 2004). The economy of the Santa Barbara and San Buenaventura Missions were similar to other California missions: the Chumash practiced agriculture (corn, wheat, and vineyards) as well as raised cattle and sheep. A seven-mile long aqueduct was constructed to provide Mission San Buenaventura with water from the local mountains. Both missions soon were renowned for their crops, ranging from exotic fruits to figs and coconuts. Over time, the introduction of the Spanish in the area proved to be dangerous to the health of the Chumash populations, as they were exposed to European diseases to which they had no immunity. Chumash populations went into a steep decline throughout this period.

When Mexico gained its independence from Spain in 1821, Alta California became part of the new country. Approaches to church control changed as government control devolved to Mexico City and to the Mexican territorial and state governors. It had never been the intention of the Spanish and

the successor Mexican government that the missions would remain as permanent entities controlling the economy of the frontier areas (Weber 1982). With independence, the Mexican government began a process of secularization of mission properties that concluded in 1833. Missions were turned into parish churches and regional commissions were established to dispose of the properties and resettle the Indians affiliated with the missions. Mexican government policy was to give mission properties and other unclaimed land to prominent citizens who would be required to build homes and facilities and develop the properties. The period of California history known as the Rancho Period began as a class of wealthy landowners known as "rancheros" controlled the state. They built large ranches based on cattle hide and tallow production.

Portions of the current Project Area are bounded by the Rancho Santa Clara del Norte land grant to the south (south of Santa Clara River) and Rancho Santa Paula y Saticoy to the north (north of Santa Clara River). Rancho Santa Clara del Norte was a nearly 14,000-acre Mexican land grant, which was granted to Juan Maria Sanchez by Governor Juan Alvarado in 1837. Rancho Santa Paula y Saticoy was a 17,773-acre Mexican land grant located in the Santa Clara River Valley and south of Santa Clara River, in present-day Ventura County. This large land grant was granted in 1843 by Governor Manuel Micheltorena to Manuel Jimeno Casarin and included lands in present days Saticoy and Santa Paula (Cowan 1956).

By 1850, California had become part of the United States, and in the Santa Barbara and Ventura regions the American Period of influence began by 1865. After the Civil War, the face of Santa Barbara and Ventura began to change. Victorian houses soon outnumbered Spanish Colonials. Agriculture became an important economic factor in the area, with a variety of produce grown because of the favorable climate for almost any crop. Orchards were prevalent, with the first avocado trees planted in the region in the 1870's, and crop which currently dominate the areas agriculture. By 1873, Ventura County was officially split from Santa Barbara County and within the next 20 years a number of smaller communities were established. The arrival of the Southern Pacific Railroad and Southern Pacific Milling Company warehouse in 1887 not only helped with the local economy, it turned the present-day community of Saticoy into a railroad boomtown as streets and lots were laid out on both sided of the newly opened rail line. Many bridges have been built across the Santa Clara River; however, they were washed out due to abundant rainfall and flooding (SBRA 2014).

Around 1896, oil was discovered at the Summerland Oil Field, and the region along the beach east of Santa Barbara sprouted numerous oil derricks and piers for drilling offshore (Baker 2003). This was the first offshore oil development in the world and continues in the region to the present day. The area around Ventura was initially drilled for oil by late 1880s and again in 1903 when Ventura County Power Company drilled seven shallow wells. In May 1916 the first commercial well Lloyd No. 1 was drilled by State Consolidated Oil Company to a depth of approximately 2,500 feet with initial production reaching 100 barrels a day. Subsequently, the Ventura Oil Field was discovered in 1919 and by 1950s became the 12th most productive in the United States (Stolz 2009).

8.1 Current and Previous Land Use

The current Project Area is located just south of the city limits of the City of Ventura, and south of Saticoy Avenue and North Bank Road. Based on archival research the area north of present-day North Bank Road and east of present-day South Saticoy Avenue, may have been occupied by the Chumash village of Sa'aqtik'oy. While the precise location is unknown, the occupation of this prehistoric village dates back to around 7500 years B.P., with nearly continuous occupation well into the Late Period, ca. 1860s (SBRA 2014:4). However, by the time of the founding of Mission San Buenaventura in 1782, this prehistoric village had been reduced to a minor seasonal settlement along the Santa Clara River. Over the years, the settlement of what is now Saticoy, developed by the arrival of the railroad, setting off a brief, but important surge of settlers into the area. Over the

last 100 years, the town of Saticoy became a center of walnut industry and major shipping point for beans, hay, barley, and stock. Subsequently, the town of Saticoy with the nearby town of Ventura grew and expanded exponentially. Currently, the present Project Area is occupied by nearby residential housing and local parks, located just north and south of North Bank Drive, respectively. Additionally, a large rock quarry is located on the northern bank of Santa Clara River, with the nearby sewage disposal site located immediately northwest. Similarly, the south bank of the Santa Clara River has been in use by local berry farms, and by a local stone quarry producing construction aggregate, primarily crushed stone, sand, and gravel.

9.0 METHODOLOGY

Archaeological investigations reported herein consisted of an intensive pedestrian survey of the 21.5-acre Project Area, including the archival records search based on the results and data obtained by Padre and Associates (Letter and Val 2018) from the South Central Coastal Information Center (SCCIC) of the California Heritage Resource Information System (CHRIS) in 2017. Provided below is the methodology used during the current study.

9.1 Records Search

Padre and Associates (Letter and Val 2018) conducted an archival records search from the SCCIC files on June 28, 2017. The search entailed a review of all previously recorded prehistoric and historical archaeological sites, as well as a review, of all known cultural resources survey reports, excavation reports, and regional overviews within the Study Area. The records search was conducted along the entire alignment of the proposed Interconnection alignment between Ventura and Springville Connections, and included the Santa Clara River horizontal-direction drilling (HDD) crossing and staging areas on both banks of the Santa Clara River (Segment 2).

9.1.1 Cultural Resource Studies and Resources

The records search conducted by Padre and Associates (Letter and Val 2018) revealed that 93 cultural resources studies have been completed within a 0.25-mile radius of the proposed and/or alternative pipeline alignments. Of these, 29 previous cultural resources studies have been completed in areas that overlap with the current pipeline alignment. Furthermore, the records search identified two previously recorded cultural resources within or immediately adjacent to the current pipeline alignment. Resource CA-VEN-223 appears to be located within the proposed Segment 18, and resource P-56-15001 is located directly within Segment 19. Additionally, the records search identified 11 previously recorded resources within a 0.25-mile radius of the proposed pipeline alignment. Of those 11 resources, five were identified within a 0.25-mile radius of Segment 2 (Table 1).

TABLE 1
SUMMARY OF KNOWN CULTURAL RESOURCES LOCATED WITHIN THE STUDY AREA (SEGMENT 2).

Quad	Trinomial	Primary No.	Component	Description
Saticoy	CA-VEN-31	P-56-000031	Prehistoric	Chumash village of Sa'aqtik'oy
Saticoy	CA-VEN-32	P-56-000032	Prehistoric	Cemetery, no longer extant
Saticoy	CA-VEN-33	P-56-000033	Multi-component	Lithic debitage, ground stone, and historic refuse deposit
Saticoy	CA-VEN-34	P-56-000034	Prehistoric	Ground stone artifacts
Saticoy	-	P-56-152759	Historic	Saticoy historic district consisting of several buildings constructed between 1917 and 1940.

9.2 Field Methods

The current interconnection pipeline Segment 2 is located between Henderson Road and Vineyard Avenue/State Route 223 (SR223). The northern portion of Segment 2 follows existing roadways and extends through developed residential and commercial area in City of Ventura. The southern portion of Segment 2 crosses Santa Clara River and continues south to Vineyard Avenue (SR 223).

A pedestrian survey of the entire 21.5-acre Project Area was conducted on October 8, 2020, by Stantec archaeologist Hubert Switalski. The survey was conducted by walking parallel transects, spaced approximately 10-15 meters apart. Transects on the northern and southern banks of Santa Clara River were walked parallel to the riverbed, while surveys within the riverbed were walked parallel to the proposed geotechnical boring location, roughly northwest-southeast axis. Additionally, per the California Office of Historic Preservation (OHP 1995) guidelines, Stantec examined surface and subsurface exposures such as rodent burrows and cut banks for physical manifestations of human activity greater than 45 years in age. Documentation included field notes and photographs.

The extent of the survey coverage was recorded and captured using Environmental Systems Research Institute (ESRI) Collector application for ArcGIS and Bad Elf GNSS Surveyor, a hand-held Global Positioning System (GPS) unit, capable of achieving less than 1-meter horizontal accuracy, with the Universal Transverse Mercator (UTM), North American Datum of 1983 (NAD 83), Zone 11, meters, as the spatial reference. Photographs were taken with a Canon PowerShot A530 digital camera and Pixel 3a cellular phone to document the environment within the Project Area and surrounding areas. The extent of the survey coverage was drawn on the Saticoy, CA (1967) USGS 7.5-minute series topographic quadrangle (see Figure 2).

10.0 SURVEY RESULTS

The survey was conducted on an overcast day with an average temperature of 65°F. The Project Area was accessed from the north via South Saticoy Avenue and North Bank Road. The survey commenced on the north bank of Santa Clara River within a graded area that is being used as a stone quarry. The survey continued southeast and examined the Santa Clara River channel, and more specifically both banks of the river for potentially buried deposits. Both banks of the Santa Clara River are between 25 to 30 feet in height, with several river-terrace levels and old erosion surfaces exposed along both banks, suggesting very high discharge rate during seasonal rains and flooding events (Figure 3).

The visibility throughout the Project Area was excellent, 70-80% ground visibility, albeit in a heavily disturbed context. Both banks of the Santa Clara River have been extensively used as either rock quarries and/or farms, while the riverbed itself has sustained heavy erosion as a result of high discharge rates. While the Santa Clara River is generally dry in the summer, a low active channel, was identified along the southern bank of the river, which was generally devoid of any vegetation. Modern era refuse was observed through the riverbed, and in some cases protruding from the southern bank of the river. Observed items included large tires, metal pipes, galvanized sheet of metal, wires, wood crates and pallets; however, no cultural resource deposits or surface features associated with past human occupation more than 50 years of age were observed.

11.0 RECOMMENDATIONS AND MANAGEMENT CONSIDERATIONS

As part of the current archaeological study, 21.5 acres of land were inventoried to determine whether significant cultural resources would be affected by the proposed project. The survey failed to identify any archaeological resources that could indicate human activities older than 50

years of age; therefore, no significant impacts to previously documented or undiscovered cultural resources are expected as part of the proposed geotechnical borings within Segment 2 of the Santa Clara River channel.

Figure 4. Numerous river terrace levels and erosional surfaces observed along the southern bank of the Santa Clara River, view southeast. Photo taken on October 8, 2020.

Figure 5. Overview of the low and active Santa Clara River Channel, view northeast toward State Route 118. Photo taken on October 8, 2020.

The methods and techniques used by Stantec are considered adequate and satisfactory for the identification and evaluation of cultural resources visible at the ground surface. However, there is always a possibility that buried archaeological deposits could be found during construction and/or earth disturbing activities. In the event that cultural resources are encountered during construction activities, all work must stop, and a qualified archaeologist shall be contacted

immediately. Further, in the event that any human remains are encountered or in the event that unassociated funerary objects or grave goods are discovered, State Health and Safety Code Section 7050.5 requires that no further work shall continue at the location of the find until the County Coroner has made all the necessary findings as to the origin and distribution of such remains pursuant to Public Code Resources Code Section 5097.98.

Based on the findings in this study the proposed project will not cause a substantial adverse change to the significance of cultural resources as defined in Section 15064.5. Therefore, no additional cultural resources studies are recommended or required at this time.

Figure 6. Overview of the Project Area (staging area) located on the northern bank of Santa Clara River, view east. Photo taken on October 8, 2020.

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ATTACHMENT C - VICINITY MAP
STATE WATER INTERCONNECTION PROJECT
ADDENDUM NO. 1 TO FINAL ENVIRONMENTAL IMPACT REPORT

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SCALE: 1" = 600'

CLOSED SATICOY LANDFILL SITE

PROPOSED GEOTECHNICAL INVESTIGATION LOCATION

PROPOSED GEOPHYSICAL/PHASE II ESA INVESTIGATION LOCATION