

Emergency Recycled Water Storage Pond Project

Draft Initial Study / Mitigated Negative
Declaration

Case Number ENV17-0002

July 2019

Prepared for:



City of Escondido
201 N Broadway
Escondido, CA 92025

Prepared with the assistance of:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Emergency Recycled Water Storage Pond Project

Draft Initial Study / Mitigated Negative Declaration

Case Number ENV17-0002

Prepared by:



City of Escondido
201 N. Broadway
Escondido, CA 92025

Prepared with the assistance of:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 919142

July 2019



CITY OF ESCONDIDO
PLANNING DIVISION
201 NORTH BROADWAY
ESCONDIDO, CA 92025-2798
(760) 839-4671

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

CASE NOS.: ENV17-0002 "Emergency Recycled Water Storage Pond Project"

DATE ISSUED: July 31, 2019

PUBLIC REVIEW PERIOD: August 2, 2019 – September 3, 2019

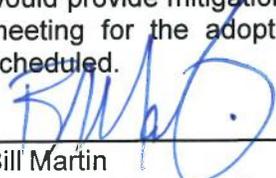
LOCATION: The project site is located adjacent to and within the Sphere of Influence of the City of Escondido, in the County of San Diego near the northern terminus of Via Sinsonte, east of S. Citrus Ave. and northwest of the State Route SR 78 and Cloverdale Road intersection. The project affects Assessor Parcel Nos. (APNs 241-041-09, 241-041-10, 241-121-05 and 241-121-02).

PROJECT DESCRIPTION: The proposed project involves the construction and operation of an emergency recycled water storage pond, which would provide up to ten million gallons of additional emergency storage in the City's recycled water system. The approximately 5.9-acre, five-sided pond would have a varying width between approximately 225 and 308 feet, with a 21.8-foot height to the water surface and 14.4 inches of freeboard. The emergency storage would be utilized to reduce flows from the City's Hale Avenue Resource Recovery Facility (HARRF) to an existing land outfall during wet weather storm events. As part of the City's Eastern Recycled Water System Project (which is a separate but associated project under the City's larger recycled water project), the Hogback reservoir would be converted to recycled water. The second component of the Eastern Recycled Water System Project would be a new recycled water pipeline, to be extended from the converted Hogback Reservoir along the east and south sides of the proposed emergency storage pond (City File No. ENV16-0007) to provide recycled water to agricultural growers. The proposed project would tie into this new pipeline through a new fill pipe on the east side of the pond with a manual valve that would be opened during heavy storm events when additional storage is needed. The stored recycled water would be utilized for agricultural irrigation and would be emptied through a drain line on the southwestern side of the pond.

APPLICANT: City of Escondido (Nelson Nuezca, Utilities-Wastewater) 760-839-6290
Nnuezca@ci.escondido.ca.us

An Initial Study has been prepared to assess this project as required by the California Environmental Quality Act and Guidelines, Ordinances and Regulations of the City of Escondido. The Initial Study and Draft Mitigated Negative Declaration (IS/MND) are on file in the City of Escondido Planning Division and can be viewed on the City of Escondido web site (*Active Development Projects*) at: <https://www.escondido.org/emergency-recycled-water-storage-pond-project.aspx>. Further information may be obtained by contacting the Planning Division, telephone (760) 839-4537 or email at jpaul@escondido.org.

Findings: The findings of this review are that the Initial Study identified effects related to biological resources, cultural and tribal cultural resources, hydrology and noise that might be potentially significant. Blasting or some other rock removal methodology, such as breaking or rock crushing, would be required. Design and minimization measures, revisions in the project plans, and/or mitigation measures agreed to by the applicant would provide mitigation to a point where potential impacts are reduced to less than a significant level. A public meeting for the adoption of the Final IS/MND by the Escondido Zoning Administrator has not yet been scheduled.



Bill Martin
Director of Community Development

This page intentionally left blank

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
INITIAL STUDY	1
I. Project Background, Purpose, and Need	3
II. California Environmental Quality Act	4
III. Project Environmental Setting	4
IV. Project Description	5
V. Responsible Agencies, Permits, and Approvals	7
VI. Environmental Factors Potentially Affected	7
ENVIRONMENTAL CHECKLIST	9
I. Aesthetics.....	9
II. Agriculture and Forestry Resources.....	10
III. Air Quality	13
IV. Biological Resources	18
V. Cultural Resources	25
VI. Geology and Soils.....	30
VII. Greenhouse Gas Emissions/Energy	35
VIII. Hazards and Hazardous Materials/ Wildfire.....	37
IX. Hydrology and Water Quality	42
X. Land Use and Planning.....	49
XI. Mineral Resources	50
XII. Noise	51
XIII. Population and Housing.....	57
XIV. Public Services.....	58
XV. Recreation.....	59
XVI. Transportation/Traffic	60
XVII. Tribal Cultural Resources	63
XVIII. Utilities and Service Systems	64
XIX. Mandatory Findings of Significance.....	66

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

- A Air Quality and Greenhouse Gas Emissions Calculations
- B1 Biological Technical Report
- B2 Coastal California Gnatcatcher Survey Report
- C Cultural Resources Survey and Assessment
- D Construction Noise Calculations

FIGURES

<u>No.</u>	<u>Title</u>	<u>Follows Page</u>
1	Regional Location Map	2
2	Project Vicinity	2
3	Site Plan	2
4	Project Parcels	2

TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Air Quality Significance Thresholds (pounds/day)	14
2	Estimated Maximum Daily Construction Emissions	15
3	Estimated Maximum Daily Operational Emissions	16
4	Vegetation Communities within The Project Boundary	23
5	Estimated GHG Emissions	36
6	Construction Noise Levels.....	54

ACRONYMS AND ABBREVIATIONS

A70	Limited Agriculture zone
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
amsl	above mean sea level
APN	Assessor's Parcel Number
AQIA	Air Quality Impact Analysis
BMO	Biological Mitigation Ordinance
BMPs	Best Management Practices
BRCA	Biological Resource Core Area
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emission Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CASQA	California Storm Water Quality Association
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFG Code	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
City	City of Escondido
CMP	Congestion Management Program
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalents
County	San Diego County
CRO	Cultural Resources Officer
CSMP	Construction Site Monitoring Program
cy	cubic yard
dB	decibel
dba	A-weighted decibel
DOC	California Department of Conservation
DTSC	California Department of Toxic Substances Control
E-CAP	City of Escondido Climate Action Plan
EIR	Environmental Impact Report
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FMMP	Farmland Mapping and Monitoring Program

ACRONYMS AND ABBREVIATIONS (cont.)

GHG	greenhouse gas
HARRF	Hale Avenue Resource Recovery Facility
HELIX	HELIX Environmental Planning, Inc.
in/sec	inches per second
IS	Initial Study
L_{EQ}	Equivalent sound level
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MND	Mitigated Negative Declaration
MT	metric ton
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	Natural Communities Conservation Program
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSLU	noise-sensitive land use
O_3	ozone
OSHA	Occupational Safety and Health Administration
PAMA	Pre-Approved Mitigation Area
Pb	lead
PM_{10}	particulate matter smaller than 10 microns in diameter
$PM_{2.5}$	particulate matter smaller than 2.5 microns in diameter
PPV	peak particle velocity
R-A	Residential Agriculture zone
RAQS	Regional Air Quality Strategy
RCNM	Road Construction Noise Model
REAP	Rain Event Action Plan
RPO	Resource Protection Area
RWQCB	San Diego Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin

ACRONYMS AND ABBREVIATIONS (cont.)

SDAPCD	San Diego County Air Pollution Control District
SIP	State Implementation Plan
SLF	Sacred Lands File
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SR	State Route
SR-2	Semi-Rural Residential zone
SRA	State Responsibility Area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
VOCs	volatile organic compounds
WSI	Water Synergy Inc.

This page intentionally left blank



CITY OF ESCONDIDO
PLANNING DIVISION
201 NORTH BROADWAY
ESCONDIDO, CA 92025-2798
(760) 839-4671
www.escondido.org

DRAFT

MITIGATED NEGATIVE DECLARATION
Emergency Recycled Water Storage Pond Project
City File No. ENV17-0002

An Initial Study Environmental Checklist was prepared for this project and is included with this Draft Negative Declaration (IS/MND). The information contained in the Initial Study and the MND Supplemental Comments will be used by the City of Escondido to assess this project as required by the California Environmental Quality Act (CEQA) and State CEQA Guidelines, as well as relevant City Ordinance and Regulations.

This MND assesses the environmental effects of the proposed Emergency Recycled Water Storage Pond Project generally located adjacent to and within the Sphere of Influence of the City of Escondido, County of San Diego near the northern terminus of Via Sinsonte, east of S. Citrus Ave. and northwest of the SR 78 and Cloverdale Road intersection. The project would affect Assessor Parcel Nos. (APNs 241-041-09, 241-041-10, 241-121-05, and 241-121-02). The proposed project involves the construction and operation of an emergency recycled water storage pond, which would provide up to ten million gallons of additional emergency storage in the City's recycled water system. The approximately 5.9-acre, five-sided pond would have a varying width between approximately 225 and 308 feet, with a 21.8-foot height to the water surface and 14.4 inches of freeboard. The emergency storage would be utilized to reduce flows from the City's Hale Avenue Resource Recovery Facility (HARRF) to an existing land outfall during wet weather storm events. The recycled water would be provided by the existing Hogback reservoir and new recycled water pipeline system to provide recycled water to agricultural growers. The proposed project would tie into this new pipeline through a new fill pipe on the east side of the pond with a manual valve that would be opened during heavy storm events when additional storage is needed. The stored recycled water would be utilized for agricultural irrigation and would be emptied through a drain line on the southwestern side of the pond.

As mandated by CEQA Guidelines Section 15105, affected public agencies and the interested public may submit comments on the Draft IS/MND in writing before the end of the 30-day public review period starting on August 2, 2019, and ending on September 3, 2019. Written comments on the IS/MND should be submitted to the following address by 5:00 p.m., September 3, 2019.

City of Escondido
Planning Division
201 North Broadway
Escondido, CA 92025-2798

Contact: Jay Paul, Senior Planner
Telephone: (760) 839-4537
Fax: (760) 839-4671
Email: jpaul@escondido.org

All comments received will be considered with the Final IS/MND in determining whether to approve the project. A printed copy of this document and any associated plans and/or documents are available for review during normal operation hours for the duration of the public review period at the City of Escondido Planning Division at the address shown above, and also available on the City's Website at: <https://www.escondido.org/emergency-recycled-water-storage-pond-project.aspx>. The City of Escondido General Plan Update (2012); Final Environmental Impact Report (2012); and Climate Action Plan are incorporated by reference pursuant to Section 15150 of the State CEQA Guidelines. These documents are available for review at, or can be obtained through, the City of Escondido Planning Division or on the City of Escondido website.

This page intentionally left blank

INITIAL STUDY

1. **Title:** Emergency Recycled Water Storage Pond Project
Case Number ENV17-0002
2. **Lead Agency Name and Address:** City of Escondido
201 N Broadway, 92025
3. **Contact Person and Phone Number:** Jay Paul, Senior Planner
(760) 839-4537
jpaul@ci.escondido.ca.us
4. **Project Sponsor’s Name and Address:** City of Escondido
201 N. Broadway, 92025
5. **General Plan Designation(s):** Rural II (City); Semi-Rural Residential (County)
6. **Zoning Designation(s):** No zoning designation (City); Limited Agriculture (County)
7. **Project Location.** The Emergency Recycled Water Storage Pond Project (proposed project) is located adjacent to the City of Escondido (City) in northern San Diego County, approximately 30 miles north of downtown San Diego and 18 miles east of the Pacific Ocean (Figure 1, *Regional Location*). The City is situated in a natural valley at approximately 650 feet above mean sea level (amsl) and surrounded by rolling hills and rugged terrain ranging up to 4,200 feet amsl.

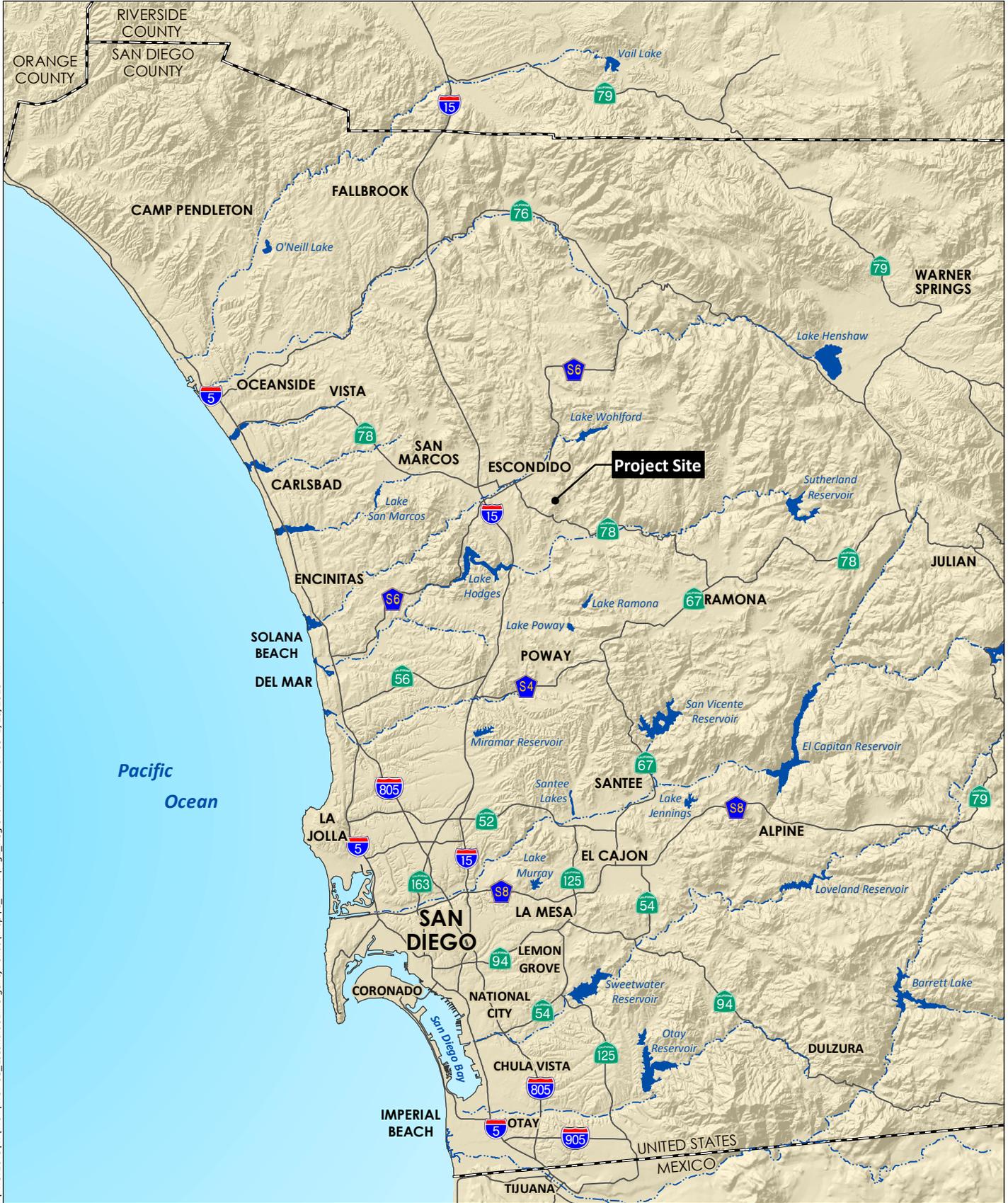
The project site is located outside the City limits to the southeast, within the unincorporated County of San Diego, but still within the City’s Sphere of Influence and planning area. The site is generally northwest of the State Route (SR) 78 and Cloverdale Road intersection, located adjacent to the eastern terminus of Birch Avenue, east of South Citrus Avenue and north of Idaho Avenue. Access to the site is provided from the northern terminus of Via Sinsonte, which is to the east of the site. The project area is characterized by rural residential and agricultural land uses (Figure 2, *Project Vicinity*). The project site contains the location of the proposed emergency storage pond, a permanent easement for access to the pond, and a temporary construction easement, as shown on Figure 3, *Site Plan*. The parcels that would be affected by the project include Assessor’s Parcel Numbers (APNs) 241-041-10, 241-041-09, 241-121-05, and APN 241-121-02 (see Figure 4, *Project Parcels*). For the purposes of this analysis, the “project site” is considered to be the permanent pond location and the temporary construction access route.
8. **Existing Setting.** The project site is located within the City’s General Plan area and Sphere of Influence. Existing rural land uses occur on site with several agricultural groves and undeveloped open space. Existing vegetation present on the project site is Diegan coastal sage scrub. Existing vegetation present along the temporary construction access route includes Diegan coastal sage scrub with some disturbed habitat. Elevations within the project site range from approximately 950 feet amsl in the southwestern corner to approximately 1,000 feet amsl in the northeastern corner.

The primary parcel that contains the majority of the project site, as well as all immediately adjacent parcels, has a City General Plan land-use designation of Rural II. The parcel is zoned by the County as Limited Agriculture (A70), with a County General Plan land use designation of Semi-Rural Residential (SR-2).

- 9. Surrounding Land Uses.** The project site is generally surrounded by semi-rural residential land uses and agricultural uses, similar to the project parcel. The nearest residences to the project site are approximately 140 feet to the east at an elevation of approximately 1,035 feet amsl and approximately 125 feet to the south at an average elevation of 1,000 feet amsl. Areas north of the project site are predominately undeveloped open space and disturbed land. Several residences and agricultural uses are located downslope from the project site to the west and southwest. The nearest downslope habitable structure is a single-family residence approximately 0.25 mile southwest of the project site.
- 10. Tribal Consultation.** Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has this consultation begun?

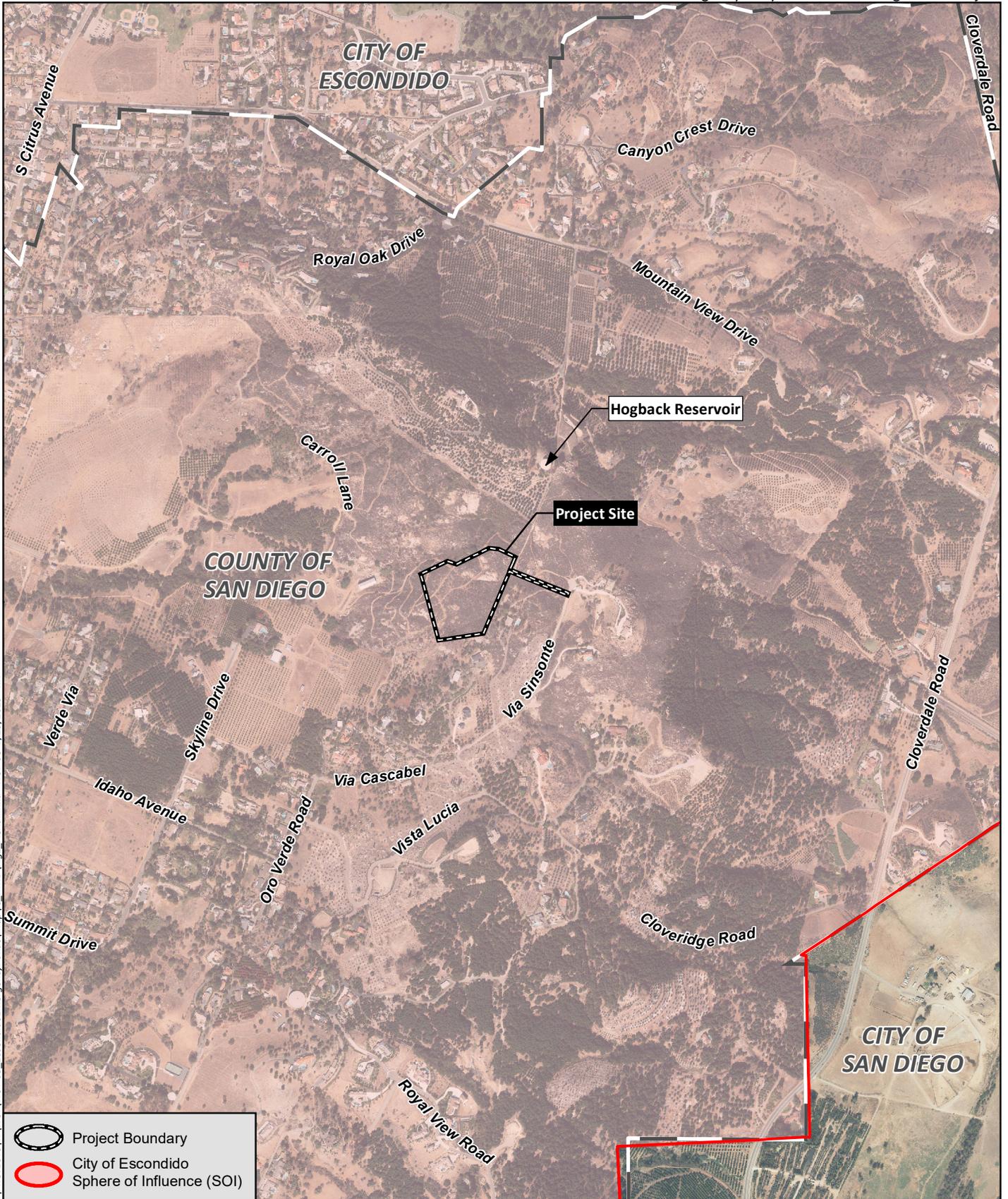
Three Tribes (Rincon, San Luis Rey and Soboba) were mailed and emailed notification regarding the proposed project in conformance with Assembly Bill AB 52. Only one tribe (Rincon) responded requesting monitoring, but no formal consultation was requested. The City did not receive any request from the three Tribes for formal consultation regarding this project; however, a formal consultation with the San Luis Rey Tribe was held on March 9, 2017 regarding several projects in Escondido, during which City Planning staff did provide an overview of the proposed Emergency Storage Pond Project. Staff also indicated the standard mitigation measures developed with the San Luis Rey Tribe most likely would be required for the project due to the presence of cultural resources, which are included as mitigation in this IS/MND.

- 11. Anticipated Public Meetings/Hearings.** The City of Escondido Zoning Administrator will consider the IS/MND and any comments received during the public review period in determining whether to adopt the Final IS/MND. A public meeting for this project has not been scheduled, but appropriate notice in conformance with the Escondido Municipal Code will be provided when the Final IS/MND is scheduled for Zoning Administrator consideration.



I:\PROJECTS\W\WSY-03_EscandidoEmergencyPonds\Map\IS_MND\Fig1_Regional.mxd WSY-03 1/18/2018 - RK

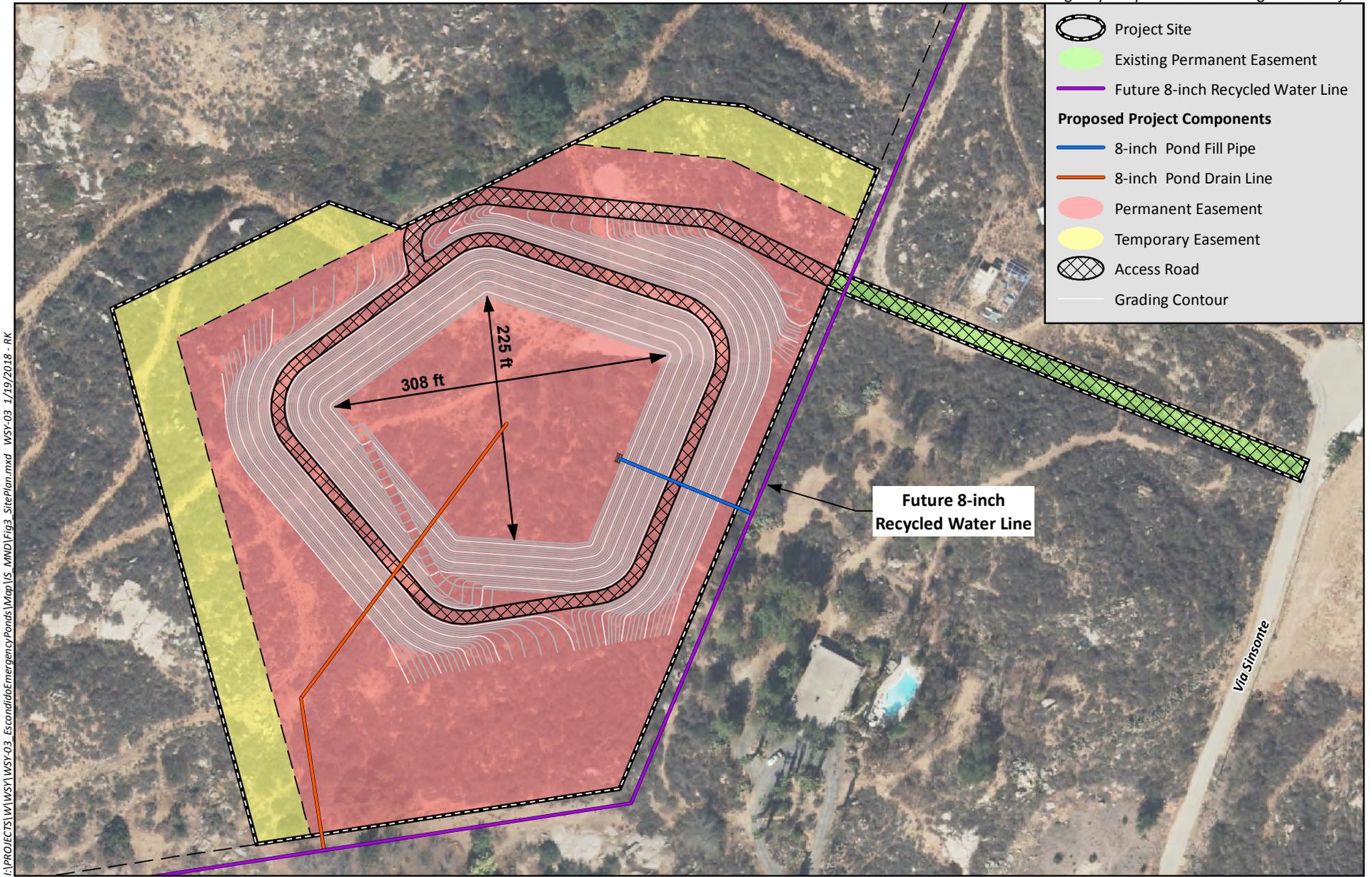
Source: Base Map Layers (SanGIS, 2016)



I:\PROJECTS\WWSY\WWSY-03_EsccondidoEmergencyPonds\Map\IS_MND\Fig2_Aerial.mxd WSY-03 7/25/2019 - RK

Source: Aerial (SanGIS 2014)





I:\PROJECTS\WWSY-03_EscandidoEmergencyPonds\Map\IS_MND\Fig3_SitePlan.mxd WSY-03 1/19/2018 - RK





I:\PROJECTS\WWSY\WWSY-03_EscondidoEmergencyPonds\Map\Misc\Parcels_2018_0920.mxd WSY-03_9/20/2018 - RK

Source: Aerial (SanGIS 2014); Parcels (SanGIS 2018)

I. PROJECT BACKGROUND, PURPOSE, AND NEED

The City has opted to construct additional emergency recycled water storage in their wastewater system, which includes the treated effluent from the City's wastewater treatment facility, the Hale Avenue Resource Recovery Facility (HARRF). This additional emergency storage is part of a requirement by the San Diego Regional Water Quality Control Board (RWQCB) that was established to reduce the amount of flow to the City's land outfall during wet weather storm events. The City has chosen to meet this effluent flow reduction requirement by constructing emergency recycled water storage in the eastern portion of the City's service area. Based on the latest Wastewater Master Plan prepared by Brown & Caldwell (2006), the City needs to provide ten million gallons of additional emergency storage to meet the Board's treated effluent storage requirement.

The emergency storage would be utilized to reduce treated effluent flows from the HARRF to the land outfall only during wet weather storm events and only if the flows are exceeding the discharge capacity of the land outfall. Historically, when flows have exceeded the land outfall capacity, the treated effluent would spill to Escondido Creek. In years past, the RWQCB issued the City a temporary emergency live stream discharge permit which allowed the City to discharge tertiary treated recycled water to the creek. The RWQCB has indicated that the temporary permit would not be renewed in the future and has instead required the City to begin the process of developing additional emergency recycled water storage. The space requirement for ten million gallons exceeds the available storage space at the HARRF, which prompted the City to begin investigating other possible location options. In 2012, the City began evaluating the feasibility of developing a major recycled water/advanced treated water project in the eastern portion of the City/County. This project was to include the required ten million gallons of emergency storage and the necessary recycled water pipelines to deliver the water to the storage location(s) during wet weather events. Also included in the conceptual recycled water/advanced treated water project was delivering advanced treated recycled water to avocado growers in the area of the existing potable Hogback reservoir, converting the Hogback reservoir to recycled water, and constructing a smaller potable water reservoir to serve the remaining potable water demands in the area.

Water Synergy Inc. (WSI) was contracted by the City to design the ten million gallons of emergency storage. WSI and the City initially explored the idea of dividing the storage into multiple separate ponds, but ultimately focused their efforts on two pond sites located within a single private property. As initial environmental investigations revealed the presence of cultural resources on one of the two pond sites, that site was considered too constrained and was removed from consideration. Following additional exploration and discussions, it was determined to be both feasible and more cost effective to construct a single, larger pond on the second of the two pond sites, which had fewer environmental constraints (refer to Figure 2). The storage pond is proposed to be located within the property belonging to one of the avocado growers participating in the City's larger recycled water project. One of the reasons this particular property was selected as the site of the proposed emergency storage pond is due to the site's proximity to the recycled water pipeline (City File No. ENV16-0007 Initial Study/Mitigated Negative Declaration State Clearinghouse No. 2018111035) that the City is proposing as part of the larger recycled water project. The recycled water pipeline (to be built by others) would extend from Hogback reservoir to the south where it would run alongside and east of the proposed storage pond, before turning west on the south side of the pond. As part of the proposed storage pond project, an 8-inch diameter fill pipe would extend off the recycled water pipeline to the storage pond, providing the mechanism by which the pond would be filled (Figure 3, *Site Plan*).

Operationally, the City would only deliver recycled water to the storage pond during heavy wet weather storm events, in an effort to avoid spilling to Escondido Creek. Part of the agreement between the property owner and the City allows for the rights to the stored recycled water to become the property owner's for irrigation purposes. The property owner would then be allowed to use the stored water as necessary, with the goal to empty the pond as quickly as possible following a fill to prepare for the next possible rain event.

II. CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) applies to proposed projects initiated by, funded by, or requiring discretionary approvals from state or local government agencies. The State CEQA Guidelines Section 15367 states that the "lead agency," the City, has the principal responsibility for carrying out or approving a project and is responsible for compliance with CEQA. As lead agency, the City must complete an environmental review to determine if implementation of the proposed project would result in significant adverse environmental impacts. In compliance CEQA, an Initial Study (IS) has been prepared to assist in making that determination. Based on the nature and scope of the proposed project and the evaluation contained in the IS environmental checklist (contained herein), the City has concluded that a Mitigated Negative Declaration (MND) is the appropriate level of analysis for this project. The MND shows that impacts of the proposed project are either less than significant or significant but mitigable with the incorporation of appropriate mitigation measures.

As stated in State CEQA Guidelines Section 15070, an MND can be prepared when "(a) the initial study shows that there is not substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or (b) the initial study identifies potentially significant effects, but (1) revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and (2) there is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment."

The City is the project proponent and the CEQA lead agency for this project, and the project site is located within the City's Sphere of Influence and planning area. Under CEQA, impacts associated with a proposed project are assessed with regard to significance criteria determined by the lead agency pursuant to the State CEQA Guidelines.

III. PROJECT ENVIRONMENTAL SETTING

The project site is located in an unincorporated area in northern San Diego County, east of the City of Escondido (Figure 1). The project site is located east of Interstate (I-) 15, north of State Route (SR) 78, and west of San Pasqual Valley, on private property at the eastern terminus of Birch Avenue, west of South Citrus Avenue and north of Idaho Avenue. Access to the site is provided from Via Sinsonte to the east, as shown on Figure 3. Specifically, the project area is on an undeveloped portion of the property consisting of avocado groves, fallow agricultural fields, and native vegetation. Existing vegetation present on the project site is mostly Diegan coastal sage scrub, which completely covers the 5.9-acre pond site, with a mix of Diegan coastal sage scrub and disturbed habitat within the temporary and permanent easements. Elevations within the project site range from approximately 950 feet amsl in the southwestern corner to approximately 1,000 feet amsl in the northeastern corner.

Although located in the unincorporated County outside the City limits, the primary parcel that comprises the project site, as well as all immediately adjacent parcels, is still within the City's planning area. As such, the City General Plan land use designation is Rural II. The County General Plan land use designation is SR-2 and the parcel is zoned A70 by the County. All immediately adjacent areas consist of semi-rural residential and agricultural uses and are within County limits but within the City's planning area, similar to the project site.

IV. PROJECT DESCRIPTION

The proposed project is the construction of an emergency recycled water storage pond, which would provide ten million gallons of additional emergency storage in the City's recycled water system. The emergency storage would be utilized to reduce flows from the City's HARRF to an existing land outfall during wet weather storm events. The proposed emergency storage would only be used if wet weather flows are exceeding the discharge capacity of the land outfall and the effluent would otherwise spill into Escondido Creek.

Potable water is currently conveyed to surrounding properties from the Hogback reservoir to the north of the project site (Figure 2). As part of the City's Eastern Recycled Water System Project (which is a separate but associated project under the City's larger recycled water project), the Hogback reservoir would be converted to recycled water. The second component of the Eastern Recycled Water System Project would be a new recycled water pipeline, to be extended from the converted Hogback Reservoir along the east and south sides of the proposed emergency storage pond (City File No. ENV16-0007 Initial Study/Mitigated Negative Declaration State Clearinghouse No. 2018111-35). Construction of this pipeline is expected to be near completion when construction of the proposed project begins, and the proposed project would tie into this new pipeline through a new eight-inch stub-out fill pipe directly to the east of the pond (see Figure 3 for fill pipe location). The proposed fill pipe would include a manual valve, as no electrical power would be provided to the pond site. The manual valve would be opened by a City employee during heavy storm events when the additional storage is needed, and manually closed once the pond is full. In order to avoid the potential of creating a live stream discharge, there would be no overflow associated with the proposed pond. The property owner would be required to utilize the recycled water within the pond as soon as possible following filling of the pond to irrigate their groves, with the understanding that the pond should be emptied completely prior to upcoming rain events. The pond would drain through an eight-inch Pond Drain Line on the southwestern side of the pond (Figure 3). The Pond Drain Line would connect to the future 8-inch recycled water line, which is part of a separate project and is scheduled to be constructed before the proposed project. The recycled water line would contain a valve that would open at the southwest corner of the pond site to irrigate the property owner's avocado grove further west of the proposed pond. A valve northeast of the proposed pond would close to isolate the recycled water pipeline before draining the pond.

The pond would be located on two parcels: APN 241-041-10 and APN 241-041-09. Construction of the pond would utilize an earthen dam and sides with 2:1 side slopes. The earthen dam would be stabilized using soil cement. The estimated earthwork required is approximately 60,000 cubic yards (cy) of cut and 10,000 cy of fill, with an estimated 50,000 cy of export to be removed from the site. The 5.9-acre, five-sided pond would have a varying width between approximately 225 and 308 feet, with a 21.8-foot height to the water surface and 14.4 inches of freeboard.

A 12-foot wide permanent driving surface would be provided at the top of the slopes around the pond. Access to the pond, both during construction and for the permanent maintenance and operation of the

pond, would be along an existing 20-foot water pipeline easement along the southern boundary of APN 241-121-05 and potentially extend into APN 241-121-02 if needed during final design. This 20-foot easement is for an existing 16-inch steel water pipeline and has a decomposed granite surface. The easement begins from Via Sinsonte and then runs generally to the northwest from Via Sinsonte towards the northern portion of the proposed pond site. A permanent easement for the finished storage pond would be approximately 50 feet larger than the pond on the northern and eastern sides, and on the eastern and southern sides of the pond the easement would extend to the pipeline easement associated with the future 8-inch recycled water line that the fill pipe for the pond would connect to (see Figure 3). A temporary construction easement would be approximately 50 feet beyond the permanent easement to the west of the pond, and zero to 50 feet beyond the permanent easement to the north of the pond, totaling approximately one acre. The portion of the access road within APN 241-041-10 would be within the finished-pond permanent easement and would be gated with a chain-link fence. The surface of the access road would be maintained with an all-weather granular material, such as the current decomposed granite surface along the existing easement. The total project disturbance area is estimated to be 7.2 acres, including the pond site, access road, and temporary construction easement.

Based on the existing surface geology in and around the pond site, rock would be encountered during excavation and blasting or some other rock removal methodology, such as breaking or rock crushing, would be required in order to construct the pond. To the extent feasible and in an effort to minimize material movement, the excavation cut would be moved to the edges and compacted to create the side slopes. As construction proceeds it may be necessary to stage some of the material within the temporary construction easement before moving it back to the edges of the pond.

Project Construction

The proposed project's construction activities are estimated to take up to 12 months and would consist of the following three phases: (1) Clear and Grub, (2) Grading, Drilling, and Blasting, and (3) Piping and Finish Work. All existing vegetation within the project site (including within the access road) would be removed. Upon construction completion, the cut slopes of the pond would be stabilized using erosion control best management practices (BMPs), such as jute netting and/or hydroseeding with a non-invasive grass mix. If necessary, a water truck would be utilized to irrigate hydroseeded slopes until the grasses become established. The proposed 8-inch fill pipe and drain line would be sited in a trench and buried under three feet of cover. As previously discussed, blasting may be required. Construction equipment to be used includes a dozer, loader, earthmover, sheep's-foot compactor, excavator, and loader/backhoe. The pond wall construction would include a soil cement process similar to roller compacted dam construction methodology.

Project Operation and Maintenance Details

The proposed project would not require employees to be stationed on the site. Employees would visit the pond site only for intermittent routine facility maintenance, as well as during heavy wet weather events to open and close the fill valve.

V. RESPONSIBLE AGENCIES, PERMITS, AND APPROVALS

The following potential permits and/or approvals from other agencies that may be required prior to construction of the proposed project include:

- San Diego Regional Water Quality Control Board (Region 9): Construction General Permit Stormwater Pollution Prevention Plan
- City of Escondido: Approvals including Design Review (as required)
- Escondido Fire Department: Blasting Permit (if required)
- Private Property Owner: Easement, Purchase, or Lease Agreement for Pond

VI. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

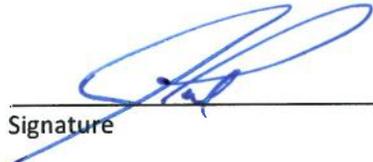
The environmental factors checked below potentially would be affected by this project involving at least one impact that is a “Potentially Significant Impact” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages:

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural/Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input checked="" type="checkbox"/> Hydrology/Water Quality | <input checked="" type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input checked="" type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Finding of Significance |

DETERMINATION:

On the basis of this initial study:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, no further environmental documentation is required.



Signature
Jay Paul, Senior Planner

Printed Name

7.31.19

Date
ENV17-0002

For

ENVIRONMENTAL CHECKLIST

I. AESTHETICS

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

a. Have a substantial adverse effect on a scenic vista?

No Impact. The project site is located within a semi-rural neighborhood where vegetation and topography limit views to the site from many of the surrounding areas. No scenic vistas or view corridors toward the project site or adjacent properties would be substantially adversely affected by installation of the proposed emergency recycled water storage pond, which would be an excavated pond. No impacts to scenic vistas or scenic resources would occur.

b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. There are no designated scenic resources on site. There are no historic buildings or state scenic highways in the vicinity of the site. The nearest Officially Designated State Scenic Highway is SR 78, over 30 miles to the east. The nearest Eligible State Scenic Highway to the project site is SR 76, over 12 miles to the north (Caltrans 2017). While there are ridgelines in the vicinity of the project site, the project would not be located on an identified intermediate ridgeline or skyline ridge (Figure VII-5 in City 2012). While there are some rock outcroppings on the project site that would be removed during construction of the pond, these are not highly visible or notable features, and impacts to scenic resources would be less than significant.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. The project site is located in a semi-rural area, which predominantly consists of single-family residential and agricultural uses. The proposed project does not include structures or other development that would potentially be incompatible with existing development in

terms of bulk and scale. Ponds are commonly used for irrigation, stock watering, and frost protection on farms and ranches, and are therefore a common feature on agricultural lands. In addition, as discussed above under responses I.a., vegetation and topography in the project area would limit visibility of the proposed emergency pond from surrounding areas. Based on the foregoing, the project would be visually compatible with, and would not result in degradation of the existing visual character or quality of the site and its surroundings. Temporary construction-related effects on the visual character and quality of the site would not result in significant impacts as they would be short-term and temporary in nature. Associated impacts would be less than significant.

d. Create a new source of substantial light or glare that would adversely affect day or nighttime views?

No Impact. No structures are proposed that would require lighting or that would emit glare, and no lighting beyond emergency nighttime lighting is proposed for the pond site; therefore, no associated light or glare impacts would occur.

References

California Department of Transportation (Caltrans). California Scenic Highway Mapping System. 2017. Available at http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm . Accessed on August 26, 2017.

Escondido, City of (City). 2012. General Plan. May. Available at: <http://www.escondido.org/general-plan.aspx>.

II. AGRICULTURE AND FORESTRY RESOURCES

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

No Impact. The Farmland Mapping and Monitoring Program (FMMP) was established in 1982 to provide information about the location, quality, and quantity of agricultural lands throughout California. The California Department of Conservation (DOC) prepares maps on a biennial basis to monitor the conversion of the state’s farmland to and from agricultural use. Based on FMMP maps prepared by DOC for San Diego County, the project site is not identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (DOC 2014). The western portion of the project site is mapped as Farmland of Local Importance by the FMMP; however, the location of the emergency storage pond would be on the eastern portion of the site and would not overlap with Farmland of Local Importance. The proposed project would benefit existing agriculture on the project site by providing a source of recycled water for irrigation. No impacts related to the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural uses would occur.

- b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact. The California Land Conservation Act of 1965, also known as the Williamson Act, is designed to preserve agricultural and open space lands by discouraging their premature and unnecessary conversion to urban uses. According to maps prepared by the DOC’s Division of Land Resource Protection, there are no Williamson Act contracted lands within the project boundaries (DOC 2013). The County General Plan land use designation for the parcel that contains the project site is Semi-Rural Residential (SR-2), and the site is zoned as Limited Agriculture (A70). Although located in the unincorporated County outside the City limits, the project parcel is still within the City’s planning area; as such, the City General Plan land use designation is Rural II, which accommodates single-family homes on large lots and includes agricultural properties and rugged terrain that is remote from urban development (City 2012). The City does not have a zoning designation for the project site (City 2014). As discussed above, the proposed project would benefit agricultural activities on the site by providing a source of recycled water for irrigation. Based on the foregoing, implementation of the proposed project would not conflict with a Williamson Act contract or with existing County or City zoning for agricultural use; therefore, no associated impacts would occur.

- c. **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

No Impact. The parcel within which the project site is contained is zoned as A70 by the County and has no City zoning designation, as described above. Implementation of the proposed project would, therefore, result in no impacts associated with rezoning of forest land.

- d. **Result in the loss of forest land or conversion of forest land to non-forest use?**

No Impact. There is no forest land or timberland on the project site; therefore, no impacts associated with the loss or conversion of forest land would occur.

- e. **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

No Impact. The project proposes construction of a pond to function as emergency storage for recycled water during wet weather events when flows from the HARRF exceed discharge capacity of the land outfall. The stored recycled water would then be used for irrigation of existing avocado groves on other portions of the parcel within which the project site is located. Implementation of the project would not result in conversion to non-agricultural uses; rather, it would support existing agricultural uses by providing a source of water for irrigation. As described above, there is no forest land on the project site. No impacts associated with the conversion of Farmland or forest land to other uses would occur.

References

California Department of Conservation (DOC) Farmland Mapping and Monitoring Program, San Diego Important Farmland. 2014. Available at: <http://maps.conservation.ca.gov/ciff/ciff.html>. Accessed on November 22, 2016.

DOC, Farmland Mapping and Monitoring Program, San Diego County Williamson Act. 2013. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/wa/San_Diego_w_13_14_WA.pdf. Accessed on November 22, 2016.

Escondido, City of (City). 2014. City of Escondido Zoning Map. Revised November 6, 2014. Available at: <https://www.escondido.org/Data/Sites/1/media/pdfs/Planning/FINALZONINGCITYMAP42X62PRINT.pdf>.

2012. General Plan. May. Available at: <http://www.escondido.org/general-plan.aspx>.

III. AIR QUALITY

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Background

The project site, located in the unincorporated County, is within the San Diego Air Basin (SDAB). The 4,260-square mile SDAB covers the entire San Diego County region. The State Implementation Plan (SIP) is the document that sets forth the State’s strategies for attaining Ambient Air Quality Standards (AAQS). The SDAB is currently designated as an attainment area for carbon monoxide (CO), nitrogen oxides (NO_x), lead (Pb), and sulfur oxides (SO_x), but is a non-attainment area for both federal and state ozone (O₃), and state particulate matter (PM₁₀ and PM_{2.5}).

The San Diego Air Pollution Control District (SDAPCD) has jurisdiction over San Diego County for the administration and enforcement of air quality regulations. In order to meet the AAQS, the SDAPCD has adopted a series of Regional Air Quality Strategy (RAQS) Plans. The 2009 RAQS, the most recent plan, employs the most up-to-date science, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. Policies and measures to achieve AAQS for healthful air quality in the air basin are outlined in the 2009 RAQS. It also incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources. These strategies are developed, in part, based on regional population, housing, and employment projections prepared by the San Diego Association of Governments (SANDAG). The SIP and the SDAPCD’s RAQS were developed in conjunction with each other to reduce regional emissions.

The City has established daily thresholds of significance for construction and operation in the City’s Municipal Code, Chapter 33 Article 47, Coordination of CEQA (Sec. 33-924). These thresholds are based on the County of San Diego and South Coast Air Quality Management District (SCAQMD) thresholds and have been adopted for the purpose of determining significance under CEQA. The established screening level thresholds can be used to demonstrate that a project’s emissions would not result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project’s air quality impacts are below the AAQS. The air quality significance thresholds, mass daily thresholds, for criteria pollutants are presented below in Table 1, *Air Quality Significance Thresholds*.

Table 1
AIR QUALITY SIGNIFICANCE THRESHOLDS
(pounds/day)

Pollutant	Construction	Operation
Volatile Organic Compounds (VOCs)	75	55
Nitrogen Oxides (NO _x)	250	250
Sulfur Dioxide (SO ₂)	250	250
Carbon Monoxide (CO)	550	550
Particulate Matter <10 microns (PM ₁₀)	100	100
Particulate Matter <2.5 microns (PM _{2.5})	55	55

Sources: Article 47 of the City of Escondido Municipal Code and SCAQMD 2015

The emissions data presented below are based on calculations and modeling prepared for the proposed project by HELIX Environmental Planning, Inc. (HELIX 2017). Modeling outputs are included as Appendix A to this IS/MND.

Environmental Evaluation

Would the project:

a. Conflict with or obstructs implementation of the applicable air quality plan?

No Impact. The project site is located in the SDAB, within which the SDAPCD manages air quality. As described above, air quality plans applicable to the SDAB include the San Diego RAQS and applicable portions of the SIP. The RAQS and SIP outline the SDAPCD’s plans and control measures designed to attain state and federal air quality standards. The RAQS and SIP rely on SANDAG growth projections, which are based in part on city and County general plans. As such, projects that propose development consistent with the growth anticipated by the applicable general plan(s) are consistent with the RAQS and applicable portions of the SIP (in this case, both the City and County general plans were considered). In the event that a project proposes development which is less dense than anticipated within the general plan(s), the project would likewise be consistent with the RAQS.

The proposed project would not result in a significant air quality impact from operational activity, as described further in Response II.b. Moreover, as discussed in Response XII, under *Population and Housing*, the proposed project does not include growth-generating components. As such, the proposed project is consistent with the City and County general plans and, therefore, would be consistent with the RAQS. No impact would occur.

b. Violate any air quality standard or contributes substantially to an existing or projected air quality violation?

Less Than Significant Impact. Construction activities associated with the project would generate short-term emissions of volatile organic compounds (VOCs), NO_x, CO, PM₁₀, and PM_{2.5}. Emissions would originate from off-road diesel equipment exhaust, employee and material delivery vehicle exhaust, re-entrained paved road dust, and fugitive dust from land clearing. Construction is anticipated to occur in three phases: (1) clear and grub, (2) grading, drilling and blasting, and (3) piping and finish work. Phase 1 was assumed to last approximately two months, Phase 2 was assumed to last approximately three months, and Phase 3 was assumed to last approximately four months. Construction activity is subject to the requirements established in Regulation 4, Rules 52, 54, 55, and 67, of the SDAPCD’s rules and regulations.

Operational mobile source emissions originate from traffic trips; however, because the project would only generate up to approximately 12 trips per year associated with manual operation of the fill valve for the storage pond, project-related trips would not create detectable mobile source emissions. Operational area source emissions would result from maintenance activities, which are expected to be negligible at best. The project would not use electricity or natural gas and would therefore not result in operational energy source emissions.

The project’s criteria pollutant emissions were calculated using the California Emission Estimator Model (CalEEMod) Version 2016.3.1. The emission sources include construction (off-road vehicles and fugitive dust) and area (landscape maintenance equipment) sources.

As shown in Table 2, *Estimated Maximum Daily Construction Emissions*, emissions of all criteria pollutants would be below the daily thresholds during construction. Associated construction-related impacts would be less than significant.

**Table 2
ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS**

Construction Activity	Pollutant Emissions (pounds per day)				
	VOC	NO _x	CO	PM ₁₀	PM _{2.5}
Clear and Grub	0.84	10.15	4.24	1.02	0.48
Grading	5.21	81.23	32.68	11.94	6.19
Drilling and Blasting	0.00	0.00	0.00	10.04	1.82
Piping and Finish Work - 2017	1.57	16.43	7.20	6.95	4.13
Piping and Finish Work - 2018	1.46	15.21	6.88	6.86	4.05
Maximum Daily Emissions	5.21	81.23	32.68	21.98	8.01
AQIA Trigger Levels	75	250	550	100	55

Source: CalEEMod modeling by HELIX 2017 (output data is provided in Appendix A).

Notes:

Thresholds are from Article 47 of the City of Escondido Municipal Code.

Maximum emissions occur during grading and drilling and blasting activities (this analysis conservatively assumes that grading and drilling and blasting would occur simultaneously).

The main operational emissions sources associated with the project are from area sources such as maintenance-related visits. Table 3, *Estimated Maximum Daily Operational Emissions*, presents a summary of maximum daily operational emissions for the proposed project, and compares these emissions with the SDAPCD Air Quality Impact Analysis (AQIA) Trigger Levels. As shown therein,

operational emissions for the proposed project are nominal and would be substantially below the significance threshold for all criteria pollutants. Therefore, operation of the project would not violate any air quality standard or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment. Impacts related to project operation would be less than significant.

**Table 3
ESTIMATED MAXIMUM DAILY OPERATIONAL EMISSIONS**

Source	Pollutant Emissions (pounds per day)				
	VOC	NO _x	CO	PM ₁₀	PM _{2.5}
Area	<0.5	0	<0.5	0	0
Energy	0	0	0	0	0
Mobile	0	0	0	0	0
Total Daily Emissions	<0.5	0	<0.5	0	0
AQIA Trigger Levels	55	250	550	100	55

Source: CalEEMod modeling by HELIX 2017 (output data is provided in Appendix A).

Notes: Thresholds are from Article 47 of the City of Escondido Municipal Code.

As shown in Tables 2 and 3, emissions of criteria pollutants during construction and/or operation of the project would not exceed the daily thresholds for any of the criteria pollutants.

Based on the fact that construction emissions would be temporary and localized within the immediate project vicinity, as well as the operations data presented above, project-related construction and operations emissions would result in a less-than-significant impact to air quality.

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

Less Than Significant Impact. A cumulative impact arises when two or more individual effects which, when considered together, are considerable, or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant impacts, meaning that the project’s incremental effects must be viewed in connection with the effects of past, current, and probable future projects.

The generation of daily construction and operational emissions associated with cumulative development could result in a cumulative significant impact associated with the cumulative net increase of ozone, PM₁₀, and PM_{2.5} for which the region is in non-attainment (ozone for National Ambient Air Quality Standards [NAAQS] and CAAQS; PM₁₀ and PM_{2.5} for California Ambient Air Quality Standards [CAAQS]). The proposed project would be consistent with the RAQS, which is intended to bring the SDAB into attainment for all criteria pollutants. In addition, the daily emissions generated during construction and operation of the project would not exceed the significance thresholds that have been established as quality of life standards. Therefore, the project’s contribution to cumulative air quality impacts would be less than significant.

d. Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive populations (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than are the general population. Sensitive receptors near the project site include single-family residences. As discussed above in Response II.b, the project would not generate substantial concentrations of criteria pollutants. Diesel exhaust particulate matter would be emitted from heavy equipment used during temporary project construction activities, however. Diesel exhaust particulate matter in California is known to contain carcinogenic compounds. The risks associated with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure (i.e., 24 hours per day, 365 days per year for 70 years). Because emissions of diesel exhaust would be temporary and short-term, construction of the project would not result in long-term chronic lifetime exposure to diesel exhaust from heavy equipment. Therefore, air quality impacts related to the exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

e. Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. Project construction could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. Diesel exhaust and VOCs would be emitted during construction of the project. The odors of these emissions are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not be at a level that would affect a substantial number of people, with the nearest residences located approximately 140 to 270 feet from the project site. Further, construction would be short term and temporary. As a result, impacts associated with odors during construction would be less than significant.

Land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations. The project does not include residential land uses or other odor-sensitive receptors. In addition, once filled, the pond would be emptied as soon as possible and would not result in standing water that could become stagnant over time, and therefore would not become an odor source that would affect neighboring residences. Impacts associated with odor sources would be less than significant.

Based on the foregoing discussions, significant air quality impacts are not anticipated, and mitigation measures are not required.

References

Escondido, City of (City). 2016. Escondido Municipal Code. Sec. 33-924. Coordination of CEQA, quality of life standards, and growth management provisions. December.

HELIX Environmental Planning, Inc. 2017. Air Quality and GHG Modeling Outputs. August 30.

San Diego County Air Pollution Control District, 2016. 2016 Revision of the Regional Air Quality Strategy for San Diego County. Available at:

<http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2009-RAQS.pdf>. Accessed on December 14, 2016.

San Diego, County of. 2007. *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Air Quality*. March

South Coast Air Quality Management District (SCAQMD), 2015. SCAQMD Air Quality Significance Thresholds. March. Available at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>.

IV. BIOLOGICAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Background

HELIX conducted a general biological survey and a rare plant survey of the project site on March 31, 2016, and a subsequent general biological survey on October 16, 2017. A biological technical report was

prepared to evaluate biological resources within the project site and surrounding vicinity (HELIX 2018a). The report includes a summary of the field surveys and literature review conducted for the site, as well as recommendations to avoid and minimize impacts to biological resources. The biological technical report is provided as Appendix B1 to this IS/MND.

Surveys for the federally-threatened coastal California gnatcatcher were performed during the breeding season, in June and July 2016, in accordance with required U.S. Fish and Wildlife Service (USFWS) protocol. A California gnatcatcher survey report was prepared (HELIX 2016) and is provided as Appendix B2 to this IS/MND.

The project site is located within the Metro-Lakeside-Jamul Segment of the County's Multiple Species Conservation Program (MSCP) planning area, outside of Pre-Approved Mitigation Area (PAMA) in undesignated lands (County 1997). The project site does not meet the requirements of a Biological Resource Core Area (BRCA), and it is located outside any wildlife corridor or linkage. The MSCP is a comprehensive long-term habitat conservation plan document under the Natural Communities Conservation Program (NCCP) Act of 1991. A NCCP initiated by the State of California focuses on conserving coastal sage scrub and coastal sage scrub-dependent species.

The project site is situated within privately-owned, undeveloped land just outside the City limits, but within the City's planning area. The City is the project proponent and the CEQA lead agency. As such, under CEQA, impacts associated with a proposed project are assessed with regard to significance criteria determined by the lead agency (in this case, the City) pursuant to CEQA Guidelines.

Low-density residential development occurs to the south and east of the project site. Agricultural land surrounds these residential areas. Agricultural land also is located north and west of the project site. Elevations within the project site range between approximately 950 feet and 1,000 feet amsl.

The pond site is entirely covered by Diegan coastal sage scrub, while the temporary construction access route contains a mix of Diegan coastal sage scrub and disturbed habitat. The project site is characterized entirely by uplands that lack waters and wetlands subject to the regulatory jurisdiction of U.S. Army Corps of Engineers (USACE), RWQCB, CDFW, and/or County as Resource Protection Ordinance wetlands. No sensitive plant species were observed within the project site. No federal or state listed as endangered or threatened animal species were observed or detected within the project site. The federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*) was observed in off-site areas, within 300 feet of areas proposed for project access during construction and operation, during the noted protocol surveys. The project site supports suitable nesting habitat for bird species protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code).

Environmental Evaluation

Would the project:

- a. **Have a substantial adverse effect either directly or through habitat modifications on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations or by the CDFW or USFWS?**

Less than Significant with Mitigation Incorporated. No special-status plant species were observed during surveys conducted in 2016. In addition, no special-status plant species have the potential to occur within the project site due to lack of suitable habitat, including inappropriate soil conditions.

Several special-status animal species have a low potential to occur on and in the immediate vicinity of the project site. Project construction could result in potential significant direct and indirect impacts on special-status animal species, including nesting birds, as described in further detail below. Potential impacts would be reduced to below a level of significance through implementation of mitigation measures included below.

Coastal California Gnatcatcher

Although confirmed to be absent from the project site itself, this federally listed as threatened species was observed using off-site Diegan coastal sage scrub within 500 feet of areas that would be impacted during project construction (see Figure 6 in Appendix B1). No direct impacts to the gnatcatcher are anticipated based on the species' absence from the direct impact area including the pond site and associated temporary construction access route; however, potential significant indirect impacts from construction noise could occur if the species is breeding in off-site areas within 300 feet of loud construction activities. Implementation of mitigation measure BIO-1 below would ensure that impacts to coastal California gnatcatcher are avoided.

Nesting Birds

The project site contains trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFG Code. Construction of the proposed project would result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. If removal of vegetation supporting an active nest were to take place during or in preparation for project construction, significant direct impacts would occur. Implementation of mitigation measure BIO-2 below would ensure that impacts to nesting birds and raptors are avoided.

BIO-1 Coastal California Gnatcatcher Avoidance. No clearing, grubbing, grading, and other construction activities shall occur on or within 300 feet of coastal sage scrub habitat between March 1 and August 15, the breeding season of the coastal California gnatcatcher.

If activities must occur between March 1 and August 15, the City shall complete the following measures:

- A. The City shall retain a qualified biologist possessing a valid Endangered Species Act (ESA) Section 10(a)(1)(A) Recovery Permit to complete pre-construction surveys in accordance

with USFWS protocol within coastal sage scrub located on and within 300 feet of the project footprint.

- I. If coastal California gnatcatchers are not detected during the pre-construction surveys, the qualified biologist shall submit substantial evidence to the City which demonstrates no impacts to this species are anticipated and no additional measures are necessary.
- II. If gnatcatchers are present within direct impact areas, then the following shall be required:
 - a. The City and/or responsible federal action agency for the project shall consult with the USFWS regarding project effects on gnatcatchers and habitat confirmed to be occupied by the species. The City and/or responsible federal action agency shall obtain the appropriate approvals and permits from the USFWS prior to commencement of activities that could affect gnatcatcher. All avoidance, minimization, and conservation measures prescribed by the USFWS shall be implemented. At a minimum, the City shall implement the following:
 - Restrict all clearing, grubbing, grading, and other construction activities to periods outside of the gnatcatcher breeding season (March 1 and August 15).
 - Retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to monitor construction activities on or within 300 feet of coastal sage scrub.
 - Compensate impacts to habitat occupied by gnatcatcher in-kind at a minimum 2:1 ratio with suitable habitat at an approved conservation/mitigation bank.
- III. If gnatcatchers are absent from direct impact areas, but are confirmed to be present in off-site habitat located within 300 feet of construction activities, then the following shall be required:
 - a. An analysis showing that noise generated by construction activities would not exceed 60 dBA hourly average at the edge of the development footprint must be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the City at least two weeks prior to the commencement of construction activities.

If construction activities would not exceed the 60 dBA hourly average threshold at the edge of the development footprint, then no additional measures shall be required beyond biological monitoring.

If activities could exceed the 60 dBA hourly average threshold, then the following attenuation measures shall be implemented:

- i. At least two weeks prior to the commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures

(e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dBA hourly average at the edge of the development footprint. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring* shall be conducted at the edge of the development footprint to ensure that noise levels do not exceed 60 dBA hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16).

*Construction noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of the development footprint are maintained below 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average. If not, other measures shall be implemented in consultation with the biologist and the City, as necessary, to reduce noise levels at the edge of the development footprint to below 60 dBA hourly average or to the ambient noise level if it already exceeds 60 dBA hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

BIO-2 Nesting Bird and Raptor Avoidance. If initial grading and vegetation removal activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird breeding season for migratory birds and raptors (January 15 to September 15), the project applicant shall retain a qualified biologist to perform a pre-construction survey of potential nesting habitat to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code. The pre-construction survey shall be performed no more than three days prior to the commencement of the activities. If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no impacts shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, as determined by the qualified biologist.

With implementation of mitigation measures BIO-1 and BIO-2, impacts to sensitive species would be reduced to below a level of significance.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

Less than Significant with Mitigation Incorporated. The project would result in unavoidable direct impacts to 6.5 acres of Diegan coastal sage scrub, as shown in Table 4, *Vegetation Communities within the Project Boundary*. All impacts to Diegan coastal sage scrub would be permanent, with exception to areas within the temporary easement where Diegan coastal sage scrub would be disturbed during

construction, which would be temporary. Direct impacts to Diegan coastal sage scrub are considered significant.

**Table 4
VEGETATION COMMUNITIES WITHIN THE PROJECT BOUNDARY**

Vegetation Community ¹	Acre(s) ²		
	Temporary	Permanent	Total
Diegan Coastal Sage Scrub (32510)	1.0	5.5	6.5
Disturbed Habitat (11300)	0.2	0.4	0.6
Urban/Developed (12000)	<0.1	---	<0.1
TOTAL	1.2	5.9	7.1

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

² Habitats are rounded to the nearest 0.1 acre; thus, totals reflect rounding.

Additional Diegan coastal sage scrub also occurs immediately adjacent to the proposed project limits. If activities are not properly contained and kept within the proposed work limits, additional significant impacts could occur to this sensitive natural community.

Implementation of mitigation measures BIO-3, BIO-4, and BIO-5 below would ensure that the unavoidable loss of Diegan coastal sage scrub is adequately compensated and that no additional impacts occur during project construction, thereby reducing the impacts on sensitive natural communities to below a level of significance.

BIO-3 Sensitive Vegetation Community Replacement. The City shall mitigate impacts to 6.5 acres of unoccupied Diegan coastal sage scrub at a minimum 1:1 ratio through purchase of Diegan coastal sage scrub at the City’s Daley Ranch Conservation Bank or other approved mitigation bank.

BIO-4 Biological Monitor During Clearing/Grubbing Activities. Prior to construction, the City shall retain a qualified biologist to monitor clearing and/or grubbing activities. The biological monitor shall attend pre-construction meetings and be present during the removal of any vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. Before construction activities occur in areas containing sensitive biological resources, all workers shall be educated by the biologist to recognize and avoid those areas that have been marked as sensitive biological resources.

BIO-5 Construction Fencing and Monitoring. Prior to construction, the following notes shall be included on the applicable construction plans to the satisfaction of the City:

- Prior to construction, temporary construction fencing shall be installed around the perimeter of the work area, including pond site and temporary construction access route. Fencing will include signage directing people to stay out of avoided habitat areas. Fencing and signage shall remain in place during all construction activities. It will be removed once construction is complete.

- A qualified biologist shall be on site to monitor all vegetation clearing and periodically thereafter to ensure implementation of fencing and signage and avoidance of unauthorized habitat impacts.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The October 2017 general biological survey included a preliminary delineation of potential jurisdictional waters and wetland boundaries, and a formal jurisdictional delineation is not required. Federally protected wetlands do not occur within project site, which solely comprises, and is largely surrounded by, uplands. There is a small area north of the project site where southern willow scrub was observed, which is considered a wetland habitat. The project has been specifically designed to avoid this area, however, and no related impacts would occur. Additionally, because the pond would be emptied for agricultural irrigation purposes as soon as possible after it is filled, the pond would not be able to support or sustain wetland habitat. As such, no impacts would occur.

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

Less than Significant Impact. No wildlife corridors or linkages occur on or in the immediate vicinity of the project site, which does not support habitat that would contribute substantially to the assembly and function of any local or regional wildlife corridors or linkages.

Project implementation would impact a portion of a stand of Diegan coastal sage scrub that is surrounded by low density residential and/or agricultural lands. Impacts to wildlife movement and nursery sites would not occur and no additional mitigation beyond that listed above is required.

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

No Impact. The project would not conflict with any local policies or ordinances protecting biological resources. No portions of the site support wetlands or sensitive habitat lands, as defined by the County's RPO. Consistency with the County's MSCP and BMO is addressed below within Issue 6. Section 33-1068 of Article 55 in the Escondido Zoning Code places restrictions on the removal of vegetation. The project grading permit would serve as the vegetation removal permit. Associated impacts would be less than significant.

f. Conflict with provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved state, regional, or local habitat conservation plan.

Less than Significant with Mitigation Incorporated. The project would not conflict with the provisions or conservation goals of the Metro-Lakeside-Jamul Segment of the County's MSCP Subarea Plan. The project site does not occur within lands designated as PAMA within the County's MSCP Subarea Plan (see Figure 4 in Appendix B1), nor does it meet the criteria of a BRCA. Surveys conducted in 2016 demonstrated the absence of special status species from the project site, including rare plants and the coastal California gnatcatcher. The project would impact 6.5 acres of unoccupied Diegan coastal sage scrub. Impacts to this community shall be mitigated consistent with the goals and objectives of the

MSCP and BMO. The impacts would occur outside of PAMA and the mitigation shall occur in accordance with mitigation measure BIO-3 at a minimum 1:1 ratio within existing conservation lands in the region at the Daley Ranch Conservation Bank or other approved mitigation bank.

References

HELIX Environmental Planning, Inc. (HELIX). 2018a. Biological Technical Report for the Emergency Recycled Water Storage Pond Project. September.

2016. Year 2016 Coastal California Gnatcatcher (*Poliioptila californica californica*) Survey Report for the Escondido Emergency Storage Pond Project. August 11.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California Resources Agency.

Oberbauer, T. 2008. Terrestrial Vegetation Communities in San Diego County Based on Holland’s Descriptions. Revised from 1996 and 2005. July.

San Diego, County of. 2009. Guidelines for Determining Significance Biological Resources. June 30.

1997. Multiple Species Conservation Program. County of San Diego Subarea Plan. October 22.

V. CULTURAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Background

A Cultural Resources Survey and Assessment for the Escondido Emergency Ponds property has been prepared for the proposed project by HELIX (2018b). The report documents the results of a records search; an examination of historic aerial photographs; and results from the March and December 2016 field surveys, January 2018 field surveys, and March 2018 testing program at two archaeological sites

identified within the project site. The assessment is summarized below, and the complete report is included as Appendix C to this IS/MND.

Environmental Evaluation

Would the project:

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact. According to §15064.5 of the State CEQA Guidelines, substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. No historical addresses are recorded at the South Coastal Information Center within a 1/2-mile radius of the project site, and no historical resources were identified within the project site in the records search, in historic aerial photographs, or as a result of the field surveys (HELIX 2018b). No impacts to historical resources would occur.

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

Less than Significant with Mitigation Incorporated. Thirteen archaeological resources have been recorded within a 1/2-mile radius of the project site, and six resources are mapped within 1,000 feet of the proposed pond location. These six sites include three bedrock milling sites with no associated artifacts, two isolated prehistoric Santiago Peak flakes, and one historic Escondido gravity float line (HELIX 2018b). In addition to these previously recorded resources, one additional site was identified approximately 1,300 feet west of the project area on the same property during the field survey conducted by HELIX and Red Tail Monitoring and Research in March 2016. This site, CA-SDI-21896, consists of four bedrock milling outcrops with over 40 milling features among them and associated flaked stone, ground stone, and ceramic artifacts. Thus, there are 14 resources currently recorded within one-half mile of the project area.

During the January 2018 survey, a previously unrecorded resource consisting of one milling feature with three slicks and four associated surface artifacts was observed in the northern portion of the project site. In addition to the milling features and associated surface artifacts, two bedrock outcrop areas were inspected and assessed as possible granary bases. An archaeological testing program was developed and implemented at the site in March 2018. The results of the subsurface testing at both sites did not indicate the presence of a subsurface cultural deposit, and very limited cultural material was recovered. Given this, the two archaeological sites do not meet the criteria for significance under CEQA or the NHPA. As such, impacts to them would not be considered significant effects.

The project site is in an area that is rich in cultural resources, and ground visibility during the field survey and testing program was poor outside of existing animal trails, footpaths, and small pockets of exposed ground. Based on this, there is the potential that previously unidentified features or artifacts could be encountered during grading within the project site and would need to be documented and assessed for significance. In the event that subsurface resources are encountered during construction activities, the project would comply with §15064.5 of the State CEQA Guidelines. Associated impacts would be less than significant with implementation of mitigation measures CUL-1 through CUL-10, below.

- CUL-1** The City of Escondido Planning Division (“City”) recommends the applicant enter into a Tribal Cultural Resource Treatment and Monitoring Agreement (also known as a pre-excavation agreement) with a tribe that is traditionally and culturally affiliated with the Project Location (“TCA Tribe”) prior to issuance of a grading permit. The purposes of the agreement are (1) to provide the applicant with clear expectations regarding tribal cultural resources, and (2) to formalize protocols and procedures between them. Applicant/Owner and the TCA Tribe for the protection and treatment of, including but not limited to, Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and cultural items, located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground disturbing activities.
- CUL-2** Prior to issuance of a grading permit, the applicant shall provide written verification to the City that a qualified archaeologist and a Native American monitor associated with a TCA Tribe have been retained to implement the monitoring program. The archaeologist shall be responsible for coordinating with the Native American monitor. This verification shall be presented to the City in a letter from the project archaeologist that confirms the selected Native American monitor is associated with a TCA Tribe. The City, prior to any pre-construction meeting, shall approve all persons involved in the monitoring program.
- CUL-3** The qualified archaeologist and a Native American monitor shall attend the pre-grading meeting with the grading contractors to explain and coordinate the requirements of the monitoring program.
- CUL-4** During the initial grubbing, site grading, excavation or disturbance of the ground surface, the qualified archaeologist and the Native American monitor shall be on site full-time. The frequency of inspections shall depend on the rate of excavation, the materials excavated, and any discoveries of tribal cultural resources as defined in California Public Resources Code Section 21074. Archaeological and Native American monitoring will be discontinued when the depth of grading and soil conditions no longer retain the potential to contain cultural deposits. The qualified archaeologist, in consultation with the Native American monitor, shall be responsible for determining the duration and frequency of monitoring.
- CUL-5** In the event that previously unidentified tribal cultural resources are discovered, the qualified archaeologist and the Native American monitor shall have the authority to temporarily divert or temporarily halt ground disturbance operation in the area of discovery to allow for the evaluation of potentially significant cultural resources. Isolates and clearly non-significant deposits shall be minimally documented in the field and collected so the monitored grading can proceed.
- CUL-6** If a potentially significant tribal cultural resource is discovered, the archaeologist shall notify the City of said discovery. The qualified archaeologist, in consultation with the City, the TCA Tribe and the Native American monitor, shall determine the significance of the discovered resource. A recommendation for the tribal cultural resource’s treatment and disposition shall be made by the qualified archaeologist in consultation with the TCA Tribe and the Native American monitor and be submitted to the City for review and approval.

CUL-7 The avoidance and/or preservation of the significant tribal cultural resource and/or unique archaeological resource must first be considered and evaluated as required by CEQA. Where any significant tribal cultural resources and/or unique archaeological resources have been discovered and avoidance and/or preservation measures are deemed to be infeasible by the City, then a research design and data recovery program to mitigate impacts shall be prepared by the qualified archaeologist (using professional archaeological methods), in consultation with the TCA Tribe and the Native American monitor, and shall be subject to approval by the City. The archaeological monitor, in consultation with the Native American monitor, shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Before construction activities are allowed to resume in the affected area, the research design and data recovery program activities must be concluded to the satisfaction of the City.

CUL-8 As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office. Determination of whether the remains are human shall be conducted on-site and in situ where they were discovered by a forensic anthropologist, unless the forensic anthropologist and the Native American monitor agree to remove the remains to an off-site location for examination. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition. A temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains in accordance with California Public Resources Code section 5097.98. The Native American remains shall be kept in-situ, or in a secure location in close proximity to where they were found, and the analysis of the remains shall only occur on-site in the presence of a Native American monitor.

CUL-9 If the qualified archaeologist elects to collect any archaeological materials that qualify as tribal cultural resources, the Native American monitor(s) must be present during any testing or cataloging of those resources. Moreover, if the qualified archaeologist does not collect the archaeological materials that qualify as tribal cultural resources that are unearthed during the ground disturbing activities, the Native American monitor(s), may at their discretion, collect said resources and provide them to the TCA Tribe for respectful and dignified treatment in accordance with the Tribe's cultural and spiritual traditions. The project archaeologist shall document evidence that all cultural materials have been curated and/or repatriated as follows:

- 1) It is the preference of the City that all tribal cultural resources be repatriated to the TCA Tribe as such preference would be the most culturally sensitive, appropriate, and dignified. Therefore, any tribal cultural resources collected by the qualified archaeologist shall be provided to the TCA Tribe. Evidence that all cultural materials collected have been repatriated shall be in the form of a letter from the TCA Tribe to whom the tribal cultural resources have been repatriated identifying that the archaeological materials have been received.

OR

- 2) Any tribal cultural resources collected by the qualified archaeologist shall be curated with its associated records at a San Diego curation facility or a culturally-affiliated Tribal curation facility that meets federal standards per 36 CFR Part 79, and, therefore, would be professionally curated and made available to other archaeologists/ researchers for further study. The collection and associated records, including title, shall be transferred to the San Diego curation facility or culturally affiliated Tribal curation facility and shall be accompanied by payment of the fees necessary for permanent curation. Evidence that all cultural materials collected have been curated shall be in the form of a letter form the curation facility stating the prehistoric archaeological materials have been received and that all fees have been paid.

CUL-10 Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusion of the archaeological monitoring program and any data recovery program on the project site shall be submitted by the qualified archaeologist to the City. The Native American monitor shall be responsible for providing any notes or comments to the qualified archaeologist in a timely manner to be submitted with the report. The report will include California Department of Parks and Recreation Primary and Archaeological Site Forms for any newly discovered resources.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant Impact. The project site is located in the Peninsular Ranges Geomorphic Province in an area underlain by Cretaceous Plutonic granitic rock. Additional geologic/surficial units present within the site include Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes (HELIX 2018b). According to the County of San Diego Preliminary Review of Resources for IS/EA Preparation (2016), this geological formation has no paleontological sensitivity. Furthermore, Escondido and, more specifically, the general project area are not known to contain or have produced any significant paleontological resources or discoveries. Accordingly, the potential for discovery of unknown fossils during project ground disturbance would be considered relatively low to negligible. Associated impacts would be less than significant, and no mitigation would be necessary.

Unique geologic features generally are defined to include geologic structures, formations, or other features that exhibit unusual or important characteristics in the context of scientific information (e.g., rare geologic/mineral assemblages or structural features), economic considerations (e.g., economically valuable mineral deposits), or cultural perception (e.g., prominent, unusual, and/or aesthetically pleasing rock outcrops or exposures). Because the project site does not encompass any distinct or unique geologic characteristics, information or features as described, associated impacts would be less than significant, and no mitigation would be necessary.

d. Disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant with Mitigation Incorporated. No dedicated cemeteries have been identified on site or within the project vicinity. It is not anticipated that human remains would be encountered on the project site during construction-related activities. If human remains are encountered during the excavation and remedial grading stage of the project, however, the project would comply with §15064.5 of the State CEQA Guidelines, California Public Resources Code § 5097.98, and California Health and Safety Code §7050.5 regarding the discovery and disposition of human remains. Associated impacts

would be less than significant with adherence to the noted regulations as outlined in mitigation measure **CUL-4**, above.

References

HELIX Environmental Planning, Inc. 2018b. *Emergency Recycled Water Storage Pond Project—Cultural Resources Survey and Assessment*. April.

VI. GEOLOGY AND SOILS

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving;				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Be located on expansive soil, as defined in Section 1802.3.2 of the International Building Code, creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

- a. **Expose people or structures to potentially substantial adverse effects, including the risk of loss, injury, or death involving:**
 - i. **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)**

No Impact. Rupture can occur over a fault during an earthquake when movement on the fault breaks through to the surface of the earth. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 which requires the California State Geologist to identify areas in the state that are at risk for surface fault rupture with the goal of ensuring public safety by preventing development of buildings meant for human occupancy across traces of active faults. The closest known faults to the project site are associated with the Newport-Inglewood and Rose Canyon Fault Zone, approximately 20 miles to the west (offshore), and the Elsinore Fault Zone, approximately 25 miles to the east (CGS 2010 & 2007). The proposed project would not be located near a known earthquake fault, does not include any habitation or other structures, and would therefore not expose people or structures to potentially substantial adverse effects involving fault rupture.

ii. **Strong seismic ground shaking?**

Less Than Significant Impact. The project site is within a seismically active region and is potentially subject to strong seismic ground shaking from earthquake events. The proposed project would, however, conform with the California Building Code (CBC) and the minimum requirements of the City, such as: (1) completion of a geotechnical investigation, including borings; (2) appropriate site preparation (e.g., clearing/grubbing and removal of significant root material); (3) implementation of geotechnical recommendations, including observation/testing and remedial grading, as applicable; (4) appropriate excavation parameters, such as removal/replacement of unsuitable materials and/or recompaction of fill; (5) proper engineered fill composition/placement methodology; and (6) appropriate design and construction of manufactured slopes. Based on conformance with related regulatory standards as part of the project design and construction requirements, potential impacts related to seismic ground shaking from implementation of the proposed project would be less than significant.

iii. **Seismic-related ground failure, including liquefaction?**

No Impact. Liquefaction occurs when pore-water pressure increases rapidly, usually due to seismic shaking. The corresponding loss of shear strength results in affected soils behaving as a viscous liquid, which can cause loss of support for structures/foundations and lead to excessive settlement and lateral displacement, or spreading, on sloped surfaces. Loose (cohesionless), saturated, and granular (low clay/silt content) soils with relative densities of less than approximately 70 percent are the most susceptible to these effects. The project site does not contain soils that are considered susceptible to liquefaction, and it is not located on a mapped liquefaction hazard area (see Figure 4.6-3 in City 2012). Additionally, the project does not include any proposed structures and would not expose people to seismic-related ground failure or liquefaction; therefore, no related impacts would occur.

iv. Landslides?

Less Than Significant Impact. Landslides occur when earth materials, such as soil, rock, and/or large boulders, slide downslope due to gravity. Earthquakes are the major cause of landslides, but a landslide can occur any time the slope is steep enough and the weight of the material is large enough to overcome the resistive forces. For example, heavy rainfall events can saturate soils and result in landslides in areas with steep terrain. The project site and adjacent areas contain slopes greater than 25 percent; however, these slopes are not considered at risk of landslide (see Figure 4.6-4 in City 2012). In addition, a complete geotechnical investigation will be conducted as a matter of project design and prior to issuance of any City and/or County grading permits. Any recommendations related to potential landslides in the geotechnical investigation would be implemented as a matter of project design. Potential impacts related to landslide hazards associated with project implementation would therefore be less than significant.

b. Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Implementation of the proposed project would increase the potential for erosion and transport of eroded material (sedimentation) both within and downslope of the project site. Specifically, proposed activities may involve: (1) removal of surface stabilizing features (e.g., vegetation); (2) excavation of compacted materials; and (3) redeposition of excavated and/or imported material as backfill in proposed development areas. While graded/excavated areas and fill materials would be stabilized through efforts such as compaction and installation of landscaping, erosion potential would be higher in the short-term than for existing conditions. Erosion and sedimentation are not considered to be significant long-term concerns for the proposed project, as areas around the emergency pond would be stabilized. The off-site transport of sediment also could potentially result in effects to downstream receiving water quality, such as increased turbidity and the provision of a transport mechanism for other contaminants that tend to adhere to sediment particles, such as hydrocarbons. Additional discussion of potential water quality effects associated with project-related erosion and sedimentation is provided below in Section VIII, *Hydrology and Water Quality*.

Short-term erosion and sedimentation impacts would be addressed through conformance with applicable elements of the City's storm water policies and related National Pollutant Discharge Elimination System (NPDES) standards. Specifically, and as a matter of project design, this would entail implementing appropriate measures to comply with requirements identified in sources that may include: (1) Grading and Erosion Control (Chapter 33, Article 55 of the Escondido Municipal Code); (2) Storm Water Ordinance (Chapter 22, Article 2 of the Escondido Municipal Code); (3) San Diego County Grading Ordinance (Title 8, Division 7 of the San Diego County Code of Regulatory Ordinances); and (4) the NPDES Construction General Permit (NPDES No. CAS000002, State Water Resources Control Board [SWRCB] Order 2009-0009-DWQ, as amended).

Conformance with the noted City, County, and NPDES standards is required prior to development of applicable sites exceeding one acre, and typically includes measures such as implementing an approved Storm Water Pollution Prevention Plan (SWPPP), an associated Construction Site Monitoring Program (CSMP), employee training, and minimum BMPs, as well as a Rain Event Action Plan (REAP) for applicable projects (i.e., those in Risk Categories 2 or 3, as determined by the RWQCB). Under the Construction General Permit, project sites are designated as Risk Level 1 through 3 based on site-specific criteria (e.g., erosion potential and receiving water risk), with Risk Level 3 sites requiring the most stringent controls. Based on the site-specific risk level designation, the SWPPP and related plans/efforts

identify detailed measures to prevent and control the off-site discharge of pollutants (including sediment). Depending on the risk level, these may include mandatory technology-based action levels, effluent limitations, and advanced treatment systems. Specific pollution control measures require the use of best available technology economically achievable and/or best conventional pollutant control technology levels of treatment, with these requirements implemented through applicable BMPs. While site-specific measures vary with conditions such as risk level, proposed grading, and slope/soil characteristics, detailed guidance for construction-related BMPs is provided in the Construction General Permit, as well as additional sources including the City of Escondido Standard Urban Storm Water Mitigation Plan Requirements for Development Projects (2011), and the California Storm Water Quality Association (CASQA) Storm Water Best Management Practices Handbooks (CASQA 2009). As a matter of project design, specific requirements for the proposed project under this permit would be determined during SWPPP development, after completion of project plans and application submittal to the SWRCB.

Typical erosion and sediment control measures that may be required in the project SWPPP include the following: (1) seasonal grading restrictions during the rainy season (October 1 to April 30) for applicable areas; (2) preparation and implementation of a CSMP and, if applicable, a REAP to provide enhanced erosion and sediment control measures prior to predicted storm events; (3) use of erosion control/stabilizing measures such as geotextiles, mats, fiber rolls, or soil binders; (4) use of sediment controls to protect the site perimeter and prevent off-site sediment transport, including measures such as silt fencing, fiber rolls, gravel bags, temporary sediment basins, street sweeping, stabilized construction access points and sediment stockpiles, and use of properly fitted covers for sediment transport vehicles; (5) compliance with local dust control measures, and (6) implementation of additional BMPs as necessary to ensure adequate erosion/sediment control and regulatory conformance.

Based on implementation of appropriate erosion and sediment control BMPs as a matter of project design and as part of, and in conformance with, the project SWPPP and related City, County, and NPDES requirements, associated potential erosion and sedimentation impacts would be avoided or reduced below a level of significance.

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. Potential liquefaction (and related effects such as lateral spreading) and landslide impacts are discussed above in responses a.iii and a.iv of this section. Potential impacts related to subsidence are typically associated with conditions such as groundwater withdrawal, and such activities are not proposed as part of the project.

Temporary excavations associated with proposed project construction may involve vertical or near-vertical walls, which could exhibit instability and result in potential collapse related to loose or unstable soil and geologic materials. Such instability can be exacerbated through effects such as the potential occurrence of jointing and fracturing in local bedrock. Conformance with applicable Occupational Safety and Health Administration (OSHA) requirements, such as slope limitations and shoring requirements, as a matter of project design, would avoid or reduce potential impacts related to temporary excavation stability below a level of significance.

An additional consideration for geologic stability involves the improper use of oversize materials in fill, which can result in effects such as differential compaction (varying levels of compaction over short

distances) that may adversely affect surface and subsurface structures. Boulders or other oversized materials would be removed from the project site as described above in the Project Description, and such materials would not be used as fill during pond construction. Furthermore, conformance with related regulatory (e.g., CBC) and industry standards as a matter of project design would avoid or reduce potential impacts from oversized materials below a level of significance.

d. Be located on expansive soil, as defined in Section 1802.3.2 of the International Building Code, creating substantial risks to life or property?

No Impact. Expansive (or shrink-swell) behavior in surface or near-surface materials is attributable to the water holding capacity of clay materials. Such behavior can adversely affect structural integrity through shifting of foundations or supporting materials during the shrink-swell process. The project site is not underlain by expansive soils (see Figure 4.6-5 of City 2012); therefore, no impacts would occur.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. Accordingly, no related impacts would result from project implementation.

References

California Geological Survey (CGS). 2007. Fault-Rupture Hazard Zones in California, Special Publication 42. Available at: <ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf>.

2010. Fault Activity Map of California. Available at: <http://maps.conservation.ca.gov/cgs/fam/>. Accessed on November 22, 2016.

California Storm Water Quality Association (CASQA). 2009. Storm Water Best Management Practices Handbook. November.

Escondido, City of (City). 2012. Escondido General Plan, Downtown Specific Plan and Climate Action Plan EIR, Geology and Soils Section. April 23. Available at: <http://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUpdate/Vol1Geology.pdf>.

2011. Standard Urban Stormwater Mitigation Plan Requirements for Development Projects. January. Available at: <https://www.escondido.org/Data/Sites/1/media/pdfs/Engineering/SUSMP.pdf>.

San Diego County Grading Ordinance. 2012. Available at: http://www.sandiegocounty.gov/content/dam/sdc/dpw/LAND_DEVELOPMENT_DIVISION/landpdf/gradingordinance.pdf.

VII. GREENHOUSE GAS EMISSIONS/ENERGY

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, or conflict with or obstruct state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Background

The following discussion is based on greenhouse gas (GHG) emissions calculations and modeling prepared by HELIX (2016). Detailed construction emissions assumptions and model inputs and outputs are provided in Appendix A.

Environmental Evaluation

Would the project:

- a. **Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?**

Less Than Significant Impact. Global climate change refers to changes in average climatic conditions on Earth as a whole, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by naturally occurring atmospheric gases, including water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone, and certain hydro fluorocarbons. These gases, known as GHGs, allow solar radiation (i.e., sunlight) into the Earth’s atmosphere, but prevent radiative heat from escaping, thus warming the Earth’s atmosphere. Greenhouse gases are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the Earth’s temperature. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contributing to what is termed “global warming,” the trend of warming of the Earth’s climate from anthropogenic activities. Global climate change impacts are by nature cumulative; direct impacts cannot be evaluated because the impacts themselves are global rather than localized impacts.

California Health and Safety Code Section 38505(g) defines GHGs to include the following compounds: CO₂, CH₄, N₂O, ozone, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur

hexafluoride. As individual GHGs have varying heat-trapping properties and atmospheric lifetimes, GHG emissions are converted to carbon dioxide equivalent (CO₂e) units for comparison. The CO₂e is a consistent methodology for comparing GHG emissions because it normalizes various GHG emissions to a consistent measure. The most common GHGs related to the project are those primarily related to energy usage: CO₂, CH₄, and N₂O.

Based on the *City of Escondido Greenhouse Gas Emissions Adopted CEQA Thresholds and Screening Tables* document (City 2013), a threshold of 2,500 metric tons (MT) CO₂e per year is used in defining small projects that are considered less than significant. If a project exceeds the 2,500-MT CO₂e per year threshold, the project would need to use the Screening Tables or alternative GHG mitigation analysis to determine significance.

Modeling was conducted that showed project GHG emissions would not exceed this screening threshold, using the same assumptions and methods as the project air quality analysis. The calculations included estimated emissions from construction as well as emissions associated with operations (nominal area source emissions from occasional maintenance activities). Project operations are assumed to begin in 2019. Detailed construction emissions assumptions and CalEEMod inputs and outputs are provided in Appendix A. Table 5, *Estimated GHG Emissions*, provides a summary of the total annual GHG emissions generated by the project.

**Table 5
ESTIMATED GHG EMISSIONS**

Emission Source	Emissions (MT CO₂e)
Construction	
Total	454
<i>Construction Subtotal (Amortized over 30 years)</i>	<i>15</i>
Operations	
Area	<0.01
Energy	0.00
Mobile	0.00
Waste	0.00
Water	0.00
<i>Operational Subtotal</i>	<i><0.01</i>
TOTAL	15
City Screening Threshold	2,500

Note: See Appendix A, Annual Report Section 2.1 (page 3) for construction modeling results and Section 2.2 (page 5) for operational modeling results.

As shown in Table 5, most of the project emissions are from project construction. Total construction emissions from the three phases would be 454 MT CO₂e. Amortized over the recommended 30-year project lifetime, construction emissions would be approximately 15 MT CO₂e per year. Operational emissions would be associated with infrequent maintenance activities. As shown above, the total annual GHG emissions generated by the project would be approximately 15 MT CO₂e, which is well below the screening threshold of 2,500 MT CO₂e per year. Impacts would be less than significant.

b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

No Impact. As discussed in Response VI.a, the project’s construction and operational GHG emissions would not exceed the City’s threshold of 2,500 MT CO₂e per year. As the threshold has been developed as part of the City Climate Action Plan (E-CAP) development review process, the project would not interfere with implementation of the E-CAP. Emissions would therefore have a less than cumulatively considerable contribution to global climate change impacts, and the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. No impact would occur.

c. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, or conflict with or obstruct state or local plan for renewable energy or energy efficiency?

As indicated the project description, operation of the pond after construction would not require any electrically operated or other powered equipment as water flow to the pond would be provided with by gravity or pressure flow from the tank above. Therefore, the project would not result in a potential significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during operation. The energy resource demand would be used for construction activities. Non-renewable resources will be committed primarily in the form of fossil fuels and may include fuel, oil, natural gas, and gasoline used by vehicles and equipment associated with the construction of the project. Construction activities related to GHG have been analyzed above. Based on the nature of the project and construction activities, consumption of energy related resource would cease once the project is completed. The project also would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency as it would supply recycled water for irrigation purposes.

References

Escondido, City of (City). 2013. City of Escondido Greenhouse Gas Emissions Adopted CEQA Thresholds and Screening Tables. December 4.

HELIX Environmental Planning, Inc. 2017a. Air Quality and GHG Modeling Outputs. December 12.

VIII. HAZARDS AND HAZARDOUS MATERIALS/WILDFIRE

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project: and accident conditions involving the release of hazardous materials into the environment?				
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
e. For a project located within an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would result in safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
f. For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
g. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
h. Expose people or structures, either directly or indirectly, to significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
i. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
j. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
k. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>
l. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	■	<input type="checkbox"/>

Environmental Evaluation

Would the project:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Less Than Significant Impact. The proposed project entails development of an emergency recycled water storage pond. Long-term operation of the storage pond would not involve the transport, use, release, or disposal of hazardous materials and no related impacts would occur. Construction activities would, however, require the transport, use, and/or generation of potentially hazardous materials, such as vehicle/equipment fuels and lubricants. Hazardous materials would be managed in accordance with all applicable federal, state, and local laws and regulations. Specifically, the on-site use and storage of construction-related hazardous materials would be regulated under applicable requirements of the NPDES, as described in Section IX below. Based on the required conformance with associated regulatory standards, impacts related to the transportation, use, and generation of hazardous wastes during construction activities would be less than significant.

- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Less Than Significant Impact. As described above under Response VIII.a., long-term operation of the proposed project would not require the transport, use, or disposal of hazardous materials; therefore, related impacts would not occur. Construction activities would, however, involve the use of hazardous materials, such as fuels and lubricants, for the operation of construction vehicles and equipment. The use and management of hazardous materials would be in compliance with all applicable federal, state, and local laws and regulations. Compliance with regulatory requirements would minimize the potential for accidental release of hazardous materials into the environment and provide for effective response and cleanup procedures if a spill did occur. Related impacts during construction activities would therefore be less than significant.

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

No Impact. The nearest schools to the project site are the San Pasqual Union Elementary School, located on Rockwood Road approximately one mile southeast of the project site, and the Orange Glen High School, located on Glenridge Road approximately one mile northwest of the project site. There are no existing or proposed schools within one-quarter mile of the project site; therefore, no related impacts would occur.

- d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?**

No Impact. According to the California Department of Toxic Substances Control (DTSC) Hazardous Waste and Substances Site List (Cortese List), the nearest hazardous waste site to the project site is the Chatham Brothers Barrel Yard, located approximately 3.9 miles southwest of the project site. The SWRCB Geotracker website does not map any active cleanup sites within a one-mile radius of the project site. A closed cleanup site is mapped approximately one mile northwest of the project site,

where cleanup activities occurred for a leaking underground fuel tank at the Orange Glen High School. Cleanup activities were completed, and the case was closed in April 2005 (SWRCB 2016). An additional closed cleanup site is mapped approximately one mile northeast of the site on Mountain View Drive where potentially contaminated soil was reported. The case was closed in May 2006. The project site is not located on or in the near vicinity of a listed hazardous materials site; therefore, no related impacts would occur.

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

No Impact. The nearest public airports to the project site are the Ramona Airport, located approximately 9 miles to the southeast, and the McClellan-Palomar Airport, approximately 14.5 miles to the west. The project site is not located within an airport land use plan, nor is it located within two miles of a public airport or public use airport, and no related impacts would occur.

- f. For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area?**

No Impact. A small private airfield is located near Lake Wolford Resort, approximately five miles northeast of the project site. There are no private airstrips in the vicinity of the project site, and no related impacts would occur.

- g. Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?**

Less Than Significant Impact. Designated emergency evacuation routes near the project site include Bear Valley Parkway, approximately 1.25 miles west of the project site, and San Pasqual Valley Road/SR 78, approximately 1 mile south of the project site (see Figure 4.8-4 of City 2012). Although project construction would temporarily increase traffic on local roadways due to the movement of construction equipment and daily worker trips, the increase in traffic is expected to be minimal due to the goal of balancing earthwork on site and is not expected to affect existing traffic patterns or emergency vehicle access. Impacts related to emergency response or emergency evacuation plans during construction activities would be less than significant. Operation of the proposed project would not require daily worker trips; rather, it is anticipated that project operations would require up to approximately 12 visits by City staff per year. Such negligible trips would not increase local traffic volumes. The project site is located within a residential parcel and would not block transportation routes or interfere with emergency vehicle access or evacuation routes. No related impacts would occur with operation of the proposed project.

- h. Expose people or structures to significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

- i. Substantially impair an adopted emergency response plan or emergency evacuation plan?**

- j. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**

- k. **Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**
- l. **Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

Less Than Significant Impact. The project site is mapped within the Very High Danger Fire Severity Zone by the Escondido Fire Department (2010), and several large wildfires have occurred in these areas over the past 20 years (CAL FIRE 2012). Operation of the proposed emergency pond would involve manual valve operation to fill and release recycled water and would not result in impacts related to wildland fires, nor require the installation and maintenance or impairment of any emergency evacuation roads, plans, fuel breaks, emergency water sources, power lines or other utilities. As the pond and associated slopes would be below the adjacent grades, the project would not expose people or structures to significant risks including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability or drainage changes. Construction activities associated with the proposed project could potentially ignite a fire, however, which could expose people and structures in the surrounding area to wildfire risks. Any time a heat source, such as a spark from construction equipment, and a fuel source, such as dry vegetation, combine in the presence of oxygen, there is potential for a fire to ignite. OSHA requires employers to implement fire protection and prevention programs in its General Safety and Health Regulations for Construction (29 CFR 1926.24). Fire protection and prevention programs include fire prevention education for crews and require the availability of fire protection and suppression equipment on the construction site. Current regulations also require proper storage and handling of flammable materials. Conformance with OSHA fire safety regulations, including implementation of appropriate fire prevention programs on the project site during construction activities, would reduce the risk of igniting a fire during construction and impacts would be less than significant.

References

- California Department of Forestry and Fire Protection (CAL FIRE). 2012. Fire Perimeters: Wildfires, 1950-2012. May. Available at: http://frap.fire.ca.gov/data/frapgismaps/pdfs/firep_12_map.pdf.
- California Department of Toxic Substances Control (DTSC) Hazardous Waste and Substances Site List (Cortese List). Available at: <http://www.calepa.ca.gov/sitecleanup/corteselist/>. Accessed on November 29, 2016.
- Escondido, City of (City). 2012. Escondido General Plan, Downtown Specific Plan and Climate Action Plan EIR, Hazards and Hazardous Materials Section. April 23. Available at: <http://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUpdate/Vol1Hazards.pdf>.
- Escondido Fire Department. 2010. City of Escondido Fire Severity Zones Map. August. Available at: <https://fire.escondido.org/Data/Sites/3/media/Fire%20Prevention%20Website/Fire%20Severity%20Zones/1%20EFD-Rincon%20Severity%20Zones.pdf>.
- State Water Resources Control Board (SWRCB), Geotracker website. Available at: <http://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=birch+avenue%2C+escondido%2C+ca+92027>. Accessed on November 29, 2016.

IX. HYDROLOGY AND WATER QUALITY

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial/increased erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area through the alteration of the course of a stream or river, or by other means, in a manner that would substantially increase the rate or amount of surface runoff and would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Evaluation

Would the project:

a. Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. Potential project-related water quality impacts are associated with both long-term operation and short-term construction activities. The proposed project involves the construction of an emergency storage pond which would be utilized to reduce flows to the land outfall from the City's HARRF during wet weather storm events when flows would exceed the discharge capacity of the land outfall pipeline and the effluent would otherwise spill into Escondido Creek. City staff would manually operate a valve to release flows to the emergency pond and would then subsequently close the valve to stop flows before the water level reaches capacity, thereby avoiding overflow conditions from the pond. Recycled water from the HARRF is treated to tertiary standards for use in irrigation and industrial applications (City 2016). As soon as possible following filling of the pond by City staff, the stored recycled water would be drained from the proposed emergency pond by the property owner and used as irrigation for existing avocado groves on the project property. This would provide an additional water source for agricultural operations and restore storage capacity in the pond for future wet weather events.

While discharges of recycled water associated with operation of the project are not anticipated, any potential discharges would be subject to the City's NPDES permit (Waste Discharge Requirements and Master Reclamation Permit for the City of Escondido, Hale Avenue Resource Recovery Facility [Master Reclamation Permit], Order No. R9-2010-0032). This permit was adopted July 14, 2010 and specifies discharge limitations and specifications related to the discharge of disinfected tertiary recycled water in the City's recycled water service area, including Escondido Creek. Additionally, the Master Reclamation Permit establishes monitoring and reporting requirements which implement state regulations associated with discharges. Operation of the proposed project would be in accordance with the Master Reclamation Permit; therefore, operational impacts to water quality related to recycled water discharges would be less than significant.

Potential water quality impacts related to project construction include erosion/sedimentation, the use and storage of construction-related hazardous materials (e.g., fuels, etc.), and disposal of extracted groundwater (if encountered during excavation). These potential impacts are discussed in further detail below.

Erosion and Sedimentation

The soils in the area proposed for the emergency storage pond consist of Cienega very rocky course sandy loam with 30 to 75 percent slopes (NRCS 2016) and are considered severely erodible (see Table 11 in USDA 1973). Potential construction-related erosion/sedimentation impacts would be avoided or reduced below a level of significance through conformance with existing City Storm Water requirements, the San Diego County Grading Ordinance, and the related NPDES Construction General Permit. Specifically, this would entail implementing a SWPPP and related BMPs in conformance with applicable regulatory requirements, as a matter of project design.

Operation of the proposed project would involve the release of recycled water from the proposed storage pond to the property owner's tree grove for irrigation. The release of recycled water would be contained within buried pipelines and would not contribute to runoff that could potentially induce

erosion or sedimentation. As discussed in the Project Description, the Pond Drain Line would connect to a planned recycled water line and a downstream valve would allow water to flow by gravity onto the property owner's avocado grove. The low pressure of the flow and the flat topography of the irrigation area would result in minimal erosional effects, and related impacts would be less than significant.

Construction-related Hazardous Materials

Project construction would involve the use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. The accidental discharge of such materials during project construction could potentially result in significant impacts if these pollutants reach downstream receiving waters, particularly materials such as petroleum compounds that are potentially toxic to aquatic species in low concentrations. As previously noted, implementation of a SWPPP would be required under NPDES and related City guidelines and would include detailed measures to avoid or mitigate potential impacts related to the use and potential discharge of construction-related hazardous materials.

The project would include a number of preliminary construction BMPs, including measures related to the proper use and storage of hazardous materials, as a matter of project design. While detailed BMPs would be determined as part of the SWPPP and would be based on project-specific parameters, they are likely to include standard measures and guidelines from the City Storm Water Program and other sources such as the San Diego County Grading Ordinance and CASQA Storm Water BMPs (2009). Typical measures for control of construction-related hazardous materials that may be required in the project SWPPP include the following: (1) minimizing on-site hazardous material storage, and restricting storage locations to areas at least 50 feet from storm drains and surface waters; (2) maintaining written inventories, labels and warning signs for stored hazardous materials; (3) using berms, ditches, and/or impervious liners (or other applicable methods) in material storage and vehicle/equipment maintenance and fueling areas to provide an appropriate containment volume and prevent discharge in the event of a spill; (4) properly maintaining construction equipment and vehicles; (5) using appropriate sediment control devices/methods downstream of paving activities, and properly containing and disposing of wastes and/or slurry from sources including concrete, dry wall and paint, by using properly designed and contained washout areas; (6) providing training for applicable employees in the proper use, handling and disposal of hazardous materials, as well as appropriate action to take in the event of a spill; (7) storing absorbent and clean-up materials in readily accessible on-site locations; (8) properly locating, maintaining, and containing portable wastewater facilities; (9) regularly (at least weekly) monitoring and maintaining hazardous material use/storage facilities and operations to ensure proper working order; and (10) implementing solid waste management efforts such as proper containment and disposal of construction debris.

Based on the implementation of appropriate BMPs as part of (and in conformance with) the project NPDES/City SWPPP and related County requirements, associated impacts from construction-related hazardous materials would be less than significant.

Disposal of Extracted Groundwater

Disposal of groundwater extracted during construction activities into local drainages and/or storm drain facilities could potentially generate significant water quality impacts through erosion/sedimentation, or the possible occurrence of pollutants in local groundwater aquifers. While shallow groundwater is not anticipated to be encountered during project-related excavation and construction, if dewatering is required the contractor would be required to conform with applicable criteria in the associated NPDES

Groundwater Permit (NPDES No. CAG919002, Order No. R9-2008-0002). While specific BMPs to address potential water quality concerns from disposal of extracted groundwater would be determined based on site-specific parameters, they would likely include the following types of standard measures from the noted groundwater permit: (1) Using erosion and sediment controls similar to those described above under item b. for applicable areas/conditions (e.g., disposal of extracted groundwater on slopes or graded areas); (2) testing extracted groundwater for appropriate contaminants prior to discharge; and (3) treating extracted groundwater prior to discharge, if required, to provide conformance with applicable discharge criteria (e.g., through methods such as filtration, aeration, adsorption, disinfection, and/or conveyance to a municipal wastewater treatment plant).

Based on the required conformance with NPDES Groundwater Permit standards and the implementation of related BMPs, water quality impacts from project-related disposal of extracted groundwater (if required) would be less than significant.

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

Less Than Significant Impact. The proposed project involves the construction of an emergency pond to store recycled water from the HARRF, which would then be used for irrigation purposes in the immediate vicinity. The additional source of irrigation water provided by the proposed project could result in increased groundwater resources in the area by reducing the current demand for groundwater that is used for irrigation. The proposed project would not involve the extraction or use of groundwater resources, nor would it result in an increase of impermeable surfaces that would interfere with groundwater recharge; therefore, no associated impacts to groundwater supplies, aquifer volumes, or groundwater tables would occur. In the unlikely event that shallow groundwater is encountered during project construction, temporary dewatering efforts would be implemented in conformance with applicable NPDES requirements, as noted above. Based on the minor and temporary nature of such potential dewatering activities, no associated significant impacts from the drawdown or depletion of local groundwater resources would be anticipated.

c. Substantially alter the existing drainage pattern of the site or area through the alteration of the course of a stream or river, or by other means, in a manner that would result in substantial/increased erosion or siltation on- or off-site?

Less Than Significant Impact. The project site is located within the San Dieguito River Watershed, which has a total drainage area of approximately 350 square miles (RWQCB 1994). While project implementation would result in some modification of the existing on-site drainage patterns and directions through proposed grading and construction of slopes for the proposed pond, the project would not affect the course of a stream or river and the overall existing on- and off-site drainage patterns would not be substantially altered. Flows from the site would continue in a southeast direction into existing drainages to the San Dieguito River. As a result, overall runoff patterns and directions in the watershed would be maintained and project-related impacts to drainage alteration would be less than significant. Ground-disturbing activities associated with construction of the proposed project could potentially increase erosion and siltation (or sedimentation) on and off site; however, conformance with City storm water policies, the San Diego County Grading Ordinance, appropriate NPDES permits, and the

project-specific SWPPP would involve implementation of BMPs to minimize erosion and siltation and impacts would be less than significant.

d. Substantially alter the existing drainage pattern of the site or area through the alteration of the course of a stream or river, or by other means, in a manner that would substantially increase the rate or amount of surface runoff and which would result in flooding on- or off-site?

Less Than Significant Impact. As discussed above under Response VIII.c., implementation of the proposed project would not alter overall drainage patterns in the area. Construction activities may temporarily alter on-site drainage patterns due to grading activities, but implementation of BMPs required by the project SWPPP would minimize potential for flooding. Although a 12-foot wide permanent driving surface would ring the edge of the pond, the road would not be paved, and the project does not propose the installation of impervious surfaces that would increase the amount and/or velocity of runoff in the area; rather, an open earthen storage pond is proposed that would decrease runoff from the site by providing increased storage for precipitation during storm events. Accordingly, impacts related to on- or off-site flooding during construction and operation of the proposed project would be less than significant.

e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. As discussed under responses VIII.a. through VIII.d., construction of the proposed project would temporarily alter drainage patterns on site during grading, and discharge activities such as dewatering may be required. Conformance with associated regulations and requirements, such as City storm water policies, appropriate NPDES permits, and the project-specific SWPPP, would involve measures to protect water quality and minimize runoff. Impacts related to additional sources of polluted runoff would be less than significant. Additionally, the proposed emergency storage pond would result in a decrease in runoff from the project site due to increased storage; therefore, implementation of the project would not exceed the capacity of the storm water drainage system and no related impacts would occur.

f. Otherwise substantially degrade water quality?

Less Than Significant Impact. The proposed project would adhere to all applicable regulations and requirements related to the protection of water quality, and impacts would be less than significant.

g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation?

No Impact. The nearest 100-year flood hazard area is approximately one mile southeast of the project site along the San Dieguito River corridor (see Map number O6073C1082G at FEMA 2012). The project site is not within a 100-year flood hazard area, nor does the project propose any housing or habitable structures; therefore, no impacts related to the placement of housing in a flood hazard area would occur.

h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No Impact. As noted in Response VIII.g, the project site is not within a 100-year flood hazard area and no structures are proposed. As such, there would be no impacts related to the placement of structures within a 100-year flood hazard area.

i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The nearest dams to the project site are located at Lake Dixon, approximately three miles northwest, and at Lake Wolford, approximately four miles northeast. The project site is not located within a mapped dam inundation area (see Figure 4.9-2 in City 2012), and no impacts related to flooding hazards from failure of a levee or dam would occur.

j. Expose people or structures to a significant risk of loss, injury, or death involving inundation by seiche, tsunami, or mudflow?

Less Than Significant with Mitigation Incorporated. A seiche can occur when a semi- or fully-enclosed body of water is disturbed in a way that causes a standing wave to oscillate back and forth. Seiches can be caused by strong winds, rapid changes in atmospheric pressure, or as a result of an earthquake. The proposed emergency storage pond would only hold water after large storm events and would be drained quickly to renew storage capacity. Additionally, the size of the pond would be relatively small, and a seiche large enough to cause damage would be unlikely to develop. The nearest residences to the proposed pond site are located approximately 140 feet to the east at an elevation of 24 feet higher and 270 feet south at an elevation of 11 feet higher than the ground level at the proposed pond site; therefore, any spillover related to a seiche would not affect those residences. Downslope residences are located to the south approximately 390 feet or further from the proposed pond site. Although a seiche is unlikely to form in the proposed pond, the potential exists for downslope residences to be exposed to inundation by seiche under certain conditions, and impacts would be potentially significant.

A tsunami can occur when an earthquake or submarine landslide causes a large amount of water to be displaced, resulting in a long, high sea wave. The project site is not located within or near a tsunami zone, and no related impacts would occur.

A mudflow can occur when loose soils become saturated from a large storm event and then move downslope due to gravity. Soils on the project site are considered severely erodible (see Response VIII.a.) and construction workers, as well as downslope residences, could be exposed mudflows during a heavy rainfall event while ground-disturbing activities are occurring. Conformance with requirements of the General Construction Permit, including development of a SWPPP and potentially a REAP, would result in less than significant impacts related to mudflows during construction. Following construction, disturbed slopes would be stabilized, and impacts would remain less than significant.

Implementation of Mitigation Measure HYD-1 would reduce risks related to exposure of downslope homes to inundation by seiche. Following implementation of this measure, impacts related to seiche hazards would be reduced to below a level of significance.

HYD-1 Seiche Hazard Measures. Before final design of the emergency storage pond, a geotechnical investigation shall be performed which shall include a seiche hazard risk assessment and related recommendations to reduce risks associated with seiches, including but not limited to:

(1) Appropriate protection devices, such as barriers or berms; (2) Required freeboard to avoid potential spillovers; and (3) Sidewall design specifications. All geotechnical investigation recommendations shall be included in final design and construction documents.

References

California Storm Water Quality Association (CASQA). 2009. Storm Water Best Management Practices Handbook. November.

Escondido, City of (City). Hale Avenue Resource Recovery Facility (HARRF) website. Available at: <http://www.escondido.org/harrf.aspx>. Accessed on December 5, 2016.

2012. Escondido General Plan, Downtown Specific Plan and Climate Action Plan EIR, Geology and Soils Section. April 23. Available at: <http://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUpdate/Vol1Geology.pdf>.

Federal Emergency Management Agency (FEMA). 2012. Flood Insurance Rate Maps. Available at: <https://msc.fema.gov/portal/search?AddressQuery=escondido%2C%20ca#searchresultsanchor>.

Regional Water Quality Control Board (RWQCB). 1994. Water Quality Control Plan for the San Diego Basin (as amended). Available at: http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/.

San Diego County Grading Ordinance. 2012. Available at: http://www.sandiegocounty.gov/content/dam/sdc/dpw/LAND_DEVELOPMENT_DIVISION/landp df/gradingordinance.pdf.

United States Department of Agriculture (USDA). 1973. Soil Survey, San Diego Area, California. Part II. December. Available at: http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA638/0/part2.pdf.

USDA Natural Resources Conservation Service (NRCS). 2016. Web Soil Survey. Available at: <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>. Accessed on November 22, 2016.

X. LAND USE AND PLANNING

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Evaluation

Would the project:

a. Physically divide an established community?

No Impact. The project proposes the construction of an emergency storage pond on a residential parcel in a semi-rural neighborhood. The project would not prohibit access to, or otherwise physically divide, an established community. No associated impacts would occur.

b. Conflict with any applicable land-use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less Than Significant Impact. As previously noted, the project site is outside the City limits but within the City’s Sphere of Influence, or planning area; as such, this land use and planning discussion focuses mainly on City designations, but also notes the County designations to demonstrate similarities between the two. The parcels within which the project site is contained are currently not zoned by the City. The City General Plan land use designation of the project site is Rural II. The Rural II land use designation is characterized by large, semi-rural residential lots with low building coverage. The maximum allowable density of areas designated as Rural II is one dwelling unit per two acres (Figure II-6 in City 2012). Areas to the east and northeast are zoned Residential Estate and Residential Agriculture (R-A) by the City. County designations for the site are similar to those established by the City—under the County, the site is zone Limited Agriculture (A70) and the General Plan land use designation is Semi-rural Residential (SR-2). There is no commercial component to the proposed project; rather, the project proposes an emergency storage pond to hold recycled water overflows which would be used for agricultural irrigation. The project site is not located within or adjacent to the coastal zone, and is not subject to a specific plan or other known land use policies/regulations intended to avoid or mitigate environmental effects. Accordingly, the proposed project would result in less-than-significant impacts related to conflicts with applicable zoning, general plan, or other land use regulations.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

Less Than Significant with Mitigation Incorporated. As discussed above under *Biological Resources*, the project site is located within the Metro-Lakeside-Jamul segment of the County’s MSCP Subarea Plan. As detailed in Response III.f, the project would not conflict with the provisions or conservation goals of the MSCP Subarea Plan. The project site does not occur within lands designated as PAMA within the MSCP Subarea Plan (see Figure 4 in Appendix B1), nor does it meet the criteria of a BRCA. Surveys conducted in 2016 demonstrated the absence of special status species from the project site, including rare plants and the coastal California gnatcatcher. The project would impact 6.5 acres of unoccupied Diegan coastal sage scrub, consistent with the goals and objectives of the MSCP and County BMO. Mitigation for these impacts shall occur as described in BIO-3 at a minimum 1:1 ratio within existing conservation lands in the region at the Daley Ranch Conservation Bank or other approved mitigation bank. Within implementation of this measure, associated impacts would be reduced to below a level of significance and no further mitigation is required.

References

Escondido, City of (City). 2012. General Plan. May. Available at: <http://www.escondido.org/general-plan.aspx>.

XI. MINERAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

- a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or**
- b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

No Impact (items a and b). According to Figure 4-11-1 of the City’s General Plan Environmental Impact Report (EIR), no existing or past mineral extraction facilities are located on the project site (City 2012). Historically, the site has not been associated with mineral mining or excavation. Additionally, there are

no oil or gas production wells within or near the project site (DOC 2016). Therefore, no impacts resulting in the loss of a known mineral resource or locally-important mineral resource recovery site would occur.

References

California Department of Conservation (DOC), Division of Oil, Gas & Geothermal Resources Well Finder website. Available at: <http://maps.conservation.ca.gov/doggr/index.html#close>. Accessed on December 5, 2016.

Escondido, City of (City). 2012. Escondido General Plan, Downtown Specific Plan and Climate Action Plan EIR, Mineral Resources Section. April 23. Available at: <http://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUpdate/Vol1Minerals.pdf>.

XII. NOISE

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. For a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Background

Fundamentals of Sound and Environmental Noise

Noise can be defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Sound intensity or acoustic energy is measured in decibels (dBs) that are A-weighted (indicated by dBA) to correct for the relative frequency response of the human ear.

Since decibels are logarithmic units, sound pressure levels cannot be added or subtracted by standard arithmetic means. Typically, a doubling of sound volume will increase a noise level by 3 dBA. A 3-dBA change in sound is the level where humans generally notice perceptible change in sound. The predominant rating scale for analyzing construction noise is the equivalent sound level (L_{EQ}), which is based on dBA. The L_{EQ} represents the sound pressure level equivalent to the total sound energy over a given period of time.

Sensitive Noise Receptors

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress and/or interference from excessive noise. NSLUs in the project vicinity include rural residences, with the closest residential property line to project construction approximately 25 feet to the east. NSLUs also include Diegan coastal sage scrub, a sensitive habitat which is located throughout the project site as well as in adjacent off-site areas. Diegan coastal sage scrub adjacent to the project site may be used by a federally listed threatened avian species, the coastal California gnatcatcher. See *Biological Resources*, above, for a discussion of indirect noise impacts to the gnatcatcher and other sensitive bird species and the associated mitigation measures (BIO-1 and BIO-2) that would reduce such impacts to below a level of significance.

Existing Noise Environment

Noise sources in the vicinity of the project would be traffic noise from nearby rural roads or from larger roads approximately one mile away (Bear Valley Parkway and State Route 78), as well as from farm equipment. In general, however, the ambient noise environment would be relatively quiet.

Regulatory Framework

Chapter 17, Article 12, Noise Abatement and Control, of the City of Escondido Municipal Code (City Noise Ordinance) describes City noise requirements. The City Noise Ordinance sets limits pertaining to the generation of exterior noise. Section 17-229, Sound Level Limits, of the ordinance states that in single-family residential zones, it is unlawful for any person to cause or allow the creation of any noise at any point on or beyond the boundaries of the property that exceeds the exterior one-hour average limit of 50 dBA between 7 a.m. to 10 p.m. and 45 dBA between 10 p.m. and 7 a.m.

Sections 17-234, 17-238, and 17-240, of the City Noise Ordinance establishes noise limitations for construction activities. Except for emergency work, it is unlawful for any person, including the City of Escondido, to operate construction equipment at any construction site from 6 p.m. to 7 a.m., Monday through Friday, and from 5 p.m. to 9 a.m. on Saturdays. Grading activities on Saturday may not begin until 10:00 a.m. and must end by 5:00 p.m. Compliance with the Noise Ordinance would also restrict construction groundborne vibration and noise impacts from disturbing sleep. Between 7 a.m. and 6 p.m.

Monday through Friday and between 9 a.m. and 5 p.m. on Saturdays, construction equipment shall not exceed a one-hour average sound level of 75 dB at any time when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

The San Diego County Code of Regulatory Ordinances also contains requirements related to noise control and abatement (2008). Except for emergency work, it is unlawful for any person in to operate construction equipment at any construction site on Sundays or a holiday, or from 7 p.m. to 7 a.m., Monday through Saturday. It is also unlawful for a person to operate construction equipment, or cause construction equipment to be operated, that exceeds an average sound level of 75 dBA for an 8-hour period, between 7 a.m. and 7 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received. In addition to the general limitations on sound levels, it is also unlawful for a person to produce an impulsive noise that exceeds 82 dBA at a residential property or 85 dBA at an agricultural property. Impulsive noise is defined as a single noise event, or a series of single noise events, which result in a high peak noise level of short duration (one second or less), measured at a specific location. Examples include, but are not limited to, a gunshot, an explosion, or a noise generated by construction equipment.

Environmental Evaluation

Would the project:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less Than Significant with Mitigation Incorporated.

Project Construction Noise Impacts

Construction activities would produce elevated short-term noise levels that may impact NSLUs such as nearby residences and sensitive habitat. General construction activities would include clearing and grubbing, grading, and piping and finish work. Construction may also include hard rock handling (e.g., blasting).

General Construction Activities

The grading phase is typically significantly louder than other phases and has the greatest potential to create noise impacts to off-site NSLUs. Construction equipment during grading would include a dozer, loader, earthmover (scraper), compactor, and excavator. Modeling of construction activities was performed in the Roadway Construction Noise Model, Version 1.1 (RCNM; U.S. Department of Transportation [USDOT] 2008).

A loader typically assists dozer and excavator operation and the construction noise was modeled assuming both in operation at the same time. The compactor and scraper are not expected to be working in close proximity to the other equipment at any given time due to the nature of their respective operations. Therefore, these pieces of equipment were analyzed for construction noise impacts separately (see Appendix D for details).

Project construction would occur as close as 25 feet to the nearest residential property line to the east. Over the course of a typical construction day, the equipment would be in motion on the project site and is assumed to average approximately 100 feet from the nearest property line. The noise levels at 100 feet are shown in Table 6, *Construction Noise Levels*. As shown in the table, construction activities would not exceed 75 dBA L_{EQ} at 100 feet. Therefore, general project construction activities would not exceed City or County Noise Ordinance thresholds, and impacts would be less than significant.

**Table 6
CONSTRUCTION NOISE LEVELS**

Construction Equipment	Noise Level at 100 Feet (dBA L_{EQ})
Compactor	70.2
Dozer and loader	73.6
Excavator and loader	73.0
Scraper	73.6
Breaker	74.0

Source: Appendix D

Hard Rock Handling

Based on the existing surface geology, rock could be encountered during excavation that may require use of a breaker, a rock crusher, and/or blasting. A hydraulically operated impact hammer attached to a tracked excavator is commonly called a breaker. These units are used in site preparation to reduce large granitic materials to a size where they can either be transported off site, buried on site for fill, or used as rip rap or landscaping materials. As shown above in Table 6, a breaker would generate a noise level of 74.0 dBA L_{EQ} at 100 feet, and impacts would be less than significant.

To minimize materials exportation and importation, a rock crusher, consisting of an impact crusher and a jaw crusher, may be utilized. A previous HELIX report measured an impact and rock crusher and determined that their combined noise levels would be 89 dBA L_{EQ} at 50 feet (HELIX 2017). This would attenuate to 82 dBA L_{EQ} at a distance of 110 feet and 75 dBA L_{EQ} at 250 feet. Therefore, a rock crusher would exceed the City’s one-hour noise level limit if operated within 250 feet of the nearest residential property line and the County’s threshold for impulsive noise of 82 dBA L_{MAX} within 110 feet. Therefore, impacts would be potentially significant.

Blasting involves drilling small holes into the rock and placing explosives. Blasting typically includes three components that can result in impacts: flyrock, vibration, and airblast. Flyrock is debris ejected from the blast. Both air and ground vibrations create waves that disturb the material in which they travel; when these waves encounter a structure, they cause it to shake and may cause structural damage. Ground vibrations enter a house through its foundation. Airblast is a pressure wave that creates a push and pull effect; it may be audible (noise) or inaudible (concussion). The concussion wave causes the structure to shake and rattle and can break windows at higher pressure levels.

The closest NSLU to potential blasting would be the residences structures located adjacent to east and south, which would be approximately 125 feet and 200 feet from potential blasting, respectively. The type and quantity of explosive material used, and the potential timing and need for blasts cannot be determined at this time because this information depends on the site-specific conditions and requirements of each location. Given the potential for blasting to be disruptive to nearby NSLUs,

impacts from blasting are assessed as potentially significant. Implementation of Mitigation Measures NOI-1 and NOI-2 would reduce such impacts to below a level of significance.

NOI-1 Rock Crusher Limits. If a rock crusher is required as part of project construction, it shall not be used within 250 feet of the property line for any occupied residence until a temporary noise barrier or berm is constructed at the edge of the development footprint or around the piece of equipment to reduce noise levels below a one-hour limit of 75 dBA L_{EQ} or an impulsive noise level of 82 dBA L_{MAX} at the property line for the occupied residences. If a barrier or berm is used, decibel output shall be confirmed by a City-approved noise specialist. Otherwise, a rock crusher shall be moved a minimum distance of 250 feet from the nearest residence before use.

The temporary noise control barrier or berm shall be tall enough to break the line of sight between the crusher and the sensitive receptors within 250 feet. Typical barriers for a rock crusher would be approximately 12-feet high and would be composed of materials stock piles (i.e., the material that is to be crushed and the material that has been crushed acts as the barrier), or construction scaffolding as a support system for noise control blankets or plywood. Any noise barrier other than the materials stock piles must have engineering approval for wind control, and HELIX is not responsible for those calculations and approval.

NOI-2 Blasting Control Plan. If the proposed project requires blasting, a qualified blasting consultant and geotechnical consultant shall prepare all required blasting plans and monitor all blasting activities in conformance with the Escondido Fire Department Blasting Permit, including monitoring by an approved seismograph located at the nearest man-made structure. Noticing for blasting shall be provided between two and four weeks prior to construction to all residents or property owners within 600 feet of the project site. The announcement shall state specifically where and when construction will occur in the area. If construction delays of more than 7 days occur, an additional notice shall be made, either in person or by mail.

b. Exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels?

Less Than Significant Impact with Mitigation Incorporated. Ground-borne vibration is a concern for projects that require heavy construction activity such as blasting or earthmoving activities. As discussed above, blasting may cause ground-borne vibration that causes structural damage. Typically, ground-borne vibration generated by man-made sources attenuates rapidly with distance from the source of vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly and sick), and vibration-sensitive equipment.

The closest vibration-sensitive land use to potential blasting activities would be the residences located to the east and south, which would be approximately 125 to 200 feet from potential blasting, respectively. The type and quantity of explosive material used, and the potential timing and need for blasts, cannot be determined at this time because this information depends on the site-specific conditions and requirements of each location. Given the potential for ground-borne vibration from blasting to be impact nearby residential land uses, impacts from blasting are assessed as potentially significant. Implementation of Mitigation Measure NOI-2, described above under Response XI.a, would reduce vibration impacts from blasting to a below a level of significance.

In addition to blasting, construction activities associated with the project have the potential to result in ground-borne vibration. Construction vibration would result in a potentially significant impact if it exceeds the Caltrans' severe human response threshold of 0.4 inches per second (in/sec) peak particle velocity (PPV) or if buildings are subject to ground-borne vibration equal to or in excess of 0.3 in/sec PPV from a continuous/frequent intermittent source (Caltrans 2013).

Compaction would be expected to generate the highest vibration levels of a general construction activity. Typically, vibratory rollers are used to compact foundations for roads or buildings. However, the project would use a sheepsfoot compactor, which uses a large roller with padded drums to exert pressure to compact the soil underneath, without vibration. Therefore, this method of compaction is not expected to generate substantial levels of vibration that would affect neighboring uses. Therefore, vibration impacts from general construction activities would be less than significant.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. Project-related noise generation would be primarily limited to short-term construction activities. The pond and connecting 8-inch fill pipeline, once installed, would be passive and would not generate noise. The fill pipeline valve would be manually opened and closed, and no electrical connections would be required or installed. No impact from a permanent increase in ambient noise would occur.

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

Less Than Significant with Mitigation Incorporated. As discussed above under Response XI.a, general construction activities of the proposed project would not exceed the City Noise Ordinance's construction noise thresholds. Rock crushing and blasting may create short-term construction noise impacts that would be potentially significant to nearby residences. However, these impacts would be mitigated with Mitigation Measures NOI-1 and NOI-2.

e. For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, significant impact would occur if the project exposed people residing or working in the project area to excessive noise levels?

No Impact. The proposed project consists of an emergency pond and connecting fill pipeline. The project would not include the construction of structures that would result in people being exposed to noise from a public airport. In addition, the project site is not located within an airport land use plan or Airport Influence Area of a public airport. No impact would occur.

f. For a project within the vicinity of a private airstrip, if the project exposed people residing or working in the project area to excessive noise levels?

No Impact. The proposed project consists of an emergency pond and connecting fill pipeline. The project would not include the construction of structures that would result in people being exposed to noise from a private airstrip. In addition, the project site is not located within the vicinity or Airport Influence Area of a private airstrip. No impact would occur.

References

- California Department of Transportation (Caltrans). 2013. Transportation and Construction Vibration Guidance Manual. California Department of Transportation Division of Environmental Analysis, Environmental Engineering, Hazardous Waste, Air, Noise, Paleontology Office. September.
- Escondido, City of (City). 2012. Escondido General Plan, Downtown Specific Plan and Climate Action Plan EIR, Noise Section. April 23. Available at: <http://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUUpdate/Vol1Noise.pdf>.
- HELIX Environmental Planning, Inc. 2018c. Escondido Emergency Recycled Water Storage Pond Project Construction Noise Modeling. August 22, 2018.
2017. Acoustical Analysis Report, Harmony Grove Village South Project. March.
- San Diego, County of. 2008. Ordinance No. 9962 Amending Title 3, Division 6, Chapter 4 of the San Diego County Code of Regulatory Ordinances Relating to Noise Control and Abatement. Adopted December 10, 2008. Available at: www.sandiegocounty.gov/cob/ordinances/ord9962.doc.
2014. Consolidated Fire Code. November 20.
- U.S. Department of Transportation (USDOT). 2008. Roadway Construction Noise Model (RCNM), Version 1.1. December 8.

XIII. POPULATION AND HOUSING

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

- a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project consists of an emergency recycled water storage pond and would not induce population growth. The proposed project would provide recycled water to meet existing agricultural irrigation demands, and therefore, would not increase the capacity of or otherwise expand the recycled water system in direct support of new population or economic expansion. The project would also not affect existing housing in the area. Therefore, no impacts are expected, and no mitigation measures are required.

XIV. PUBLIC SERVICES

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

- a. **Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

1. **Fire Protection**
2. **Police Protection**
3. **Schools**
4. **Parks**
5. **Other Public Facilities**

No Impact. The proposed emergency recycled water storage pond project does not include new homes or businesses that would require any additional services or extended response times for fire or police protection services. Furthermore, the proposed project would not change existing demand for schools, parks, or other public facilities because population growth would not result from implementation of the project. Therefore, no impacts to public services would occur due to the proposed project.

XV. RECREATION

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

- a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The project consists of the construction of an emergency recycled water storage pond. The project would not increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The proposed project would also not include the construction or expansion of recreational facilities. Therefore, no impacts would occur.

XVI. TRANSPORTATION/TRAFFIC

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass-transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Evaluation

Would the project:

- a. **Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?**

Less Than Significant Impact. Project-related traffic increases would primarily be associated with construction activities and would be short term and temporary. Such traffic would be minor, and would include deliveries of equipment and materials, construction employee travel to and from the work site, and potential hauling of excavation material off site (if necessary). Travel routes for construction workers and truck trips would typically follow SR 78 westward to I-15 (refer to Figure 1). Data from 2016 show average daily westbound traffic on SR 78 between Cloverdale Road (to the southeast of the project site) to the junction with I-15 ranged from 12,500 to 86,000 trips per day (Caltrans 2016). The project would add approximately 100 trips per day (50 trips in and 50 trips out) of truck traffic to SR 78 during construction for grading activities, which would result in an increase in traffic of less than one percent. Local streets such as South Citrus Avenue, Summit/Skyline Drive, Idaho Avenue, and Oro Verde Road could be utilized for travel to the entrance to the project site through the access road off of Via Sinsonte (refer to Figure 2). While short-term daily construction traffic would increase on these roadways, the number of trips would not be substantial and would not have a significant impact on level of service. No substantial increases in traffic in relation to the existing low-volume traffic load and capacity of the surrounding street system is anticipated following construction. Operational traffic would be limited to inspection, maintenance, and/or repair activities, which would occur infrequently; as well as during wet weather events when a City employee would visit the pond to manually open and close the fill valve. It is estimated that these activities would occur up to approximately 12 times per year.

The intermittent operational traffic and the short-term construction traffic resulting from the proposed project would not result in conflicts with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Based on these factors, less-than-significant impacts would occur as a result of project implementation.

- b. **Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

No Impact. The Congestion Management Program (CMP) prepared by SANDAG for the San Diego region only requires a traffic analysis for large-scale projects that generate at least 2,400 daily trips or 200 or more peak-hour trips (SANDAG 2008). The proposed project does not meet the daily or peak-hour trip generation threshold; therefore, no detailed CMP arterial analysis is required and no associated impacts would occur.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The proposed project does not include aviation components or structures where height would be an aviation concern and, therefore, would not affect air traffic patterns. No associated air traffic impacts would occur.

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

No Impact. The proposed project would construct an emergency recycled water storage pond and would not alter existing roadways or include hazardous design features such as sharp curves or dangerous intersections. No incompatible uses are proposed. As such, no impacts related to traffic hazards would occur.

e. Result in inadequate emergency access?

Less Than Significant Impact. Impacts to emergency vehicle access within the project vicinity during construction are not expected to occur. Other than the movement of construction equipment and vehicles to and from the project site, construction-related activities would not be located within public roadway right-of-way and are not anticipated to interfere with normal traffic flow or emergency response access to the project area. On-site operational activities would involve minimal traffic in and out of the project site for occasional maintenance visits and wet weather visits to fill the pond. Such intermittent operational activities are not expected to result in interference with emergency response access. Accordingly, impacts associated with emergency access would be less than significant.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. No road or traffic improvements or land use changes which would affect alternative transportation are proposed as part of this project. As such, no related impacts would occur.

References

California Department of Transportation (Caltrans). 2016. 2016 Traffic Volumes on California State Highways. Available at: http://dot.ca.gov/trafficops/census/docs/2016_aadt_volumes.pdf.

San Diego Association of Governments (SANDAG). 2008. Final 2008 Congestion Management Program Update. November.

XVII. TRIBAL CULTURAL RESOURCES

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p>				
<p>a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k); or</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Evaluation

Would the project:

- a. **Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?**

Less Than Significant with Mitigation Incorporated. Assembly Bill (AB) 52, effective July 1, 2015, introduced the Tribal Cultural Resource (TCR) as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. A TCR may be considered significant if included in a local or state register of historical resources; determined by the lead agency to be significant pursuant to criteria set forth in Public Resources Code §5024.1; is a geographically defined cultural landscape that meets one or more of these criteria; is a historical resource described in Public Resources Code §21084.1, a unique archaeological resources described in Public Resources Code §21083.2; or is a non-unique archaeological resource if it conforms with the above criteria.

HELIX contacted the NAHC for a SLF search of the project site and for a list of consultant tribes with traditional lands or cultural places within the project site. A response was received on April 19, 2016, stating that a search of the SLF “was completed for the USGS quadrangle information provided with negative results.” It was noted that the absence of specific site information does not mean there are no Native American cultural resources within the project area. Letters were sent on April 20, 2016 to the

contacts provided by the NAHC. Follow-up phone calls were made on December 5, 2016. Two tribal contacts, Carmen Mojado of the San Luis Rey Band of Mission Indians and Clint Linton of the Lipay Nation of Santa Ysabel, responded that they recommend monitoring by both Kumeyaay and Luiseño Native American monitors during all ground-disturbing construction activities. Virgil Perez, Chairman of the Lipay Nation of Santa Ysabel, requested additional information on the project. An email was sent to him providing further information on December 5, 2016. Additionally, three Tribes (Rincon, San Luis Rey and Soboba) were mailed and emailed notification regarding the proposed project in conformance with Assembly Bill AB 52. Only one tribe (Rincon) responded requesting monitoring, but no formal consultation was requested. The City did not receive any request from the three Tribes for formal consultation regarding this project; however, a formal consultation with the San Luis Rey Tribe was held on March 9, 2017 regarding several projects in Escondido, during which City Planning staff did provide an overview of the proposed Emergency Storage Pond Project. Staff also indicated the standard mitigation measures developed with the San Luis Rey Tribe most likely would be required for the project due to the presence of cultural resources, the content of which are included as mitigation measures CUL-1 through CUL-10 in this IS/MND. Implementation of mitigation measures CUL-1 through CUL-10 would reduce potential impacts to TCRs to a less than significant level.

- b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in Subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?**

Less Than Significant with Mitigation Incorporated. See response XV.a., above.

XVIII. UTILITIES AND SERVICE SYSTEMS

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Evaluation

Would the project:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The project consists of the construction of an emergency recycled water storage pond. Construction and operation of the proposed project would not generate wastewater and no associated impacts would occur.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed project would not require or result in the construction of new or expanded water or wastewater treatment facilities, or expansion of existing facilities. The project entails construction and operation of an emergency recycled water storage pond to capture heavy wet weather flows from the City's HARRF; without implementation of the proposed pond, excess recycled water would flow to the land outfall and then to Escondido Creek. Therefore, no new or expanded water or wastewater treatment facilities would be required, and no impact would occur.

c. Require, or result in, the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than Significant Impact. The proposed project would not require the expansion of any off-site storm water drainage facilities. Construction of the proposed project would temporarily alter storm water flows at the project site due to ground disturbing activities; however, implementation of BMPs as described above under *Hydrology and Water Quality* would minimize the potential for flooding, reducing water flow to storm water drainage systems. Once construction is complete, the emergency storage pond would capture some storm water runoff and would help reduce the amount of flow exiting the site. Although the project would include a new impervious surface (i.e., the access road surrounding the pond), increased drainage from this small addition of impervious surface would be offset by the pond's ability to capture storm water flows. Therefore, the proposed project would aid in drainage

rather than requiring or resulting in construction of new storm water facilities or expansion of existing facilities. Associated storm water drainage impacts would be less than significant.

- d. **Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**
- e. **Result in a determination by the wastewater treatment provider which serves, or may serve, the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?**

No Impact. The proposed project is an emergency recycled water storage pond that would be used to receive excess treated flows from the City’s HARRF during heavy wet weather events. The project would not draw on potable water supplies, nor would it generate wastewater. No associated supply or treatment capacity impacts would occur.

- f. **Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?**

No Impact. Solid waste generation during construction of the proposed project would be short-term and minimal. Operation of the emergency recycled water storage pond would not generate solid waste or affect landfill capacities; therefore, no associated impact would occur.

- g. **Comply with federal, state, and local statutes and regulations related to solid waste?**

Less than Significant Impact. The proposed project is an emergency recycled water storage pond that, during operations, would not generate solid waste. Project construction would not involve demolition of any existing structures; rather, solid waste generation during construction would be minimal and limited to a single portable restroom for construction workers and, if necessary, heavy rock materials that may need to be removed from the site. Therefore, the amount of solid waste generated by project construction would be relatively small and would comply with federal, state, and local statutes and regulations related to solid waste. Associated impacts would be less than significant.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Does the project have impacts that are individually limited, but cumulatively considerable (“cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?				

Less than Significant with Mitigation Incorporated. The project is not expected to impact resources related to major periods of California history or prehistory. Based on the presence of cultural resources in the vicinity of the project site, however, the project would have the potential to impact unknown subsurface cultural resources. With implementation of mitigation measures CUL-1 through CUL-10, however, impacts to unknown subsurface cultural resources would be reduced to below a level of significance.

The proposed project would permanently remove approximately 6.5 acres of sensitive Diegan coastal sage scrub; however, with implementation of mitigation measures BIO-3 through BIO-5, a like amount of the same habitat would be preserved in perpetuity and construction-phase additional impacts/edge effects would be avoided; as such, associated impacts would be reduced to below a level of significance. The project would have the potential to impact the coastal California gnatcatcher and MBTA- and CFG Code-covered species. With implementation of mitigation measures BIO-1 and BIO-2, however, associated impacts to bird species would be reduced to below a level of significance.

b. Does the project have impacts that are individually limited, but cumulatively considerable (“cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Less than Significant Impact. Cumulative impacts are defined as two or more individual project effects that, when considered together or in concert with other projects, combine to result in a significant impact (CEQA Guidelines Section 15355). The proposed emergency recycled water storage pond project, which is almost exclusively limited to construction-related effects, would not result in impacts that are cumulatively considerable. No significant air or GHG emissions would occur, removal of sensitive habitat would be fully mitigated, impacts to unknown buried cultural resources would be avoided through construction monitoring, and temporary noise effects would be limited through implementation of noise abatement measures.

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation Incorporated. The proposed project would adhere to regulatory codes, ordinances, regulations, standards, and guidelines for a number of issue areas addressed herein. Based on such regulatory compliance, in addition to the project's lack of potential to result in adverse effects on human beings (e.g., related to emissions, hazards, flooding, etc.), and in conjunction with the discussed mitigation measures for noise (NOI-1 and NOI-2), the proposed project would not result in a substantial adverse effect on human beings either directly or indirectly.

Appendix A

Air Quality and Greenhouse Gas Emissions Calculations

Escondido Emergency Storage Pond - San Diego County, Winter

Escondido Emergency Storage Pond
San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	2.88	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2019
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Escondido Emergency Storage Pond - San Diego County, Winter

Project Characteristics -

Land Use - Acreage based on GIS.

Construction Phase - Schedule received from Water Synergy Inc.

Off-road Equipment - Construction equipment list received from Water Synergy Inc. HP kept as default, which is more conservative.

Off-road Equipment - Default construction equipment list altered to more closely align with information received from Water Synergy Inc.

Off-road Equipment - Default construction equipment list altered to more closely align with information received from Water Synergy Inc.

Off-road Equipment - Default construction equipment list altered to more closely align with information received from Water Synergy Inc.

Grading -

Construction Off-road Equipment Mitigation -

Trips and VMT -

Vehicle Trips - Assumed 12 trips per year

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	6.00	64.00
tblConstructionPhase	NumDays	6.00	90.00
tblConstructionPhase	NumDays	3.00	45.00
tblGrading	MaterialExported	0.00	50,000.00
tblLandUse	LotAcreage	0.00	2.88
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	WD_TR	0.00	0.03

2.0 Emissions Summary

Escondido Emergency Storage Pond - San Diego County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Escondido Emergency Storage Pond - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Clear and Grub	Site Preparation	4/3/2017	6/2/2017	5	45	
2	Grading	Grading	6/3/2017	8/31/2017	5	64	
3	Piping and Finish Work	Grading	9/1/2017	1/4/2018	5	90	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 96

Acres of Paving: 0

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

OffRoad Equipment

Escondido Emergency Storage Pond - San Diego County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Excavators	1	8.00	158	0.38
Architectural Coating	Rubber Tired Loaders	1	8.00	203	0.36
Clear and Grub	Graders	1	8.00	187	0.41
Clear and Grub	Scrapers	0	8.00	367	0.48
Clear and Grub	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	1	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Piping and Finish Work	Graders	0	8.00	187	0.41
Piping and Finish Work	Rubber Tired Dozers	1	8.00	247	0.40
Piping and Finish Work	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Clear and Grub	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	6,250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Piping and Finish Work	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Escondido Emergency Storage Pond - San Diego County, Winter

3.2 Clear and Grub - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.8128	10.1343	4.0541	9.3800e-003		0.4439	0.4439		0.4084	0.4084		959.7370	959.7370	0.2941		967.0885
Total	0.8128	10.1343	4.0541	9.3800e-003	0.5303	0.4439	0.9742	0.0573	0.4084	0.4657		959.7370	959.7370	0.2941		967.0885

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768
Total	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768

Escondido Emergency Storage Pond - San Diego County, Winter

3.2 Clear and Grub - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.8128	10.1343	4.0541	9.3800e-003		0.4439	0.4439		0.4084	0.4084	0.0000	959.7370	959.7370	0.2941		967.0885
Total	0.8128	10.1343	4.0541	9.3800e-003	0.5303	0.4439	0.9742	0.0573	0.4084	0.4657	0.0000	959.7370	959.7370	0.2941		967.0885

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768
Total	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768

Escondido Emergency Storage Pond - San Diego County, Winter

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.7226	0.0000	7.7226	3.4986	0.0000	3.4986			0.0000			0.0000
Off-Road	4.0353	46.9228	24.6902	0.0414		2.1668	2.1668		1.9942	1.9942		4,223.2305	4,223.2305	1.2870		4,255.4057
Total	4.0353	46.9228	24.6902	0.0414	7.7226	2.1668	9.8894	3.4986	1.9942	5.4928		4,223.2305	4,223.2305	1.2870		4,255.4057

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0794	34.2402	7.3222	0.0782	1.7065	0.1944	1.9008	0.4677	0.1859	0.6536		8,476.7682	8,476.7682	0.7946		8,496.6328
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0955	0.0701	0.6630	1.5700e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		156.0093	156.0093	5.8800e-003		156.1564
Total	1.1749	34.3103	7.9852	0.0798	1.8544	0.1954	2.0498	0.5069	0.1870	0.6939		8,632.7775	8,632.7775	0.8005		8,652.7892

Escondido Emergency Storage Pond - San Diego County, Winter

3.3 Grading - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.7226	0.0000	7.7226	3.4986	0.0000	3.4986			0.0000			0.0000
Off-Road	4.0353	46.9228	24.6902	0.0414		2.1668	2.1668		1.9942	1.9942	0.0000	4,223.2305	4,223.2305	1.2870		4,255.4057
Total	4.0353	46.9228	24.6902	0.0414	7.7226	2.1668	9.8894	3.4986	1.9942	5.4928	0.0000	4,223.2305	4,223.2305	1.2870		4,255.4057

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0794	34.2402	7.3222	0.0782	1.7065	0.1944	1.9008	0.4677	0.1859	0.6536		8,476.7682	8,476.7682	0.7946		8,496.6328
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0955	0.0701	0.6630	1.5700e-003	0.1479	1.0900e-003	0.1490	0.0392	1.0100e-003	0.0402		156.0093	156.0093	5.8800e-003		156.1564
Total	1.1749	34.3103	7.9852	0.0798	1.8544	0.1954	2.0498	0.5069	0.1870	0.6939		8,632.7775	8,632.7775	0.8005		8,652.7892

Escondido Emergency Storage Pond - San Diego County, Winter

3.4 Piping and Finish Work - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.5480	16.4105	7.0205	0.0116		0.8832	0.8832		0.8126	0.8126		1,192.2284	1,192.2284	0.3653		1,201.3608
Total	1.5480	16.4105	7.0205	0.0116	6.0221	0.8832	6.9053	3.3102	0.8126	4.1228		1,192.2284	1,192.2284	0.3653		1,201.3608

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768
Total	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768

Escondido Emergency Storage Pond - San Diego County, Winter

3.4 Piping and Finish Work - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.5480	16.4105	7.0205	0.0116		0.8832	0.8832		0.8126	0.8126	0.0000	1,192.2284	1,192.2284	0.3653		1,201.3608
Total	1.5480	16.4105	7.0205	0.0116	6.0221	0.8832	6.9053	3.3102	0.8126	4.1228	0.0000	1,192.2284	1,192.2284	0.3653		1,201.3608

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768
Total	0.0265	0.0195	0.1842	4.4000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		43.3359	43.3359	1.6300e-003		43.3768

Escondido Emergency Storage Pond - San Diego County, Winter

3.4 Piping and Finish Work - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4322	15.1897	6.7132	0.0116		0.7969	0.7969		0.7331	0.7331		1,172.949 3	1,172.949 3	0.3652		1,182.078 2
Total	1.4322	15.1897	6.7132	0.0116	6.0221	0.7969	6.8190	3.3102	0.7331	4.0434		1,172.949 3	1,172.949 3	0.3652		1,182.078 2

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0240	0.0172	0.1624	4.2000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1164	42.1164	1.4600e-003		42.1529
Total	0.0240	0.0172	0.1624	4.2000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1164	42.1164	1.4600e-003		42.1529

Escondido Emergency Storage Pond - San Diego County, Winter

3.4 Piping and Finish Work - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.4322	15.1897	6.7132	0.0116		0.7969	0.7969		0.7331	0.7331	0.0000	1,172.949 3	1,172.949 3	0.3652		1,182.078 2
Total	1.4322	15.1897	6.7132	0.0116	6.0221	0.7969	6.8190	3.3102	0.7331	4.0434	0.0000	1,172.949 3	1,172.949 3	0.3652		1,182.078 2

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0240	0.0172	0.1624	4.2000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1164	42.1164	1.4600e-003		42.1529
Total	0.0240	0.0172	0.1624	4.2000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.7000e-004	0.0112		42.1164	42.1164	1.4600e-003		42.1529

4.0 Operational Detail - Mobile

Escondido Emergency Storage Pond - San Diego County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.581689	0.044135	0.186694	0.113515	0.018244	0.005600	0.015197	0.022573	0.001888	0.002088	0.006279	0.000742	0.001357

Escondido Emergency Storage Pond - San Diego County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Escondido Emergency Storage Pond - San Diego County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Escondido Emergency Storage Pond - San Diego County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Escondido Emergency Storage Pond - San Diego County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Escondido Emergency Storage Pond - San Diego County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Escondido Emergency Storage Pond - San Diego County, Annual

Escondido Emergency Storage Pond
San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	2.88	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2019
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Escondido Emergency Storage Pond - San Diego County, Annual

Project Characteristics -

Land Use - Acreage based on GIS.

Construction Phase - Schedule received from Water Synergy Inc.

Off-road Equipment - Construction equipment list received from Water Synergy Inc. HP kept as default, which is more conservative.

Off-road Equipment - Default construction equipment list altered to more closely align with information received from Water Synergy Inc.

Off-road Equipment - Default construction equipment list altered to more closely align with information received from Water Synergy Inc.

Off-road Equipment - Default construction equipment list altered to more closely align with information received from Water Synergy Inc.

Grading -

Construction Off-road Equipment Mitigation -

Trips and VMT -

Vehicle Trips - Assumed 12 trips per year

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstructionPhase	NumDays	6.00	64.00
tblConstructionPhase	NumDays	6.00	90.00
tblConstructionPhase	NumDays	3.00	45.00
tblGrading	MaterialExported	0.00	50,000.00
tblLandUse	LotAcreage	0.00	2.88
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblVehicleTrips	WD_TR	0.00	0.03

2.0 Emissions Summary

Escondido Emergency Storage Pond - San Diego County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-3-2017	7-2-2017	0.9213	0.9213
2	7-3-2017	9-30-2017	1.8427	1.8427
		Highest	1.8427	1.8427

2.2 Overall Operational
Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Escondido Emergency Storage Pond - San Diego County, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Clear and Grub	Site Preparation	4/3/2017	6/2/2017	5	45	
2	Grading	Grading	6/3/2017	8/31/2017	5	64	
3	Piping and Finish Work	Grading	9/1/2017	1/4/2018	5	90	

Escondido Emergency Storage Pond - San Diego County, Annual

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 96

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Excavators	1	8.00	158	0.38
Architectural Coating	Rubber Tired Loaders	1	8.00	203	0.36
Clear and Grub	Graders	1	8.00	187	0.41
Clear and Grub	Scrapers	0	8.00	367	0.48
Clear and Grub	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Plate Compactors	1	8.00	8	0.43
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	1	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Piping and Finish Work	Graders	0	8.00	187	0.41
Piping and Finish Work	Rubber Tired Dozers	1	8.00	247	0.40
Piping and Finish Work	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Escondido Emergency Storage Pond - San Diego County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Clear and Grub	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	6,250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Piping and Finish Work	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Clear and Grub - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0119	0.0000	0.0119	1.2900e-003	0.0000	1.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0183	0.2280	0.0912	2.1000e-004		9.9900e-003	9.9900e-003		9.1900e-003	9.1900e-003	0.0000	19.5898	19.5898	6.0000e-003	0.0000	19.7399
Total	0.0183	0.2280	0.0912	2.1000e-004	0.0119	9.9900e-003	0.0219	1.2900e-003	9.1900e-003	0.0105	0.0000	19.5898	19.5898	6.0000e-003	0.0000	19.7399

Escondido Emergency Storage Pond - San Diego County, Annual

3.2 Clear and Grub - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.3000e-004	4.1300e-003	1.0000e-005	9.0000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8934	0.8934	3.0000e-005	0.0000	0.8942
Total	5.3000e-004	4.3000e-004	4.1300e-003	1.0000e-005	9.0000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8934	0.8934	3.0000e-005	0.0000	0.8942

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0119	0.0000	0.0119	1.2900e-003	0.0000	1.2900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0183	0.2280	0.0912	2.1000e-004		9.9900e-003	9.9900e-003		9.1900e-003	9.1900e-003	0.0000	19.5898	19.5898	6.0000e-003	0.0000	19.7399
Total	0.0183	0.2280	0.0912	2.1000e-004	0.0119	9.9900e-003	0.0219	1.2900e-003	9.1900e-003	0.0105	0.0000	19.5898	19.5898	6.0000e-003	0.0000	19.7399

Escondido Emergency Storage Pond - San Diego County, Annual

3.2 Clear and Grub - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.3000e-004	4.3000e-004	4.1300e-003	1.0000e-005	9.0000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8934	0.8934	3.0000e-005	0.0000	0.8942
Total	5.3000e-004	4.3000e-004	4.1300e-003	1.0000e-005	9.0000e-004	1.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8934	0.8934	3.0000e-005	0.0000	0.8942

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2471	0.0000	0.2471	0.1120	0.0000	0.1120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1291	1.5015	0.7901	1.3300e-003		0.0693	0.0693		0.0638	0.0638	0.0000	122.6000	122.6000	0.0374	0.0000	123.5341
Total	0.1291	1.5015	0.7901	1.3300e-003	0.2471	0.0693	0.3165	0.1120	0.0638	0.1758	0.0000	122.6000	122.6000	0.0374	0.0000	123.5341

Escondido Emergency Storage Pond - San Diego County, Annual

3.3 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0340	1.1061	0.2250	2.5300e-003	0.0535	6.1500e-003	0.0596	0.0147	5.8900e-003	0.0206	0.0000	248.3944	248.3944	0.0226	0.0000	248.9591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7200e-003	2.2000e-003	0.0212	5.0000e-005	4.6200e-003	3.0000e-005	4.6500e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	4.5741	4.5741	1.7000e-004	0.0000	4.5784
Total	0.0368	1.1083	0.2461	2.5800e-003	0.0581	6.1800e-003	0.0643	0.0159	5.9200e-003	0.0218	0.0000	252.9685	252.9685	0.0228	0.0000	253.5375

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2471	0.0000	0.2471	0.1120	0.0000	0.1120	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1291	1.5015	0.7901	1.3300e-003		0.0693	0.0693		0.0638	0.0638	0.0000	122.5999	122.5999	0.0374	0.0000	123.5339
Total	0.1291	1.5015	0.7901	1.3300e-003	0.2471	0.0693	0.3165	0.1120	0.0638	0.1758	0.0000	122.5999	122.5999	0.0374	0.0000	123.5339

Escondido Emergency Storage Pond - San Diego County, Annual

3.3 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0340	1.1061	0.2250	2.5300e-003	0.0535	6.1500e-003	0.0596	0.0147	5.8900e-003	0.0206	0.0000	248.3944	248.3944	0.0226	0.0000	248.9591
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7200e-003	2.2000e-003	0.0212	5.0000e-005	4.6200e-003	3.0000e-005	4.6500e-003	1.2300e-003	3.0000e-005	1.2600e-003	0.0000	4.5741	4.5741	1.7000e-004	0.0000	4.5784
Total	0.0368	1.1083	0.2461	2.5800e-003	0.0581	6.1800e-003	0.0643	0.0159	5.9200e-003	0.0218	0.0000	252.9685	252.9685	0.0228	0.0000	253.5375

3.4 Piping and Finish Work - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0666	0.7057	0.3019	5.0000e-004		0.0380	0.0380		0.0349	0.0349	0.0000	46.5076	46.5076	0.0143	0.0000	46.8638
Total	0.0666	0.7057	0.3019	5.0000e-004	0.2710	0.0380	0.3090	0.1490	0.0349	0.1839	0.0000	46.5076	46.5076	0.0143	0.0000	46.8638

Escondido Emergency Storage Pond - San Diego County, Annual

3.4 Piping and Finish Work - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	8.2000e-004	7.9000e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.7073	1.7073	6.0000e-005	0.0000	1.7089
Total	1.0200e-003	8.2000e-004	7.9000e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.7073	1.7073	6.0000e-005	0.0000	1.7089

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0666	0.7057	0.3019	5.0000e-004		0.0380	0.0380		0.0349	0.0349	0.0000	46.5075	46.5075	0.0143	0.0000	46.8638
Total	0.0666	0.7057	0.3019	5.0000e-004	0.2710	0.0380	0.3090	0.1490	0.0349	0.1839	0.0000	46.5075	46.5075	0.0143	0.0000	46.8638

Escondido Emergency Storage Pond - San Diego County, Annual

3.4 Piping and Finish Work - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0200e-003	8.2000e-004	7.9000e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.7073	1.7073	6.0000e-005	0.0000	1.7089
Total	1.0200e-003	8.2000e-004	7.9000e-003	2.0000e-005	1.7200e-003	1.0000e-005	1.7400e-003	4.6000e-004	1.0000e-005	4.7000e-004	0.0000	1.7073	1.7073	6.0000e-005	0.0000	1.7089

3.4 Piping and Finish Work - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8600e-003	0.0304	0.0134	2.0000e-005		1.5900e-003	1.5900e-003		1.4700e-003	1.4700e-003	0.0000	2.1282	2.1282	6.6000e-004	0.0000	2.1447
Total	2.8600e-003	0.0304	0.0134	2.0000e-005	0.2710	1.5900e-003	0.2726	0.1490	1.4700e-003	0.1504	0.0000	2.1282	2.1282	6.6000e-004	0.0000	2.1447

Escondido Emergency Storage Pond - San Diego County, Annual

3.4 Piping and Finish Work - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.2000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0772	0.0772	0.0000	0.0000	0.0772
Total	4.0000e-005	3.0000e-005	3.2000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0772	0.0772	0.0000	0.0000	0.0772

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8600e-003	0.0304	0.0134	2.0000e-005		1.5900e-003	1.5900e-003		1.4700e-003	1.4700e-003	0.0000	2.1282	2.1282	6.6000e-004	0.0000	2.1447
Total	2.8600e-003	0.0304	0.0134	2.0000e-005	0.2710	1.5900e-003	0.2726	0.1490	1.4700e-003	0.1504	0.0000	2.1282	2.1282	6.6000e-004	0.0000	2.1447

Escondido Emergency Storage Pond - San Diego County, Annual

3.4 Piping and Finish Work - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.2000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0772	0.0772	0.0000	0.0000	0.0772
Total	4.0000e-005	3.0000e-005	3.2000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0772	0.0772	0.0000	0.0000	0.0772

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Escondido Emergency Storage Pond - San Diego County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.581689	0.044135	0.186694	0.113515	0.018244	0.005600	0.015197	0.022573	0.001888	0.002088	0.006279	0.000742	0.001357

5.0 Energy Detail

Historical Energy Use: N

Escondido Emergency Storage Pond - San Diego County, Annual

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000							

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Escondido Emergency Storage Pond - San Diego County, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Escondido Emergency Storage Pond - San Diego County, Annual

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

Escondido Emergency Storage Pond - San Diego County, Annual

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Escondido Emergency Storage Pond - San Diego County, Annual

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Escondido Emergency Storage Pond - San Diego County, Annual

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

Escondido Emergency Storage Pond - San Diego County, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Appendix B1

Biological Technical Report

Emergency Recycled Water Storage Pond Project

Biological Technical Report

September 2018 | WSY-03



Beth Ehsan

Biology Project Manager



Jason Kurnow
Senior Biologist

Prepared for:

City of Escondido
201 N Broadway
Escondido, CA 92025

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Emergency Recycled Water Storage Pond Project

Biological Technical Report

Prepared for:

City of Escondido
201 N Broadway
Escondido, CA 92025

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

September 2018 | WSY-03

TABLE OF CONTENTS

Section	Page
ES EXECUTIVE SUMMARY	E1
1.0 INTRODUCTION.....	1
1.1 Project Location	1
1.2 Project Description	1
2.0 METHODS.....	2
2.1 Literature Review.....	2
2.2 Biological Surveys	2
2.2.1 General Biological Survey	2
2.2.2 Rare Plant Survey.....	3
2.2.3 Coastal California Gnatcatcher Surveys	3
2.2.4 Jurisdictional Delineation.....	3
2.2.5 Nomenclature	3
3.0 EXISTING CONDITIONS.....	3
3.1 General Land Uses	3
3.2 Topography and Soils.....	3
3.3 Vegetation Communities	3
3.3.1 Southern Willow Scrub	4
3.3.2 Diegan Coastal Sage Scrub.....	4
3.3.3 Disturbed Habitat	4
3.3.4 Urban/Developed	5
3.4 Plants	5
3.5 Animals	5
4.0 SENSITIVE RESOURCES	5
4.1 Sensitive Vegetation Communities.....	5
4.2 Sensitive Plant Species.....	5
4.3 Sensitive Animal Species.....	7
4.4 Jurisdictional Waters and Wetlands	11
4.5 Wildlife Corridor/Core Wildlife Areas.....	11
5.0 REGULATORY FRAMEWORK.....	12
5.1 Federal	12
5.2 State	13
5.3 Local	13
5.3.1 Multiple Species Conservation Program.....	14
5.3.2 Biological Mitigation Ordinance	14

TABLE OF CONTENTS (cont.)

<u>Section</u>	<u>Page</u>
6.0	SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION 15
6.1	Issue 1: Special-Status Species..... 15
6.1.1	Issue 1 Impact Analysis 15
6.1.2	Issue 1 Mitigation Measures..... 16
6.2	Issue 2: Sensitive Natural Communities 18
6.2.1	Issue 2 Impact Analysis 18
6.2.2	Issue 2 Mitigation Measures..... 19
6.3	Issue 3: Wetlands..... 20
6.3.1	Issue 3 Impact Analysis 20
6.3.2	Issue 3 Mitigation Measures..... 20
6.4	Issue 4: Wildlife Movement and Nursery Sites..... 20
6.4.1	Issue 4 Impact Analysis 20
6.4.2	Issue 4 Mitigation Measures..... 21
6.5	Issue 5: Local Policies and Ordinances..... 21
6.5.1	Issue 5 Impact Analysis 21
6.5.2	Issue 5 Mitigation Measures..... 21
6.6	Issue 6: Adopted Conservation Plans 21
6.6.1	Issue 6 Impact Analysis 21
6.6.2	Issue 6 Mitigation Measures..... 22
7.0	FEDERAL CONFORMANCE ANALYSIS FOR BIOLOGICAL RESOURCES ISSUES 22
7.1	ISSUE 1: Federal Endangered Species Act, Section 7 22
7.2	ISSUE 2: Magnuson-Stevens Fishery Conservation and Management Act, Essential Fish Habitat 23
7.3	ISSUE 3: Coastal Zone Management Act..... 23
7.4	ISSUE 4: Migratory Bird Treaty Act 24
7.5	ISSUE 5: Protection of Wetlands..... 24
7.6	ISSUE 6: Wild and Scenic River Act 24
8.0	CERTIFICATION/QUALIFICATION..... 25
9.0	REFERENCES..... 26

LIST OF APPENDICES

- A Plant Species Observed
- B Animal Species Observed
- C Explanation of Status Codes for Plant and Animal Species

TABLE OF CONTENTS (cont.)

LIST OF FIGURES

<u>No.</u>	<u>Title</u>	<u>Follows Page</u>
1	Regional Location.....	2
2	USGS Topography	2
3	Project Vicinity (Aerial Photograph)	2
4	Subarea Plan Designations.....	2
5	Soils Map.....	4
6	Vegetation and Sensitive Resources/Impacts.....	4

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Vegetation Communities within the Survey Area	4
2	Sensitive Plant Species with Potential to Occur	6
3	Sensitive Animal Species with Potential to Occur	8
4	Vegetation Community Impacts	19

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

This biological technical report was prepared to evaluate the proposed Emergency Recycled Water Storage Pond Project. The approximately 7.2-acre project site is located within the County of San Diego (County). The project site is located within the Metro-Lakeside-Jamul Segment of the County's Multiple Species Conservation Program (MSCP; County 1997).

The project proposes to construct an emergency pond, which would act as emergency storage of recycled water. The emergency storage would be utilized to reduce flows to the land outfall during wet weather storm events at the City of Escondido's (City's) Hale Avenue Resource Recovery Facility. This emergency storage would only be used if the flows are exceeding the discharge capacity of the land outfall and the effluent would otherwise spill to Escondido Creek.

Three vegetation communities and/or land uses occur within the project site: Diegan coastal sage scrub, disturbed habitat, and urban/developed. There is a small area north of the project site where southern willow scrub was observed along a streambed; however, the project was specifically designed to avoid any impacts to southern willow scrub or streambed. The project site itself is characterized entirely by uplands that lack waters and wetlands subject to the regulatory jurisdiction of U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and/or County as Resource Protection Ordinance wetlands. No sensitive plant species were observed within the project site. No federal or state listed as endangered or threatened animal species were observed or detected within the project site. The federally-listed as threatened coastal California gnatcatcher (*Polioptila californica californica*) was observed off site, within 300 feet of areas proposed for project access during construction and operation.

The project would result in potential significant impacts on special status species and sensitive natural communities. No direct impacts to special status species are anticipated as none were observed or detected within the project site; however, the coastal California gnatcatcher was observed off site and within 500 feet of construction areas for the project. The site supports suitable nesting habitat for bird species protected under the federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG Code). Project implementation would further result in unavoidable impacts to 6.5 acres of Diegan coastal sage scrub, which is a sensitive natural community.

The project would mitigate potential indirect impacts on coastal California gnatcatcher by restricting construction activities to periods outside of the species' breeding season, completing pre-construction surveys to verify the species' continued absence within potential impact areas, and implementing noise attenuation measures to ensure no indirect impacts occur. If, during pre-construction surveys, the species is unexpectedly found to occupy areas that could be impacted by the project, consultation with the U.S. Fish and Wildlife Service will be required. If removal of nesting habitat for birds protected under the MBTA and CFG Code must occur during the general breeding season, pre-construction surveys shall be completed, and no impacts to active bird nests shall be allowed. The project would mitigate impacts to 6.5 acres of Diegan coastal sage scrub off-site at a minimum ratio of 1:1 through purchase of Diegan coastal sage scrub mitigation credits from the City's Daley Ranch Conservation Bank or other approved mitigation bank. Implementation of avoidance and minimization measures and Best Management Practices will ensure that no additional impacts occur to off-site habitat that will be avoided during

construction. Implementation of these mitigation measures would reduce impacts on biological resources below a level of significance.

1.0 INTRODUCTION

This report describes biological conditions for the proposed Emergency Recycled Water Storage Pond Project (hereinafter referred to as “project” or “proposed project”). It provides the project applicant (City of Escondido [City]), resource agencies, and public with current biological data to satisfy project review under the California Environmental Quality Act (CEQA) and other federal, state, and local regulations. This report describes vegetation communities and plant and animal species within the project site, which encompasses the proposed access route and pond location, and identifies sensitive resources that occur or have potential to occur within the project site. Impacts to biological resources from the proposed project are assessed, and mitigation is proposed for significant biological impacts from project implementation.

1.1 PROJECT LOCATION

The project site is located within the San Dieguito community plan area of unincorporated San Diego County, California, but still within the City’s Sphere of Influence and planning area (Figure 1). The project site occurs within Township 12 South, Range 1 West of unsectioned lands on the San Bernardino Base and Meridian U.S. Geological Survey 7.5-minute Escondido quadrangle (Figure 2). Specifically, the site is located approximately 550 feet west of the terminus of Via Sinsonte (Figure 3).

The site is located on private land within the Metro-Lakeside-Jamul Segment of the County of San Diego (County) Multiple Species Conservation Program (MSCP; County 1997) planning area -outside of Pre-Approved Mitigation Area (PAMA) in lands designated Unincorporated Land in Metro-Lakeside-Jamul Segment (Figure 4).

1.2 PROJECT DESCRIPTION

The proposed project is the construction of an emergency pond, which would act as emergency storage of recycled water. The emergency storage would be utilized to reduce flows to the land outfall during wet weather storm events at the City’s Hale Avenue Resource Recovery Facility. This emergency storage would only be used if the flows are exceeding the discharge capacity of the land outfall and the effluent would otherwise spill to Escondido Creek.

The pond construction would utilize an earthen dam and sides with 2:1 side slopes. No overflow would be allowed. Operationally, the fill valve would be manually opened; and when the pond is full, it would be manually closed to prevent any overflow/spillage of recycled water. The pond would be filled from a new recycled water pipeline which is being built as part of the City’s Eastern Recycled Water System Project along the east and south sides of the proposed emergency storage pond. Construction of this pipeline is expected to be near completion when construction of the proposed project begins, and the proposed project would tie into this new pipeline through a new eight-inch above ground fill pipe directly to the east of the pond. The five-sided pond floor would have a varying width between approximately 225 and 308 feet, with a 21-foot height to the water surface and 14 inches of freeboard. The estimated earthwork required is approximately 60,000 cubic yards (cy) of cut and 10,000 cy of fill, with an estimated 50,000 cy of export to be removed from the site.

A 12-foot wide permanent driving surface would be provided at the top of the slopes around the pond. Access to the pond, both during construction and for the permanent maintenance and operation of the

pond, would be along an existing 20-foot water pipeline easement along the southern boundary of APN 241-121-05. This 20-foot easement is for an existing 16-inch steel water pipeline and has a decomposed granite surface. The easement begins from Via Sinsonte and then runs generally to the northwest from Via Sinsonte towards the northern portion of the proposed pond site. A permanent easement for the finished storage pond would be approximately 50 feet larger than the pond on the northern and eastern sides, and on the eastern and southern sides of the pond the easement would extend to the pipeline easement associated with the new recycled water line that the fill pipe for the pond would connect to. A temporary construction easement would be approximately 50 feet beyond the permanent easement to the west of the pond, and zero to 50 feet beyond the permanent easement to the north of the pond. The portion of the access road within APN 241-041-10 would be within the finished-pond permanent easement and would be gated with a chain-link fence. The surface of the access road would be maintained with an all-weather granular material, such as the current decomposed granite surface along the existing easement.

Based on the existing surface geology, rock would be encountered during excavation, which would require blasting or some other rock removal methodology in order to construct the pond. To the extent feasible, and in an effort to minimize material movement, the excavation cut would be moved to the edges and compacted to create the side slopes. As the construction proceeds it may be necessary to stage some of the material within the temporary construction easement before moving it back to the edges of the pond.

2.0 METHODS

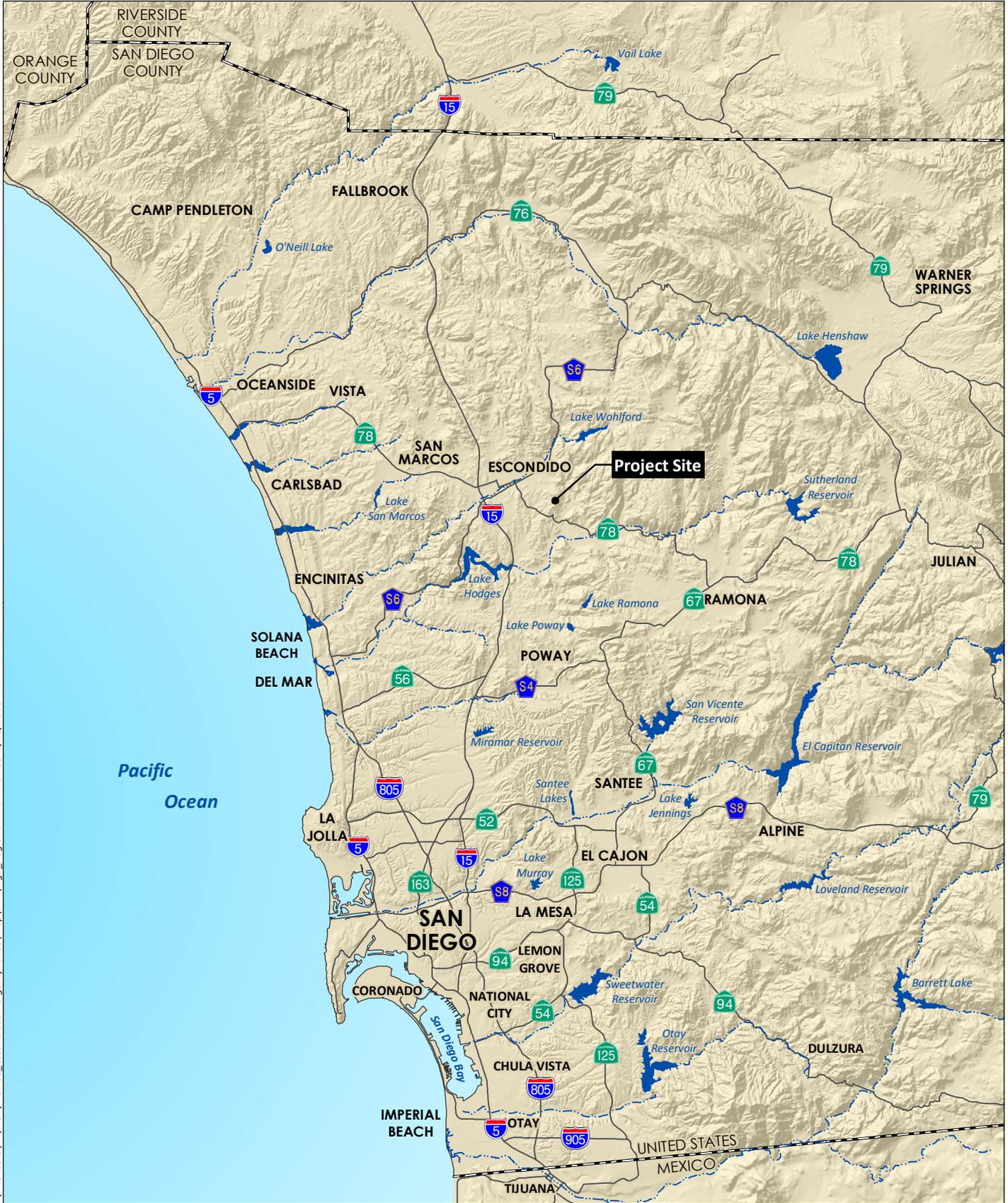
2.1 LITERATURE REVIEW

Prior to conducting biological field surveys, searches of the California Natural Diversity Database (CNDDDB; California Department of Fish and Wildlife [CDFW] 2016), California Native Plant Society (CNPS) online database for the Escondido USGS quadrangle maps and review of the County's MSCP (County 1997) were conducted for information regarding sensitive species known to occur within the vicinity of the project site.

2.2 BIOLOGICAL SURVEYS

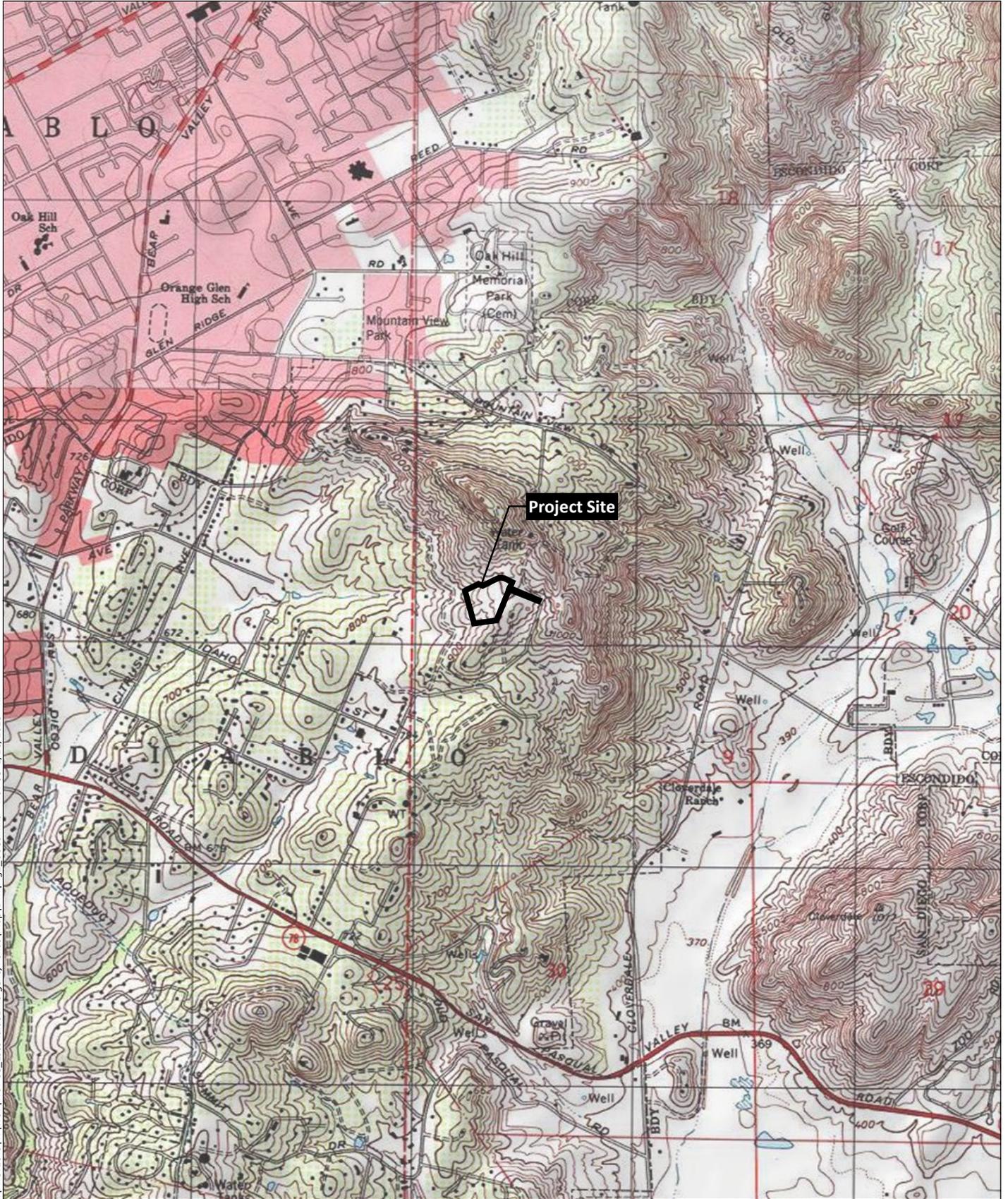
2.2.1 General Biological Survey

HELIX Environmental Planning, Inc. (HELIX) biologist Jason Kurnow conducted a general biological survey of the project site on March 31, 2016. Mr. Kurnow conducted a subsequent site visit occurred on October 16, 2017 to survey areas added to the project footprint. Vegetation communities within the project site were mapped on an aerial photograph (1"=200' scale) with overlaid topography. A list of all plant and animal species observed or detected within the project site was prepared. Plant species were identified in the field or later in the laboratory with the aid of voucher specimens. Animals were identified in the field by direct visual observation with the aid of binoculars or indirectly by detection of calls, tracks, burrows, or scat.



I:\PROJECTS\W\WSY\WSY-03_EscandidoEmergencyPonds\Map\BTR\Fig1_Regional.mxd WSY-03 1/18/2018 - RK

Source: Base Map Layers (SanGIS, 2016)



I:\PROJECTS\WWSY\WWSY-03 EsccondidoEmergencyPonds\Map\BTR\Fig2_USGS.mxd WSY-03 1/18/2018 - RK

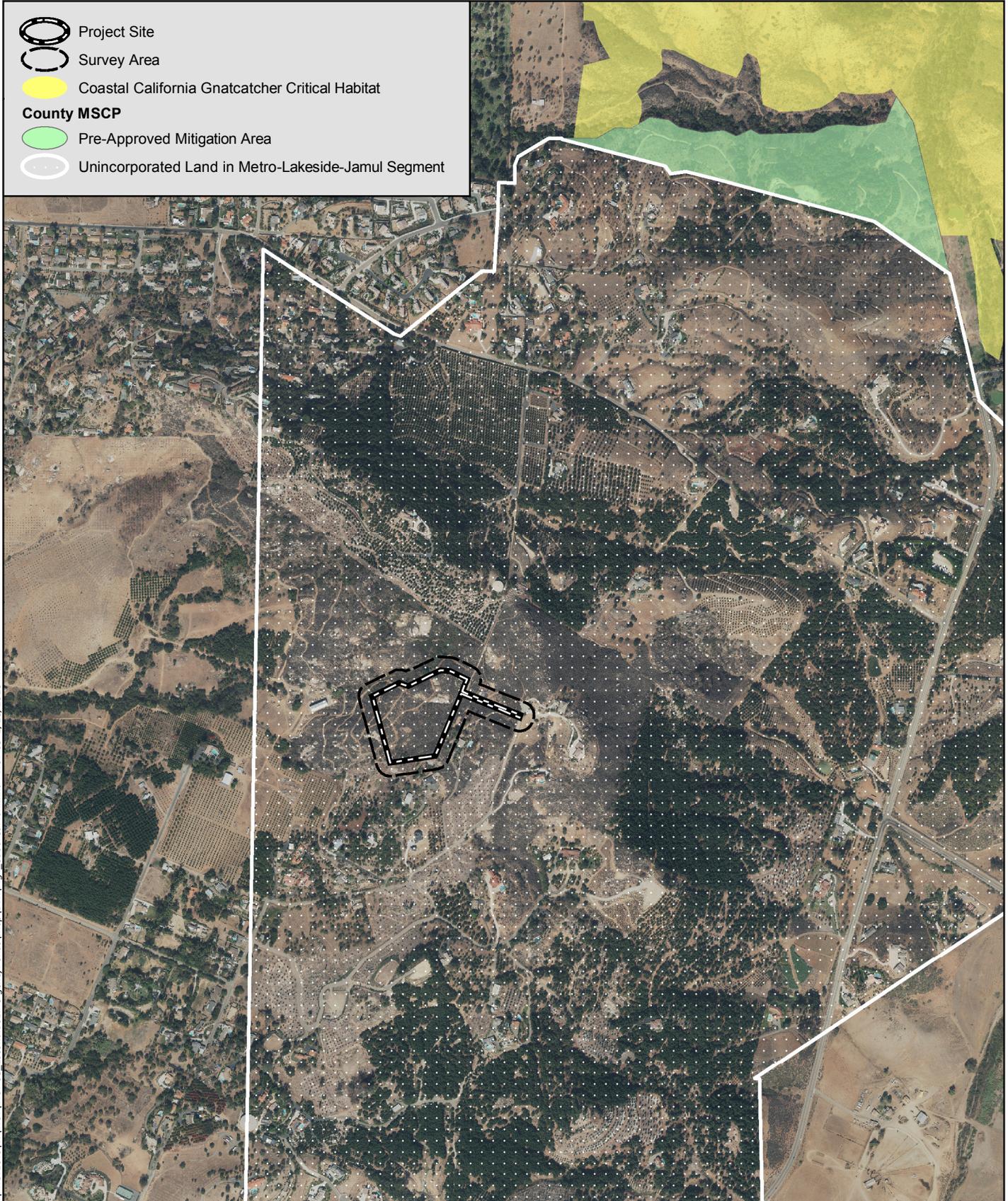
Source: Esccondido 7.5' Quad (USGS)



I:\PROJECTS\WWSY\WWSY-03_EscandidoEmergencyPonds\Map\BTR\Fig3_Aerial.mxd WSY-03 1/18/2018 - RK



Source: Aerial (SanGIS 2014)



I:\PROJECTS\WWSY-03_EscandidoEmergencyPonds\Map\BTR\Fig4_SubareaPlan.mxd WSY-03 1/18/2018 - RK



Source: Aerial (SanGIS 2014)

2.2.2 Rare Plant Survey

Concurrent with the March 31, 2016 general biological survey, HELIX biologist Jason Kurnow conducted a rare plant survey. The rare plant survey included a complete botanical inventory and 100 percent visual coverage of the original project site. A list of rare plants with potential to occur was compiled and reviewed for habitat suitability. Opportunistic inspections for target rare plant species were also made during the subsequent biological survey performed on October 16, 2017.

2.2.3 Coastal California Gnatcatcher Surveys

HELIX biologist Jason Kurnow (TE-778195-13.1) conducted surveys for the federally-threatened coastal California gnatcatcher in accordance with required U.S. Fish and Wildlife Service (USFWS) protocol. The surveys were performed during the breeding season, in June and July 2016, and included all suitable habitat located within approximately 500 feet of the project site.

2.2.4 Jurisdictional Delineation

A formal jurisdictional delineation was not conducted; however, the project site was examined for evidence of potential jurisdictional waters and wetlands as part of a preliminary delineation during the general biological surveys.

2.2.5 Nomenclature

Nomenclature for this report is taken from Holland (1986) and Oberbauer (2008) for vegetation communities; and Rebman and Simpson (2006) and Hickman, ed. (1993) for plants. Additional references include Heath (2004) for butterflies, Collins and Taggart (2002) for reptiles, American Ornithologists' Union (2009) for birds, and Baker et al. (2003) for mammals. Plant species status is taken from the CNPS (2010). Animal species status is taken from the CDFW CNDDDB (2016).

3.0 EXISTING CONDITIONS

3.1 GENERAL LAND USES

The project site is situated within undeveloped land (Figure 3). Low density residential development occurs to the south and east of the project site. Agricultural land surrounds these residential areas. Agricultural land also is located north and west of the project site.

3.2 TOPOGRAPHY AND SOILS

Elevations within the project site range between approximately 960 feet to 1018 feet above mean sea level. A single soil type, as mapped by U.S. Department of Agriculture (Bowman 1973), occurs within the project site: Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes (Figure 5).

3.3 VEGETATION COMMUNITIES

Three vegetation communities and/or land uses occur within the project site: Diegan coastal sage scrub, disturbed habitat, and urban/developed (Figure 6, Table 1, *Vegetation Communities within the Survey*

Area). One additional habitat type, southern willow scrub, was observed within 100 feet of the project site, and is shown on Figure 6. A brief description of each community within the survey area (the project site and a 100-foot mapping buffer) is provided below.

Table 1
VEGETATION COMMUNITIES WITHIN THE SURVEY AREA

Vegetation Community¹	Acre(s)²
Southern Willow Scrub (63300)	0.05
Diegan Coastal Sage Scrub (32500)	11.6
Disturbed Habitat (11300)	3.2
Urban/Developed (12000)	0.2
TOTAL	15.05

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

² Upland habitats are rounded to the nearest 0.1 acre and wetland/riparian habitats to the nearest 0.01 acre; thus, totals reflect rounding.

3.3.1 Southern Willow Scrub

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix sp.*) in association with mule fat (*Baccharis salicifolia*), and with scattered emergent western cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). This vegetation community occurs on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. A small, approximately 0.05-acre patch of southern willow scrub consisting of about three arroyo willows (*Salix lasiolepis*) occurs off site, outside of the impact footprint and within the survey area (Figure 6).

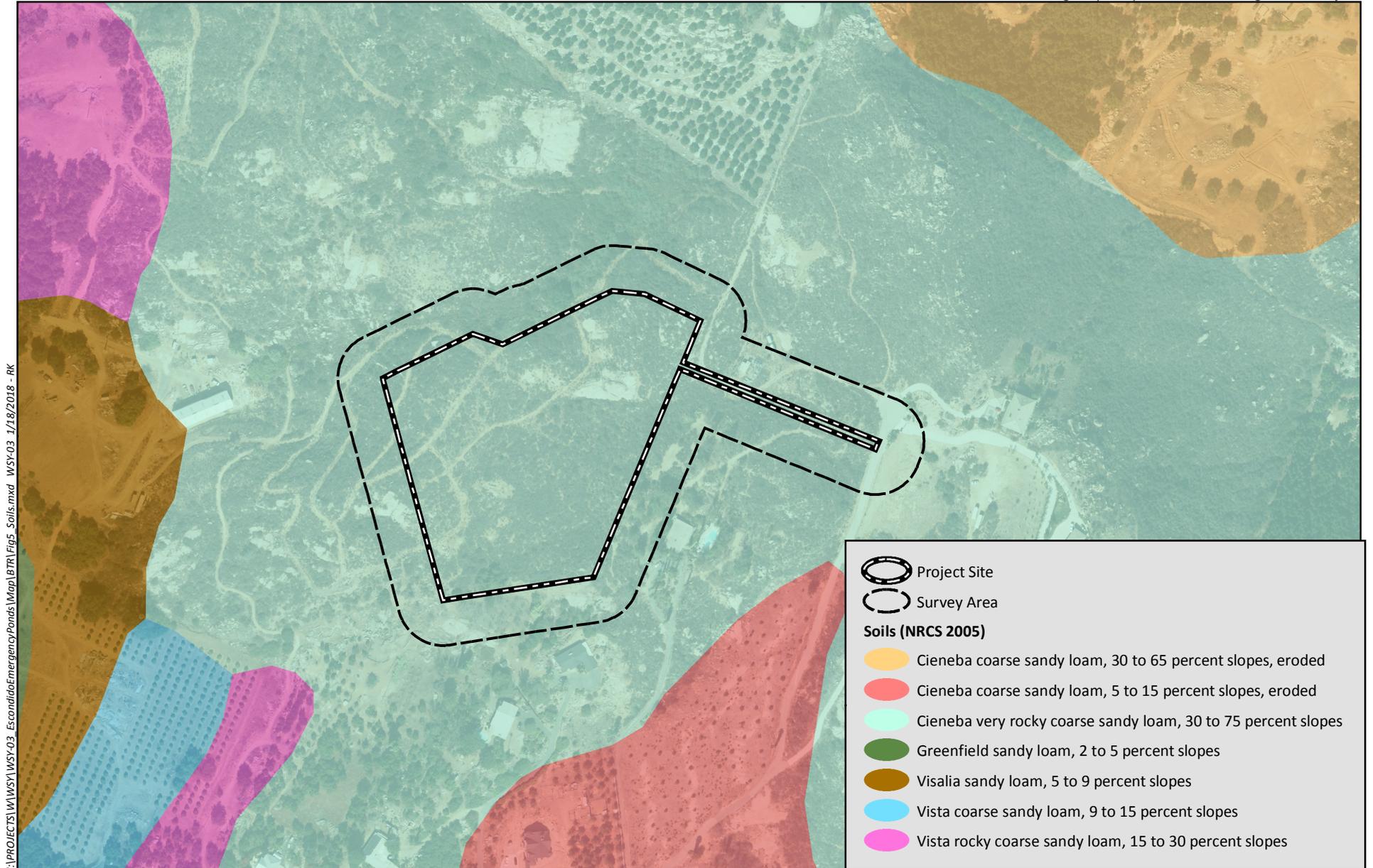
3.3.2 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is dominated by subshrubs with leaves that abscise during drought and are replaced by a lesser amount of smaller leaves. This adaptation of drought evasion allows these species to withstand drought periods in summer and fall in areas of low precipitation.

Dominant species within this vegetation community within the project site include laurel sumac (*Malosma laurina*), California sagebrush (*Artemisia californica*), white sage (*Salvia apiana*), and California buckwheat (*Eriogonum fasciculatum*). Approximately 11.6 acres of Diegan coastal sage scrub occur within the survey area (Table 1). A potentially jurisdictional streambed runs through the Diegan coastal sage scrub outside of the impact footprint, within the 100-foot mapping buffer (Figure 6).

3.3.3 Disturbed Habitat

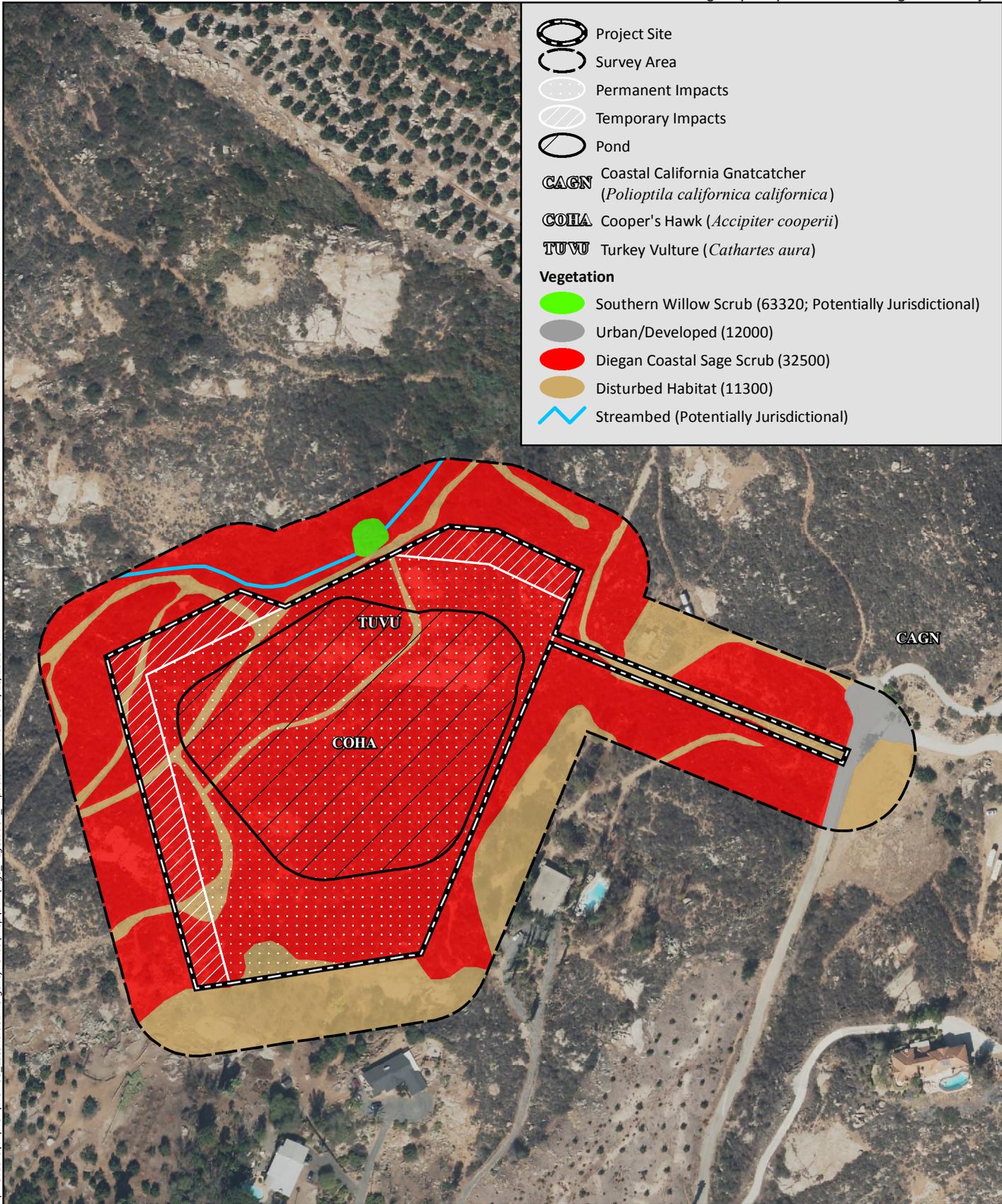
Disturbed habitat includes land that has little or no habitat value because it has been cleared of vegetation for agricultural purposes or contains heavily compacted soils following disturbance such as grading. Disturbed habitat covers 3.2 acres of the survey area and consists of dirt roads and residential areas.



I:\PROJECTS\WWSY-03_EscandidoEmergencyPonds\Map\BTR\Fig5_Soils.mxd WSY-03 1/18/2018 - RK

- Project Site
- Survey Area
- Soils (NRCS 2005)**
- Cieneba coarse sandy loam, 30 to 65 percent slopes, eroded
- Cieneba coarse sandy loam, 5 to 15 percent slopes, eroded
- Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes
- Greenfield sandy loam, 2 to 5 percent slopes
- Visalia sandy loam, 5 to 9 percent slopes
- Vista coarse sandy loam, 9 to 15 percent slopes
- Vista rocky coarse sandy loam, 15 to 30 percent slopes





I:\PROJECTS\WWSY\WWSY-03_EscandidoEmergencyPonds\Map\BTR\Fig6_Vegetation_Impacts.mxd WSY-03 1/18/2018 - RK

Source: Aerial (SanGIS 2014)

3.3.4 Urban/Developed

Urban/developed land includes areas that have been constructed upon or otherwise covered with a permanent, unnatural surface and may include, for example, structures, pavement, irrigated landscaping, or hardscape to the extent that no natural land is evident. These areas no longer support native or naturalized vegetation (County 2010). Developed portions of the site consist of a portion of a paved road located at the eastern extent of the project boundary. A total of 0.2 acre of urban/developed land occurs in the survey area.

3.4 PLANTS

A total of 27 plant species were observed within the project site (Appendix A).

3.5 ANIMALS

A total of 30 animal species were observed/detected within the project site: four butterfly, one reptile, 22 bird, and three mammal species (Appendix B).

4.0 SENSITIVE RESOURCES

Sensitive resources are those defined as (1) habitat areas or vegetation communities that are unique, of relatively limited distribution, or of particular value to wildlife; and (2) species that have been given special recognition by federal, state, or local government agencies and organizations due to limited, declining, or threatened populations.

4.1 SENSITIVE VEGETATION COMMUNITIES

Sensitive vegetation communities are defined as land that supports unique vegetation communities or the habitats of rare or endangered species or subspecies of animals or plants as defined by Section 15380 of the State CEQA Guidelines.

The project site itself supports a single sensitive natural community: Diegan coastal sage scrub (Figure 6). Southern willow scrub, also a sensitive natural community, occurs off site and would be entirely avoided by the project.

4.2 SENSITIVE PLANT SPECIES

Sensitive plant species have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County, and may also be included in the CNPS' Inventory of Rare and Endangered Plants. Their status is often based on one or more of three distributional attributes: geographic range, habitat specificity, and/or population size. Sensitive species are those considered unusual or limited in that they are: (1) only found in the San Diego region; (2) a local representative of a species or association of species not otherwise found in the region; or (3) severely depleted within their ranges or within the region.

No sensitive plant species were observed on the project site during surveys completed in 2016 and 2017.

Sensitive Plant Species with Potential to Occur

Table 2, *Sensitive Plant Species with Potential to Occur* presents sensitive plant species with potential to occur within the project site. Each species is listed alphabetically by scientific name. As detailed below, no sensitive plant species have a moderate or high potential to occur within the project site; none were observed during biological surveys.

Table 2
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

Species	Listing or Sensitivity ¹	Potential to Occur/Comments
San Diego thornmint (<i>Acanthomintha ilicifolia</i>)	FT/SE CNPS List 1B.1 MSCP-covered County Narrow Endemic (NE) County List A	Low. Grassy openings in chaparral or sage scrub, or near vernal pools; friable or broken clay soils are the preferred habitat. Suitable habitat (sage scrub) occurs within the project site; however, this species was not observed during biological surveys for the project and is not known from the project vicinity.
San Diego ambrosia (<i>Ambrosia pumila</i>)	FE/-- CNPS List 1B.1 MSCP-covered County NE County List A	Low. Found in a variety of habitats, including sage scrub, grasslands, wetlands, disturbed habitat, and sloped areas. This species was not observed during biological surveys for the project and is known in California from fewer than 20 occurrences.
San Diego sagewort (<i>Artemisia palmeri</i>)	--/-- CNPS List 4.2 County List D	None. Occurs in stream courses, often within coastal sage scrub and southern mixed chaparral. Suitable habitat does not occur within the project site.
San Diego milkvetch (<i>Astragalus oocarpus</i>)	--/-- CNPS List 1B.2 CA Endemic County List A	None. Occurs in open or disturbed areas of cismontane woodland and chaparral. Suitable habitat does not occur within the project site.
Orcutt's brodiaea (<i>Brodiaea orcuttii</i>)	--/-- CNPS List 1B.1 MSCP-covered County List A	None. Vernal moist grasslands, mima mound topography, and vernal pool periphery are preferred habitat. Occasionally will grow on streamside embankments in clay soils. Suitable habitat does not occur within the project site.
Southern tarplant (<i>Centromadia parryi</i> ssp. <i>australis</i>)	--/-- CNPS List 1B.1 County List A	None. Occurs in seasonally moist (saline) grasslands and peripheral salt marsh. Suitable habitat does not occur within the project site.
Smooth tarplant (<i>Centromadia pungens</i> ssp. <i>laevis</i>)	--/-- CNPS List 1B.1 CA Endemic County List A	None. Prefers valley and foothill grasslands, particularly near alkaline locales. Suitable habitat does not occur within the project site.
Delicate clarkia (<i>Clarkia delicata</i>)	--/-- CNPS List 1B.2 County List A	None. Prefers gabbro soils, shaded areas or the periphery of oak woodlands and cismontane chaparral. Suitable habitat does not occur within the project site.
Summer holly (<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>)	--/-- CNPS List 1B.2 County List A	None. Mesic north-facing slopes in southern mixed chaparral are the preferred habitat of this large, showy shrub. Suitable habitat does not occur within the project site.

**Table 2 (cont.)
SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR**

Species	Listing or Sensitivity ¹	Potential to Occur/Comments
Palmer’s goldenbush (<i>Ericameria palmeri</i> var. <i>palmeri</i>)	--/-- CNPS List 2.2 MSCP-covered County NE County List B	None. This sizeable shrub grows along coastal drainages, in mesic chaparral sites, or rarely in Diegan coastal sage scrub. Occasionally occurs as a hillside element (usually at higher elevations inland on north-facing slopes). Known in California from only six occurrences. Some marginally suitable habitat (Diegan coastal sage scrub) occurs within the project site, but this species was not observed.
Engelmann oak (<i>Quercus engelmannii</i>)	--/-- CNPS List 4.2 County Group D	None. Oak woodland and southern mixed chaparral. Larger oaks sometimes occur in vast savannah grasslands. In foothills, may also occur as a shrubby element within the chaparral. Suitable habitat does not occur within the project site.

¹ Refer to Appendix C for an explanation of status codes for plants and animals

4.3 SENSITIVE ANIMAL SPECIES

Sensitive animal species include those that have been afforded special status and/or recognition by the USFWS, CDFW, and/or the County. In general, the principal reason an individual taxon (species or subspecies) is given such recognition is the documented or perceived decline or limitations of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss.

No federal or state listed endangered or threatened animal species were observed or detected within the project site. However, the federally-threatened coastal California gnatcatcher (*Polioptila californica californica*) was observed off site to the east, within 300 feet of the project site. Two additional animal species considered sensitive by the County, Cooper’s hawk (*Accipiter cooperii*) and turkey vulture (*Cathartes aura*), were observed flying over the project site (Figure 6). A brief description of each sensitive animal species observed near the project site is provided below. An explanation of status codes can be found in Appendix C.

Cooper’s hawk (*Accipiter cooperii*)

Status: --/WL; County MSCP Covered; County Group 1

Distribution: Occurs year-round throughout San Diego County’s coastal slope where stands of trees are present

Habitat(s): Oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests

Status on site: Observed flying over project site (Figure 6)

Turkey vulture (*Cathartes aura*)

Status: --/--; County Group 1

Distribution: Observed throughout San Diego County with the exception of extreme coastal San Diego where development is heaviest

Habitat(s): Foraging habitat includes most open habitats with breeding occurring in crevices among boulders

Status on site: Observed flying over project site (Figure 6)

Coastal California gnatcatcher (*Polioptila californica californica*)

Status: FT/SSC; County Group 1

Distribution: Occurs in sage scrub

Habitat(s): Various types of sage scrub within San Diego County

Status on site: Observed off site to the east, but within 300 feet (Figure 6).

Sensitive Animal Species with Potential to Occur

Sensitive animal species with potential to occur within the project site are listed in Table 3. The species are grouped into invertebrates, fish, amphibians, reptiles, birds, and mammals, then alphabetized by scientific name.

**Table 3
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR**

Species	Listing or Sensitivity*	Potential to Occur/Comments
Invertebrates		
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE/-- County Group 1	None. Potential habitat includes vegetation communities with areas of low-growing and sparse vegetation. These habitats include open stands of sage scrub and chaparral, adjacent open meadows, old foot trails, and dirt roads. The project site is outside the U.S. Fish and Wildlife Service Survey Area for this species.
Harbison dun skipper (<i>Euphyes vestris harbisoni</i>)	--/-- County Group 1	None. Occurs in riparian habitats and chaparral with narrow canyons or drainages, where perennial sources of water provide adequate habitat for the larval foodplant, San Diego sedge (<i>Carex spissa</i>). San Diego sedge not observed within the project site. No suitable habitat occurs within the project site.
Vertebrates		
Reptiles and Amphibians		
Arroyo toad (<i>Anaxyrus californicus</i>)	FE/SSC MSCP-covered County Group 1	None. Found on banks with open-canopy riparian forest characterized by willows, cottonwoods, or sycamores; breeds in areas with shallow, slowly moving streams, but burrows in adjacent uplands during dry months. No suitable habitat occurs within the project site.
Orange-throated whiptail (<i>Aspidoscelis hyperythra</i>)	--/SSC MSCP-covered County Group 2	Moderate. Occurs in coastal sage scrub, chaparral, edges of riparian woodlands, and washes. Important habitat requirements include open, sunny areas, shaded areas, and abundant insect prey base, particularly termites (<i>Reticulitermes</i> sp.). Suitable habitat occurs within the project site.

**Table 3 (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR**

Species	Listing or Sensitivity*	Potential to Occur/Comments
Vertebrates (cont.)		
Reptiles and Amphibians (cont.)		
Coastal whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	--/-- County Group 2	Moderate. Open coastal sage scrub, chaparral, and woodlands. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions. Suitable habitat occurs within the project site.
Coastal rosy boa (<i>Charina trivirgata</i>)	--/-- County Group 2	Moderate. Occurs in rocky Diegan coastal sage scrub. Suitable habitat occurs within the project site.
Northern red-diamond rattlesnake (<i>Crotalus ruber ruber</i>)	--/SSC County Group 2	Moderate. Occurs in dense chaparral or coastal sage scrub, often near large rocks or boulders. Suitable habitat occurs within the project site.
Coronado skink (<i>Eumeces skiltonianus interparietalis</i>)	--/SSC County Group 2	Moderate. Grasslands, coastal sage scrub, open chaparral, oak woodland, and coniferous forests, usually under rocks, leaf litter, logs, debris, or in the shallow burrows it digs (Zeiner et al. 1988). Suitable habitat occurs within the project site.
San Diego horned lizard (<i>Phrynosoma coronatum</i>)	--/SSC County Group 2	Moderate. Coastal sage scrub and open areas in chaparral, oak woodlands, and coniferous forests with sufficient basking sites. Require native ants, especially harvester ants (<i>Pogonomyrmex</i> sp.), and are generally excluded from areas invaded by Argentine ants (<i>Linepithema humile</i>). Suitable habitat occurs within the project site.
Western spadefoot (<i>Spea hammondi</i>)	--/SSC County Group 2	None. Occurs in open coastal sage scrub, chaparral, and grassland, along sandy or gravelly washes, floodplains, alluvial fans, or playas; require temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (<i>Rana catesbeiana</i>) or crayfish (<i>Procambarus</i> sp.). No suitable habitat occurs within the project site.
Birds		
San Diego cactus wren (<i>Campylorhynchus brunneicapillus sandiegensis</i>)	BCC/SSC MSCP-covered County Group 1	None. Occurs in cactus thickets. No suitable habitat occurs within the project site.
White-tailed kite (<i>Elanus leucurus</i>)	--/Fully Protected County Group 1	None. Riparian woodlands and oak or sycamore groves adjacent to grassland. No suitable habitat occurs within the project site.

Table 3 (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Species	Listing or Sensitivity*	Potential to Occur/Comments
Vertebrates (cont.)		
Birds (cont.)		
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	FE/SE MSCP-covered County Group 1	None. Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. Migrants may be found among other shrubs in wetter areas. No suitable habitat occurs within the project site. The patch of southern willow scrub northwest of the project site is too small, isolated, and insufficiently developed to support this species.
Yellow-breasted chat (<i>Icteria virens</i>)	--/SSC County Group 1	None. Mature riparian woodland. No suitable habitat occurs within the project site. The stand of willows to the northwest of the project site is too small, isolated, and insufficiently developed to support this species.
White-faced ibis (<i>Plegadis chihi</i>)	--/WL MSCP-covered County Group 1	None. Nests in freshwater marshes and forages in shallow waters and wet, grassy habitats. No suitable habitat occurs in the project site.
Western bluebird (<i>Sialia mexicana</i>),	--/-- County Group 2	None. Montane coniferous and oak woodlands. No suitable habitat occurs in the project site.
Barn owl (<i>Tyto alba</i>)	--/-- County Group 2	Moderate. Woodland habitats and open areas with trees or other structures that can offer shelter. Suitable foraging habitat occurs within the project site.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE, BCC/SE County Group 1	None. Occurs in mature riparian woodland. No suitable habitat occurs in the project site. The patch of southern willow scrub northwest of the project site is too small, isolated, and insufficiently developed to support this species.
Mammals		
Pallid bat (<i>Antrozous pallidus</i>)	--/SSC County Group 2	Low. Deserts and canyons. Daytime roosts in buildings, crevices; less often in caves, mines, hollow trees, and other shelters. Suitable roosting habitat occurs within the project site. Minimal foraging habitat occurs within the project site.
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	--/SSC County Group 2	Low. Primarily associated with mature chaparral. It has, however, been trapped in mule fat scrub and is known to occur in coastal sage scrub. Minimal suitable habitat occurs within the project site.
Stephens' kangaroo rat (<i>Dipodomys stephensi</i>)	FE/ST County Group 1	Low. Sparsely vegetated habitats of sagebrush or annual grasses. Minimal suitable habitat occurs within the project site. The nearest CNDDDB record of this species is six miles away, separated from the project site by homes, roads, and a golf course.

**Table 3 (cont.)
SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR**

Species	Listing or Sensitivity*	Potential to Occur/Comments
Vertebrates (cont.)		
Mammals (cont.)		
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	--/SSC County Group 2	Moderate. Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present. Suitable habitat occurs within the project site.
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	--/SSC County Group 2	Low. Open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca. Suitable habitat occurs within the project site, but stick nests were not observed.
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	--/SSC County Group 2	Low. Rocky areas, in day roosts in rocky cliffs, sometimes caves, buildings, or tree holes. Minimal suitable habitat occurs within the project site.
American badger (<i>Taxidea taxus</i>)	--/SSC MSCP-covered County Group 2	None. Open plains and prairies, farmland, and sometimes edges of woods. No suitable habitat occurs in the project site.

* Refer to Appendix C for an explanation of status codes for plants and animals

4.4 JURISDICTIONAL WATERS AND WETLANDS

In the context of this assessment, jurisdictional waters and wetlands include waters of the U.S., including wetlands, regulated by the U.S. Army Corps of Engineers (USACE) pursuant to the Clean Water Act (CWA) Section 404; waters of the State regulated by the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and State Porter-Cologne Water Quality Control Act; streambed and riparian habitat regulated by the CDFW pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CFG Code); and/or wetlands defined under the County’s Resource Protection Ordinance (RPO).

The project site is characterized entirely by upland areas. Potential jurisdictional waters and wetlands are absent from the site. There is a small off-site area north of the project site where southern willow scrub was observed along an ephemeral streambed. The southern willow scrub and streambed are considered potentially jurisdictional to the USACE, RWQCB, and/or CDFW. The southern willow scrub would also meet the definition of an RPO wetland; however, the project is not subject to the RPO. The project has been specifically designed to avoid the area of southern willow scrub and streambed, and no potentially jurisdictional waters or wetlands occur within the project site. Additionally, because the proposed pond would be emptied for agricultural irrigation purposes as soon as possible after it is filled, the pond would not be able to support or sustain wetland habitat.

4.5 WILDLIFE CORRIDOR/CORE WILDLIFE AREAS

Wildlife corridors can be local or regional in scale and may function in different ways depending on species and time of year. Wildlife corridors represent areas where wildlife movement is concentrated due to natural or manufactured constraints. Local corridors provide access to resources such as food, water, and shelter. Animals can use these corridors, such as hillsides and tributary drainages to main

drainages, to travel among different habitats (i.e., riparian, and upland habitats). Some animals require riparian habitat for breeding and upland habitat for burrowing. Regional corridors provide these functions and also link two or more large areas of open space. Regional corridors also provide avenues for wildlife dispersal, migration, and contact between otherwise distinct populations.

The project site does not function as a regional wildlife corridor. The project site is situated on an island of undeveloped land surrounded by low density residential development and/or agriculture. Approximately 1.5 miles east of the project site is a large area of undeveloped land that could facilitate regional wildlife movement. Connectivity to this area from the project site is unlikely. Within the project site there is evidence that it provides habitat for local wildlife. The project site is not located within a PAMA, and does not meet the requirements of a Biological Resource Core Area (BRCA). The project site is located outside any wildlife corridor or linkage.

5.0 REGULATORY FRAMEWORK

Biological resources in the study area are subject to regulatory review by federal, state, and local agencies. Under CEQA, impacts associated with a proposed project are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the City) and pursuant to CEQA Guidelines. Biological resources-related laws and regulations that apply to the project based on the resources present or determined to have a potential to occur include federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), California Endangered Species Act (CESA), CEQA, and CFG Code. Being that the project occurs on unincorporated County lands, this report also discusses consistency with County policy, including the County Biological Mitigation Ordinance (BMO), MSCP Subarea Plan, and RPO.

5.1 FEDERAL

Administered by the USFWS, the federal ESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered take under the ESA. Section 9(a) of the ESA defines take as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” “Harm” and “harass” are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species’ behavioral patterns.

Sections 7 and 4(d) of the Federal ESA regulate actions that could jeopardize endangered or threatened species. Section 7, administered by the USFWS, describes a process of Federal interagency consultation for use when Federal actions may adversely affect listed species. A Section 7 Consultation (formal or informal) is required when there is a nexus between a listed species’ use of a site and if the project is funded (wholly or in part) by the State Revolving Fund. A biological assessment is required for any major construction activity, if it may affect listed species. Take can be authorized via a letter of Biological Opinion, issued by the USFWS, for non-marine related listed species issues. The project would be funded in part by the State Resolving Fund. A Section 7 Consultation would be required if impacts to a federally listed species would occur.

Identified by the USFWS, critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of

listed species within their native habitat, so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the federal ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat.

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA. The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally January 15 to July 31).

5.2 STATE

The CESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the CESA authorizes CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes.

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The CESA followed NPPA and covers both plants and animals that are determined to be endangered or threatened with extinction. Plants listed as rare under NPPA were also designated rare under the CESA.

The CEQA and its implementing guidelines (CEQA Guidelines) require discretionary projects with potentially significant effects (or impacts) on the environment to be submitted for environmental review. Mitigation for significant impacts to the environment is determined through the environmental review process in accordance with existing laws and regulations.

Under Section 53091(d) and (e) of the California Government Code, building ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment or transmission of water or wastewater; therefore, since the proposed project involves the construction of a water storage facility, it would not be subject to County requirements.

5.3 LOCAL

As previously stated, the project would occur within unincorporated County lands within the City's Sphere of Influence and planning area. As such, this report also discusses consistency with the requirements of the County, including the MSCP and implementing BMO. The County also regulates natural resources (among other resources) as sensitive biological resources via the RPO (County 2011), the regulations of which cover wetlands, wetland buffers, sensitive plant and animal species, sensitive vegetation communities/habitat types, and habitats containing sensitive animals or plants. However, the project is not subject to the RPO because it does not require any of the discretionary permits listed in section 86.603(a).

The City of Escondido establishes regulations and standards for the preservation, protection, and selected removal of mature and protected trees. Because the project site is not located within City limits, it would not require a City issued vegetation removal permit, which is required prior to clearing, pruning, or destroying vegetation and prior to any encroachments by construction activities that disturb the root system within the dripline of any mature and protected trees in the City. Tree protection,

removal, and replacement standards are outlined in the City's General Plan and in Chapter 33 (Zoning), Article 55 (Grading and Erosion Control) of the City's Municipal Code (Ordinance 2001-21). The City's General Plan recognizes any oak tree species and other mature trees as significant aesthetic and ecological resources deserving protection.

5.3.1 Multiple Species Conservation Program

The Natural Communities Conservation Program (NCCP) Act of 1991 (Section 2835) allows the CDFW to authorize take of species covered by plans in agreement with NCCP guidelines. A NCCP initiated by the State of California focuses on conserving coastal sage scrub, and in concert with the USFWS and the federal ESA, is intended to avoid the need for future federal and state listing of coastal sage scrub dependent species.

The San Diego MSCP Plan for the southwestern portion of San Diego County was approved in August 1998 and covers 85 species (County 1998). The City of San Diego, portions of the unincorporated County, and ten additional city jurisdictions make up the San Diego MSCP Plan area. The San Diego MSCP Plan was prepared to meet the requirements of the California NCCP, federal ESA, and CESA. It is a comprehensive, long-term Habitat Conservation Plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve.

The County's MSCP Subarea Plan (County 1997) implements the MSCP within a portion of the unincorporated areas under County jurisdiction. It was adopted by the Board of Supervisors in March 1998. The County Subarea Plan is divided into three Segments: Lake Hodges, Metropolitan-Lakeside-Jamul, and South County. Take of covered species and their habitat is authorized for projects that satisfy the requirements of the County's BMO.

5.3.2 Biological Mitigation Ordinance

The BMO is the mechanism by which the County implements their adopted MSCP Subarea Plan. The BMO contains design criteria and mitigation standards which, when applied to projects requiring discretionary permits, protect habitats and species and helps ensure that a project does not preclude the viability of the MSCP Preserve System. In this way, the BMO promotes the preservation of lands that contribute to contiguous habitat core areas or linkages.

Under the BMO, habitat is considered a BRCA if it meets one of the following criteria:

- It is considered a PAMA on the wildlife agencies' PAMA map;
- It contains biological resources that support or contribute to the long-term survival of sensitive species and is adjacent to the PAMA;
- It is part of a regional linkage/corridor;
- It is mapped as Very High or High on the Habitat Evaluation Map and links significant patches of habitat;

- It is part of a patch of habitat greater than 500 acres in area that contributes to the conservation of sensitive species; or
- It supports a high number of sensitive species and is contiguous to undisturbed habitats.

Because the project does not require a discretionary permit from the County, the project is not subject to the BMO, which is the implementing mechanism for the MSCP.

6.0 SIGNIFICANCE OF PROJECT IMPACTS AND PROPOSED MITIGATION

This section provides a project-level biological resources impact analysis for the proposed project in support of environmental review. The issues addressed in this section are derived from Appendix G of the State CEQA Guidelines. Mitigation, monitoring, and reporting requirements to eliminate or reduce project impacts to a less than significant level are also provided in this section.

6.1 ISSUE 1: SPECIAL-STATUS SPECIES

Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

6.1.1 Issue 1 Impact Analysis

Less than Significant Impact with Mitigation. No special-status plant species were observed during surveys conducted in 2016 and 2017 and none are expected to occur within the project site due to lack of suitable habitat, including inappropriate soil conditions. Therefore, the project would not have a significant impact on special-status plant species.

Several special-status animal species have a moderate potential to occur on and in the immediate vicinity of the project site, as detailed in Table 3. Although the project site has moderate potential to support County Group 2 species such as the orange-throated whiptail (*Aspidoscelis hyperythra*) and San Diego horned lizard (*Phrynosoma coronatum*), the project would not impact these species' local long-term survival because they are relatively widespread within the South County MSCP, and the implementation of the MSCP, including the habitat-based mitigation required for this project, ensures they have adequate habitat.

The project would not impact arroyo toad (*Anaxyrus californicus*) habitat, occupied burrowing owl (*Athene cunicularia*) habitat, Hermes copper butterfly (*Lycaena hermes*) habitat, or coastal cactus wren (*Campylorhynchus brunneicapillus couesi*) habitat since the project site does not support suitable habitat for any of these species.

The project would not impact golden eagle (*Aquila chrysaetos*) habitat. The nearest CNDDDB record for a golden eagle is over four miles away and HELIX is not aware of any golden eagle nests within 4,000 feet of the site. Looking at preliminary biotelemetry data (Tracey et al. 2016), the site does not appear to be a primary foraging area for any of the tracked eagles. The project site does not contain any cliffs or large trees for nesting habitat.

Project construction could result in potential significant direct and indirect impacts on special-status animal species, including nesting birds, as described in further detail below. Impacts would be reduced to less than significant levels through the implementation of mitigation measures.

6.1.1.1 Coastal California Gnatcatcher

Although confirmed to be absent from the project site itself, this species was observed using off-site Diegan coastal sage scrub within 500 feet of areas that would be impacted during project construction (Figure 6). No direct impacts are anticipated based on the species' absence from the direct impact area; however, potential significant indirect impacts could occur if the species is breeding in off-site areas within 300 feet of loud construction activities.

Implementation of mitigation measure BIO-1 below would ensure that impacts on coastal California gnatcatcher are avoided and no adverse effects occur.

6.1.1.2 Nesting Birds

The project site contains trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFG Code. Construction of the proposed project would result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds in violation of the MBTA and CFG Code. Direct impacts could occur as a result of removal of vegetation supporting an active nest. Impacts would be considered significant.

Implementation of mitigation measure BIO-2 below would ensure that no impacts on nesting birds and raptors occur.

6.1.1.3 Raptor Foraging

The project site supports open Diegan coastal sage scrub habitat that could be used for raptor foraging. The project would impact 6.5 acres of Diegan coastal sage scrub, which is considered a significant impact to raptor foraging habitat.

Implementation of mitigation measure BIO-3 below would mitigate raptor foraging impacts to less than significant.

6.1.2 Issue 1 Mitigation Measures

BIO-1 Coastal California Gnatcatcher Avoidance. No clearing, grubbing, grading, and other construction activities shall occur on or within 300 feet of coastal sage scrub habitat between March 1 and August 15, the breeding season of the coastal California gnatcatcher.

If activities must occur between March 1 and August 15, the City shall complete the following measures:

The City shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to complete pre-construction surveys in accordance with USFWS protocol within coastal sage scrub located on and within 300 feet of the project footprint.

- I. If coastal California gnatcatchers are not detected during the pre-construction surveys, the qualified biologist shall submit substantial evidence to the City which demonstrates no impacts to this species are anticipated and no additional measures are necessary.
- II. If gnatcatchers are present within direct impact areas, then the following shall be required:
 - a. The City and/or responsible federal action agency for the project shall consult with the USFWS regarding project effects on gnatcatchers and habitat confirmed to be occupied by the species. The City and/or responsible federal action agency shall obtain the appropriate approvals and permits from the USFWS prior to commencement of activities that could affect gnatcatcher. All avoidance, minimization, and conservation measures prescribed by the USFWS shall be implemented. At a minimum, the City shall implement the following:
 - Restrict all clearing, grubbing, grading, and other construction activities to periods outside of the gnatcatcher breeding season (March 1 and August 15).
 - Retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to monitor construction activities on or within 300 feet of coastal sage scrub.
 - Compensate impacts to habitat occupied by gnatcatcher in-kind at a minimum 2:1 ratio with suitable habitat at an approved conservation/mitigation bank.
- III. If gnatcatchers are absent from direct impact areas, but are confirmed to be present in off-site habitat located within 300 feet of construction activities, then the following shall be required:
 - a. An analysis showing that noise generated by construction activities would not exceed 60 dB hourly average at the edge of the development footprint must be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the City at least two weeks prior to the commencement of construction activities.

If construction activities would not exceed the 60 dB hourly average threshold at the edge of the development footprint, then no additional measures shall be required beyond biological monitoring.

If activities could exceed the 60 dB hourly average threshold, then the following attenuation measures shall be implemented:

 - i. At least two weeks prior to the commencement of construction activities, under the direction of a qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from construction activities will not exceed 60 dB hourly average at the edge of the development footprint. Concurrent with the commencement of construction activities and the construction of necessary noise attenuation facilities, noise monitoring* shall be conducted at the edge of the development footprint to ensure that noise levels do not exceed 60 dB hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated construction activities

shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season (August 16).

*Construction noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the construction activity, to verify that noise levels at the edge of the development footprint are maintained below 60 dB hourly average or to the ambient noise level if it already exceeds 60 dB hourly average. If not, other measures shall be implemented in consultation with the biologist and the City, as necessary, to reduce noise levels at the edge of the development footprint to below 60 dB hourly average, or to the ambient noise level if it already exceeds 60 dB hourly average. Such measures may include, but are not limited to, limitations on the placement of construction equipment and the simultaneous use of equipment.

BIO-2 Nesting Bird and Raptor Avoidance. If initial grading and vegetation removal activities (i.e., earthwork, clearing, and grubbing) must occur during the general bird breeding season for migratory birds and raptors (January 15 to September 15), the project applicant shall retain a qualified biologist to perform a pre-construction survey of potential nesting habitat within 500 feet of the project site to confirm the absence of active nests belonging to migratory birds and raptors afforded protection under the MBTA and CFG Code. The pre-construction survey shall be performed no more than seven days prior to the commencement of the activities. If the qualified biologist determines that no active migratory bird or raptor nests occur, the activities shall be allowed to proceed without any further requirements. If the qualified biologist determines that an active migratory bird or raptor nest is present, no impacts shall occur until the young have fledged the nest and the nest is confirmed to no longer be active, as determined by the qualified biologist.

BIO-3 Sensitive Vegetation Community Mitigation. The City shall mitigate impacts to 6.5 acres of unoccupied Diegan coastal sage scrub, which is also raptor foraging habitat, at a minimum 1:1 ratio through purchase of Diegan coastal sage scrub at the Daley Ranch Conservation Bank or other approved mitigation bank.

6.2 ISSUE 2: SENSITIVE NATURAL COMMUNITIES

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

6.2.1 Issue 2 Impact Analysis

Less than Significant Impact with Mitigation. The project would result in unavoidable impacts to 6.5 acres of Diegan coastal sage scrub (Table 4, *Vegetation Community Impacts*). Impacts to Diegan coastal sage scrub would be permanent, with the exception of areas within the temporary easement where Diegan coastal sage scrub would be temporarily disturbed during construction. Impacts to Diegan coastal sage scrub are considered significant.

Table 4
VEGETATION COMMUNITY IMPACTS

Vegetation Community ¹	Acre(s) ²		
	Temporary	Permanent	Total
Diegan Coastal Sage Scrub (32510)	1.0	5.5	6.5
Disturbed Habitat (11300)	0.2	0.4	0.6
Urban/Developed (12000)	<0.1	---	<0.1
TOTAL	1.2	5.9	7.1

¹ Vegetation categories and numerical codes are from Holland (1986) and Oberbauer (2008).

² Habitats are rounded to the nearest 0.1 acre; thus, totals reflect rounding.

Additional Diegan coastal sage scrub and southern willow scrub occurs immediately adjacent to the proposed project limits. If activities are not properly contained and kept within the proposed work limits, additional significant impacts could occur to these sensitive natural communities.

No additional impacts such as groundwater drawdown or indirect impacts are anticipated since the project would not use groundwater and project operation would not involve noise, lighting, residents, or domestic animals. Water from the pond would be used to irrigate existing agricultural operations such that it would not impact the native habitat.

Implementation of mitigation measure BIO-3 above would ensure that the unavoidable loss of Diegan coastal sage scrub is adequately compensated, and implementation of mitigation measures BIO-4 and BIO-5 would ensure that no additional impacts to sensitive natural communities occur during project construction, thereby reducing the impacts on sensitive natural communities to less than significant levels.

6.2.2 Issue 2 Mitigation Measures

BIO-4 Biological Monitor. Prior to construction, the City shall retain a qualified biologist to monitor clearing and/or grubbing activities. The biological monitor shall attend pre-construction meetings and be present during the removal of any vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. Before construction activities occur in areas containing sensitive biological resources, all workers shall be educated by the biologist to recognize and avoid those areas that have been marked as sensitive biological resources.

BIO-5 Construction Fencing and Monitoring. Prior to construction, the following notes shall be included on the applicable construction plans to the satisfaction of the City:

- Prior to construction, temporary construction fencing shall be installed around the perimeter of the work area, including the pond site, easement area, and temporary construction access route. Fencing will include signage directing people to stay out of avoided habitat areas. Fencing and signage shall remain in place during all construction activities. It will be removed once construction is complete.

- A qualified biologist shall be on site to monitor all vegetation clearing and periodically thereafter to ensure implementation of fencing and signage and avoidance of unauthorized habitat impacts.

6.3 ISSUE 3: WETLANDS

Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the federal CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

6.3.1 Issue 3 Impact Analysis

No Impact. Federally protected wetlands do not occur within the project site. There is a small off-site area north of the project site where southern willow scrub was observed along an ephemeral streambed. The southern willow scrub and streambed could potentially qualify as federally protected wetlands; however, the project has been specifically designed to avoid these grading, fill, removal of vegetation, or any other impact to these areas, either temporarily or permanently. In addition, the biological monitoring, construction fencing, and best management practices required by mitigation measures BIO-4 and BIO-5 above would prevent any inadvertent effects during construction. An RPO wetland buffer is not provided for the southern willow scrub northeast of the project site since the project is not subject to the RPO, and the project would not introduce a new land use that would require a buffer. Also, the sides of the pond would drain inward toward the bottom of the pond, and not run off toward the southern willow scrub. Additionally, because the proposed pond would be emptied for agricultural irrigation purposes as soon as possible after it is filled, the pond would not support wetland habitat in the future. Therefore, the project would not impact federally protected wetlands.

6.3.2 Issue 3 Mitigation Measures

No mitigation is required.

6.4 ISSUE 4: WILDLIFE MOVEMENT AND NURSERY SITES

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?

6.4.1 Issue 4 Impact Analysis

Less than Significant. No wildlife corridors, linkages, or wildlife nursery sites occur on or in the immediate vicinity of the project site, which does not support habitat that would contribute substantially to the assembly and function of any local or regional wildlife corridors or linkages.

Project implementation would impact a relatively small patch of Diegan coastal sage scrub that is surrounded by low density residential and/or agricultural lands. The project proposes no above-ground structures or impediments, and would not impede wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their reproduction, since the same type of habitat available within the project site also exists in the surrounding area. Impacts to wildlife movement and nursery sites would not occur and no additional mitigation is required.

6.4.2 Issue 4 Mitigation Measures

No mitigation is required.

6.5 ISSUE 5: LOCAL POLICIES AND ORDINANCES

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

6.5.1 Issue 5 Impact Analysis

No Impact. The project would not conflict with any local policies or ordinances protecting biological resources. Although not within City limits, the project is consistent with the tree protections in the City's General Plan because no oaks or other mature trees would be impacted by the project. No portions of the site support wetlands or sensitive habitat lands, as defined by the County's RPO, nor is the project subject to the RPO. The project is not subject to the NCCP guidelines that apply to projects outside of the adopted MSCP Subarea. The project would comply with the MBTA as specified in mitigation measure BIO-2, and would not result in the take of eagles, eagle eggs, or any part of an eagle. Consistency with the County's MSCP and BMO is addressed below within Issue 6.

6.5.2 Issue 5 Mitigation Measures

No mitigation is required.

6.6 ISSUE 6: ADOPTED CONSERVATION PLANS

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?

6.6.1 Issue 6 Impact Analysis

Less than Significant with Mitigation. The project would not substantially conflict with the provisions or conservation goals of the Metro-Lakeside-Jamul Segment of the County's MSCP Subarea Plan. The project site does not occur within lands designated as PAMA within the County's MSCP Subarea Plan (Figure 4), nor does it meet the criteria of a BRCA, as detailed below.

- The project site is not considered a PAMA on the wildlife agencies' PAMA map.
- The project site is not adjacent or contiguous to the PAMA.
- The project site is not part of a regional linkage/corridor, as the project site is situated on an island of undeveloped land surrounded by low-density residential development, and/or agricultural lands. Approximately 1.5 miles east of the project site is a large area of undeveloped land that could facilitate regional wildlife movement. Connectivity to this area from the project site is constrained and impeded due to urban and agricultural uses. The project site is located outside any recognized wildlife corridor or linkage. Further, the project site does not occur in an area designated by the USFWS as critical habitat for federally-listed species.

- The project site is not mapped as Very High or High on the Habitat Evaluation Map and does not link significant patches of habitat.
- The project site is not part of a patch of habitat greater than 500 acres in an area that contributes to the conservation of sensitive species.
- The project site does not support a high number of sensitive species and does not contain soils known to support sensitive species.

Surveys conducted in 2016 and 2017 demonstrated the absence of special status species, including rare plants, MSCP narrow endemics, and the coastal California gnatcatcher. The project would impact 6.5 acres of unoccupied Diegan coastal sage scrub. Projects subject to the BMO must mitigate within the MSCP Subarea. The BMO specifies a 1:1 mitigation ratio for projects that impact Tier II habitat outside of a BRCA and mitigate with Tier II habitat within a BRCA. Approved conservation banks are considered BRCAs. The project proposes off-site mitigation with Diegan coastal sage scrub (a Tier II habitat) at a 1:1 ratio at the Daley Ranch Conservation Bank in accordance with mitigation measure BIO-3. The Daley Ranch Conservation Bank is outside of the MSCP Subarea, which is allowable in this case because the project is not subject to the BMO. Mitigation at Daley Ranch makes sense for this project because Daley Ranch is much closer to the impact site, within four miles, as compared to the Willow Road Conservation Bank that is located within the MSCP subarea but almost 20 miles away. This means that the Daley Ranch Conservation Bank is more likely to support the same species as the impact site, and more likely to facilitate wildlife movement from the project site, thus providing superior mitigation for the impacted habitat than would be required under the BMO.

6.6.2 Issue 6 Mitigation Measures

No additional mitigation is required.

7.0 FEDERAL CONFORMANCE ANALYSIS FOR BIOLOGICAL RESOURCES ISSUES

7.1 ISSUE 1: FEDERAL ENDANGERED SPECIES ACT, SECTION 7

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may affect federally listed threatened or endangered species or their critical habitat that are known, or have a potential, to occur on site, in the surrounding area, or in the service area?

The project site is situated on an island of undeveloped land surrounded by low density residential development and/or agriculture. Approximately 1.5 miles east of the project site is a large area of undeveloped land that could facilitate regional wildlife movement. Connectivity to this area from the project site is impeded due to urban and agricultural uses. Within the project site there is evidence (tracks, beds, and observations) that it provides habitat for local wildlife. The project site is not located within a PAMA, and does not meet the requirements of a BRCA. The project site is located outside any recognized wildlife corridor or linkage. Further, the project site does not occur in an area designated by the USFWS as Critical Habitat for federally-listed species. Therefore, the proposed action would have no effect on Critical Habitat.

The site and immediate surrounding area does contain suitable habitat for one federally-listed species, the coastal California gnatcatcher. Further discussion is provided below regarding potential effects of the proposed action on federally-listed species.

Federally-Listed Plant Species. No federally-listed endangered (FE), threatened (FT), or candidate (FC) plant species are known or have the potential to occur in the vicinity of the project site.

Federally-Listed Animal Species. In total, one FT animal species is known to occur in the vicinity of the project site (Attachment C):

- Coastal California gnatcatcher (*Polioptila californica californica*); FT

The coastal California gnatcatcher was identified off site, within 500 feet of project impact areas, but was not observed within the project site itself (HELIX 2016). Although no direct effects to federally-listed animal species are anticipated, potential indirect effects could occur during project construction. Potential indirect effects on the coastal California gnatcatcher from project construction could include those resulting from temporary increases in noise. Indirect effects associated with noise could be potentially adverse and significant on gnatcatcher only if construction would occur during the breeding season and if the species would be nesting in the immediate vicinity of construction activities. If used, night lighting would also be considered an indirect impact of construction.

With the implementation of mitigation measure BIO-1, the proposed action is not likely to adversely affect gnatcatcher and the project would be in conformance with the ESA.

7.2 ISSUE 2: MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT, ESSENTIAL FISH HABITAT

Does the project involve any direct effects from construction activities, or indirect effects such as growth inducement that may adversely affect essential fish habitat?

The proposed project would be constructed within upland areas that lack marine resources and Essential Fish Habitat regulated under the Magnuson-Stevens Fishery Conservation and Management Act. No Essential Fish Habitat occurs in the immediate vicinity of the proposed project. Therefore, the proposed project would not adversely affect Essential Fish Habitat and would be in conformance with the Magnuson-Stevens Fishery Conservation and Management Act.

7.3 ISSUE 3: COASTAL ZONE MANAGEMENT ACT

Is any portion of the project site located within the coastal zone?

The project site is not located within the Coastal Zone. The west end of the project site is located approximately 14.0 miles from the nearest Coastal Zone boundary. No coastal habitat occurs in the immediate vicinity of the proposed project. Therefore, the proposed project would not adversely affect any areas designated as Coastal Zone and would be in conformance with the Coastal Zone Management Act.

7.4 ISSUE 4: MIGRATORY BIRD TREATY ACT

Will the project affect protected migratory birds that are known, or have a potential, to occur on site, in the surrounding area, or in the service area?

The project would impact trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA. Construction of the proposed project may result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds in violation of the MBTA. Direct impacts could occur as a result of removal of vegetation supporting an active nest.

With the implementation of Mitigation Measure BIO-2, the project would be in conformance with the MBTA.

7.5 ISSUE 5: PROTECTION OF WETLANDS

Does any portion of the project boundaries contain areas that should be evaluated for wetland delineation or require a permit from the United States Army Corps of Engineers?

The entire project would be constructed entirely within upland areas that do not support wetlands or other waters of the U.S. subject to the regulatory jurisdiction of the USACE; none occur within the project boundaries. Therefore, the project would have no effect on wetlands and would not require a permit from the USACE.

7.6 ISSUE 6: WILD AND SCENIC RIVER ACT

Is any portion of the project located within a wild and scenic river?

None of the proposed project components are planned on or in the immediate vicinity of areas designated as Wild and Scenic River. Therefore, the proposed project would not adversely affect any areas designated as Wild and Scenic River and would be in conformance with the Wild and Scenic Rivers Act.

8.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the fieldwork and/or preparation of this report.

Beth Ehsan*	M.S., Natural Resource Policy, University of Michigan, 2004 B.A., Conservation Biology, University of Wisconsin-Madison, 2001
Rebecca Kress	B.A., Geography, State University of New York, Geneseo, 1999
Jason Kurnow*	B.S., Wildlife Biology, Minor in Botany, Humboldt State University, 2001
Karl Osmundson†	B.S., Wildlife, Fish, and Conservation Biology, University of California, Davis, 2003
Aleksandra Richards	M.A., International Relations, University of San Diego, 2010 B.A., Communications, Emphasis in Print Journalism, California State University Fullerton, 2008

*Principal Authors

†County-approved Biological Consultant

9.0 REFERENCES

- American Ornithologists' Union. 2009. Fiftieth Supplement to the American Ornithologists' Union *Check-list of North American Birds*. http://www.aou.org/checklist/suppl/AOU_checklist_suppl_50.pdf
- Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Dragoo, M.D. Engstrom, R.S. Hoffmann, C.A. Jones, F. Reid, D.W. Rice, and C. Jones. 2003. Revised checklist of North American mammals north of Mexico. Occasional Papers of the Museum, Texas Tech University 223.
- Bowman, R. 1973. Soil Survey of the San Diego Area. U.S. Department of Agriculture in cooperation with the USDI, UC Agricultural Experiment Station, Bureau of Indian Affairs, Department of the Navy, and the U.S. Marine Corps.
- California Department of Fish and Wildlife. 2016. California Natural Diversity Database (CNDDDB). RareFind Database Program, Version 5.2.7.
1965. California fish and wildlife plan. The Resources Agency Volume 3(c): 908.
- California Native Plant Society (CNPS). 2016. Inventory of Rare and Endangered Plants. Internet searchable database Version 7-16. URL: <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi> . November 13.
- Collins, Joseph T. and Travis W. Taggart. 2002. Standard Common and Current Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodylians, 5th Edition. Publication of The Center for North American Herpetology, Lawrence, Kansas. iv + 44 pp.
- County of San Diego. 2011. San Diego County Code Title 8 Zoning and Land Use Regulations, Division 6. Miscellaneous Land Use Regulations. Chapter 6. Resource Protection Ordinance. October 14.
2010. Report Format and Content Requirements, Biological Resources. Fourth Revision, September 15.
2009. Guidelines for Determining Significance Biological Resources. June 30.
1998. Final Multiple Species Conservation Program, MSCP Plan. August.
1997. Multiple Species Conservation Program. County of San Diego Subarea Plan. October 22.
- Heath, Fred. 2004. An Introduction to Southern California Butterflies. Mountain Press Publishing Company. Missoula, Montana.
- HELIX Environmental Planning, Inc. (HELIX). 2016. Year 2016 Coastal California Gnatcatcher (*Poliioptila californica californica*) Survey Report for the Escondido Emergency Storage Pond Project. August 11.
- Hickman, J.C., ed. 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley, 1400 pp.

- Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California Resources Agency.
- Oberbauer, T. 2008. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. Revised from 1996 and 2005. July.
- Rebman, Jon P. and Michael G. Simpson. 2006. Checklist of the Vascular Plants of San Diego County. 4th Edition. San Diego Natural History Museum, San Diego, California. 100 pp.
- Tracey, J.A., Madden, M.C., Sebes, J.B., Bloom, P.H., Katzner, T.E., and Fisher, R.N. 2016. Biotelemetry data for golden eagles (*Aquila chrysaetos*) captured in coastal southern California, November 2014–February 2016: U.S. Geological Survey Data Series 994, 32 p., <http://dx.doi.org/10.3133/ds994>.
- Zeiner, D., W. Laudenslayer, and K. Mayer eds. 1988. California Statewide Wildlife Habitat Relationships System. Volume 1: Amphibians and Reptiles. California Department of Fish and Game: The Resource Agency, Sacramento.

This page intentionally left blank

Appendix A

Plant Species Observed

Appendix A PLANT SPECIES OBSERVED

Family	Species Name	Common Name	Habitat
MONOCOTS			
Agavaceae	<i>Chlorogalum parviflorum</i>	small-flower soap-plant	DCSS
	<i>Hesperoyucca whipplei</i>	Our Lord's candle	DCSS
Asphodelaceae	<i>Asphodelus fistulosus</i>	onion weed*	DCSS
EUDICOTS			
Adoxaceae	<i>Sambucus nigra</i> ssp. <i>canadensis</i>	black elderberry	DCSS
Anacardiaceae	<i>Malosma laurina</i>	laurel sumac	DCSS
Asteraceae	<i>Artemisia californica</i>	California sagebrush	DCSS
	<i>Baccharis sarothroides</i>	broom baccharis	DCSS
	<i>Cirsium occidentale</i> var. <i>californicum</i>	California thistle	DCSS
	<i>Eriophyllum confertiflorum</i>	golden-yarrow	DCSS
	<i>Gutierrezia californica</i>	California matchweed	DCSS
	<i>Hazardia squarrosa</i> var. <i>grindelioides</i>	saw-toothed goldenbush	DCSS
	<i>Pseudognaphalium californicum</i>	California everlasting	DCSS
Boraginaceae	<i>Amsinckia</i> spp.	fiddleneck	DCSS
	<i>Cryptantha</i> sp.	cryptantha	DCSS
	<i>Phacelia cicutaria</i> var. <i>hispida</i>	caterpillar phacelia	DCSS
	<i>Plagiobothrys</i> spp.	popcorn flower	DCSS
Brassicaceae	<i>Brassica nigra</i>	black mustard*	DCSS
Convolvulaceae	<i>Cuscuta californica</i>	dodder	DCSS
Cucurbitaceae	<i>Marah macrocarpa</i>	wild cucumber	DCSS
Euphorbiaceae	<i>Euphorbia</i> sp.	spurge	DCSS
	<i>Croton setigerus</i>	dove weed	DCSS
Lamiaceae	<i>Salvia apiana</i>	white sage	DCSS
Myrsinaceae	<i>Anagallis arvensis</i>	scarlet pimpernel*	DCSS
Nyctaginaceae	<i>Mirabilis laevis</i> ssp. <i>crassifolia</i>	wishbone bush	DCSS
Phrymaceae	<i>Mimulus aurantiacus</i>	monkey-flower	DCSS
	<i>Mimulus</i> spp.	monkey-flower	DCSS
Plantaginaceae	<i>Antirrhinum nuttallianum</i>	Nuttall's snapdragon	DCSS
	<i>Penstemon spectabilis</i>	beard-tongue	DCSS
Polygonaceae	<i>Eriogonum fasciculatum</i>	California buckwheat	DCSS
Rosaceae	<i>Adenostoma fasciculatum</i>	chamise	DCSS
Scrophulariaceae	<i>Scrophularia californica</i>	California figwort	DCSS

*Species is non-native

This page intentionally left blank

Appendix B

Animal Species Observed

Appendix B
ANIMAL SPECIES OBSERVED OR DETECTED

Family	Scientific Name†	Common Name
INVERTEBRATES		
Lepidoptera	<i>Anthocharis sara</i>	Sara orangetip
	<i>Apodemia virgulti</i>	Behr's Metalmark
	<i>Junonia coenia</i>	common buckeye
	<i>Papilio zelicaon</i>	anise swallowtail
VERTEBRATES		
Reptiles		
Phrynosomatidae	<i>Sceloporus occidentalis</i>	western fence lizard
Birds		
Accipitridae	<i>Accipiter cooperii</i> †	Cooper's hawk
	<i>Buteo jamaicensis</i>	red-tailed hawk
Aegithalidae	<i>Psaltriparus minimus</i>	bushtit
Cathartidae	<i>Cathartes aura</i> †	turkey vulture
Columbidae	<i>Zenaida macroura</i>	mourning dove
Corvidae	<i>Aphelocoma coerulescens</i>	California scrub jay
	<i>Corvus brachyrhynchos</i>	American crow
	<i>Corvus corax</i>	common raven
Emberizidae	<i>Pipilo crissalis</i>	California towhee
	<i>Pipilo maculatus</i>	spotted towhee
Fringillidae	<i>Carpodacus mexicanus</i>	house finch
	<i>Carduelis psaltria</i>	lesser goldfinch
Hirundinidae	<i>Petrochelidon pyrrhonota</i>	cliff swallow
Mimidae	<i>Toxostoma redivivum</i>	California thrasher
	<i>Mimus polyglottos</i>	northern mockingbird
Odontophoridae	<i>Callipepla californica</i>	California quail
Picidae	<i>Colaptes auratus</i>	northern flicker
Sylviidae	<i>Chamaea fasciata</i>	wrentit
Trochilidae	<i>Calypte anna</i>	Anna's hummingbird
Troglodytidae	<i>Thryomanes bewickii</i>	Bewick's wren
Tyrannidae	<i>Empidonax difficilis</i>	Pacific-slope flycatcher
	<i>Tyrannus vociferans</i>	Cassin's kingbird
Mammals		
Leporidae	<i>Sylvilagus audubonii</i>	Audubon's cottontail
Canidae	<i>Canis latrans</i>	coyote
Cricetidae	<i>Neotoma cinerea</i>	woodrat

†sensitive

This page intentionally left blank

Appendix C

Explanation of Status Codes
for Plant and Animal Species

Appendix C

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL AND STATE CODES

U.S. Fish and Wildlife Service (USFWS)

FE	Federally listed endangered
FC	Federal candidate species (discussed in more detail, below)
FT	Federally listed threatened
BCC	Birds of Conservation Concern (discussed in more detail, below)

USFWS Federal Candidate (FC) Species

Federal candidate species are those for which the USFWS has on file “sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened, but for which preparation and publication of a proposal is precluded by higher-priority listing actions. [The USFWS] maintain[s] this list for a variety of reasons: to notify the public that these species are facing threats to their survival; to provide advance knowledge of potential listings that could affect decisions of environmental planners and developers; to provide information that may stimulate conservation efforts that will remove or reduce threats to these species; to solicit input from interested parties to help us identify those candidate species that may not require protection under the [Endangered Species Act] or additional species that may require the Act’s protections; and to solicit necessary information for setting priorities for preparing listing proposals” (Federal Register 70:90 [May 11, 2005]).

USFWS Birds of Conservation Concern (BCC)

The primary legal authority for Birds of Conservation Concern (2008) is the Fish and Wildlife Conservation Act of 1980 (FWCA), as amended. Other authorities include the Endangered Species Act, Fish and Wildlife Act (1956) and 16 USC §701. A FWCA 1988 amendment (Public Law 100-653, Title VIII) requires the Secretary of the Interior through the USFWS to “identify species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973.” The 2008 BCC report is the most recent effort by the USFWS to carry out this proactive conservation mandate.

The BCC report aims to identify accurately the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS’ highest conservation priorities and draw attention to species in need of conservation action. The USFWS hopes that by focusing attention on these highest priority species, the report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby ensuring the future of healthy avian populations and communities. Birds of Conservation Concern 2008 lists are available online at <https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>.

California Department of Fish and Wildlife (CDFW)

SE	State listed endangered
ST	State listed threatened
SSC	State species of special concern

Appendix C (cont.)

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FP Fully Protected species refers to all vertebrate and invertebrate taxa of concern to the Natural Diversity Data Base regardless of legal or protection status. These species may not be taken or possessed without a permit from the Fish and Game Commission and/or CDFG.

OTHER CODES AND ABBREVIATIONS

Multiple Habitat Conservation Program (MHCP) Covered Species (City of Escondido)

Species listed as MHCP covered species indicate that these species would receive formal protection and take authorization upon MHCP approval under the federal and state and Endangered Species acts.

MHCP Narrow Endemic

Narrow endemic species are native species that have “restricted geographic distributions, soil affinities, and/or habitats.” The MSCP participants’ subarea plans have specific conservation measures to ensure impacts to narrow endemics are avoided to the maximum extent practicable.

County of San Diego

Plant Sensitivity

- Group A Plants rare, threatened, or endangered in California and elsewhere
- Group B Plants rare, threatened, or endangered in California but more common elsewhere
- Group C Plants that may be quite rare but need more information to determine true rarity status
- Group D Plants of limited distribution and are uncommon but not presently rare or endangered

Animal Sensitivity

- Group 1 Animals that have a very high level of sensitivity either because they are listed as threatened or endangered or because they have very specific natural history requirements.
- Group 2 Animal species that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action. These species tend to be prolific within their suitable habitat types.

Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which the County of San Diego and City of San Diego have take authorization within the MSCP (South County) subarea and City of San Diego subarea.

Appendix C (cont.)

EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Native Plant Society (CNPS) Codes

Lists	List/Threat Code Extensions
1A = Presumed extirpated in California and either rare or extinct elsewhere. Eligible for state listing.	.1 = Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.	.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
2A = Presumed extirpated in California but common elsewhere. Eligible for state listing.	.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)
2B = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.	A "CA Endemic" entry corresponds to those taxa that only occur in California.
3 = Review List: Plants about which more information is needed. Some eligible for state listing.	All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.
4 = Watch List: Plants of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.	

This page intentionally left blank

Appendix B2

Coastal California Gnatcatcher Survey Report

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
Suite 200
La Mesa, CA 91942
619.462.1515 tel
619.462.0552 fax
www.helixepi.com



August 11, 2016

WSY-03

Ms. Stacey Love
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: Year 2016 Coastal California Gnatcatcher (*Polioptila californica californica*) Survey
Report for the Escondido Emergency Storage Pond Project

Dear Ms. Love:

This letter presents the results of a U.S. Fish and Wildlife Service (USFWS) protocol presence/absence survey for the federally listed as threatened coastal California gnatcatcher (*Polioptila californica californica*; CAGN) conducted by HELIX Environmental Planning, Inc. (HELIX) for a potential pond site and access route for the Escondido Emergency Storage Pond Project (project). This report documents the Year 2016 CAGN survey methods and results. It is being submitted to the USFWS as a condition of HELIX's Threatened and Endangered Species Permit (TE778195-13), as recently amended.

PROJECT LOCATION

The project site is located within an unincorporated part of San Diego County, California (Figure 1). The project site occurs within Township 12 South, Range 1 West of unsectioned lands on the San Bernardino Base and Meridian U.S. Geological Survey 7.5-minute Escondido quadrangles (Figure 2). Specifically, the site is located approximately 550 feet west of the terminus of Via Sinsonte (Figure 3).

The project site is located within the boundaries of the draft City of Escondido Multiple Habitat Conservation Program (MHCP) Subarea Plan; however, this draft Plan has not yet been approved or adopted.

METHODS

The survey consisted of six visits that were performed by HELIX biologist Jason Kurnow (TE778195-13) in accordance with the current (1997) USFWS protocol. The survey area included the potential pond site and access route that extends west from Via Sinsonte (Figure 4). Areas within 500 feet of the survey area were also visually inspected, when suitable habitat was present. Potential CAGN habitat consisted of approximately 3.0 acres of Diegan coastal sage scrub. Table 1 details the survey dates, times, and conditions.

**Table 1
COASTAL CALIFORNIA GNATCATCHER SURVEY INFORMATION**

SITE VISIT	SURVEY DATE	BIOLOGIST	START/ STOP TIMES	APPROX. ACRES SURVEYED/ ACRES PER HOUR	START/STOP WEATHER CONDITIONS
1	6/7/16	Jason Kurnow	0815/0915	3.0 ac/ 3.0 ac/hr	64°F, wind 1-3 mph, 100% cloud cover 64°F, wind 0-1 mph, 100% cloud cover
2	6/14/16	Jason Kurnow	0700/0800	3.0 ac/ 3.0 ac/hr	63°F, wind 0-1 mph, 100% cloud cover 63°F, wind 0-1 mph, 100% cloud cover
3	6/21/16	Jason Kurnow	0715/0800	3.0 ac/ 4.0 ac/hr	70°F, wind 0-1 mph, 0% cloud cover 74°F, wind 0-1 mph, 0% cloud cover
4	6/28/16	Jason Kurnow *Katie Bellon	0700/0745	3.0 ac/ 4.0 ac/hr	66°F, wind 0mph, 0% cloud cover 72°F, wind 0 mph, 0% cloud cover
5	7/5/16	Jason Kurnow	0700/0800	3.0 ac/ 3.0 ac/hr	61°F, wind 1-3 mph, 100% cloud cover 63°F, wind 0-1mph, 0% cloud cover
6	7/12/16	Jason Kurnow	0745/0900	3.0 ac/ 2.1 ac/hr	64°F, wind 0 mph, 100% cloud cover 71°F, wind 0 mph, 0% cloud cover

* Supervised Individual

The surveys were conducted by walking within and along the perimeter of suitable CAGN habitat within the survey area. The survey route was arranged to ensure complete survey coverage of habitat with potential for occupancy by CAGN. Surveys were conducted with

binoculars to aid in bird observation. Recorded CAGN vocalizations were played sparingly and only if other means of detection had failed. If CAGN was detected before playing recorded vocalizations, the recordings were not played. Once CAGN was initially detected in an area, use of playback was discontinued. The approximate survey route followed is depicted on Figure 4.

VEGETATION COMMUNITIES/LAND USE TYPES

Three vegetation communities/land use types were identified within the survey area, all of which are upland communities. They include Diegan coastal sage scrub disturbed habitat, and developed land. Vegetation communities were mapped and classified according to Holland (1986). Each vegetation community/habitat type is briefly described below.

Diegan Coastal Sage Scrub

Although it has been greatly reduced from its historical distribution (Oberbauer 2005), Diegan coastal sage scrub is one of the major shrub communities in southern California that occupies xeric sites with shallow soils. Dominated by drought-deciduous shrubs with shallow root systems and open canopies, coastal sage scrub communities often contain a substantial herbaceous component. Diegan coastal sage scrub occurs in coastal southern California from Los Angeles County into northwestern Baja California, Mexico (Holland 1986), where it supports a number of threatened, endangered, and rare vascular plants as well as several bird and reptile species that are candidates for federal listing. Typical coastal sage scrub species include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), California encelia (*Encelia californica*), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), and lemonadeberry (*Rhus integrifolia*). Within the survey area, coastal sage scrub occurs at the potential pond site and along portions of the potential access route leading up to the pond site. Additional coastal sage scrub occurs to the general north and west of the survey area.

Disturbed Habitat

Disturbed habitat includes unvegetated or sparsely vegetated areas, particularly where soil has been heavily compacted by prior development or where agricultural lands have been abandoned. Disturbed habitat is generally dominated by non-native weedy species that adapt to frequent disturbance or consists of dirt trails and roads. Within the survey area, disturbed habitat occurs as an existing dirt road within the potential access route for the pond site.

Developed

Developed land is where permanent structures and/or pavement have been placed, preventing the growth of vegetation. Within the survey area, developed land occurs as paved roadway for Via Sinsonte.

RESULTS

No CAGN were observed or otherwise detected within the survey area. The coastal sage scrub habitat within the survey area is suitable for CAGN, although it was not occupied during the Year 2016 survey effort. HELIX noted a change in condition within the survey area during the survey effort as a result of what appeared to be brush management activities completed by the property owner. This change in condition was noted on HELIX's fourth site visit on June 28, 2016. Some of the vegetation had been mowed and crushed within the survey area, and specifically, in the vicinity of the northern portion of the potential pond site. Although mowed and crushed in some locations, none of the vegetation appeared to be uprooted, nor were there indications that grading activities had occurred.

In addition, although no CAGN were observed within the survey area itself, a male CAGN was incidentally observed within off-site coastal sage scrub immediately north of the cul-de-sac for Via Sinsonte (Figure 4). This individual was observed during the initial five survey visits, but was not observed during the July 12, 2016 survey visit. The individual male was observed using habitat located approximately 650 feet from the pond site location and 250 feet from the closest access route location.

CERTIFICATION

I certify that the information in this survey report and enclosed exhibit fully and accurately represents my work.

Sincerely,



Jason Kurnow
Senior Scientist

Enclosures:

Figure 1 Regional Location Map

Figure 2 Project Vicinity (USGS Topography)

Figure 3 Project Vicinity (Aerial Photograph)

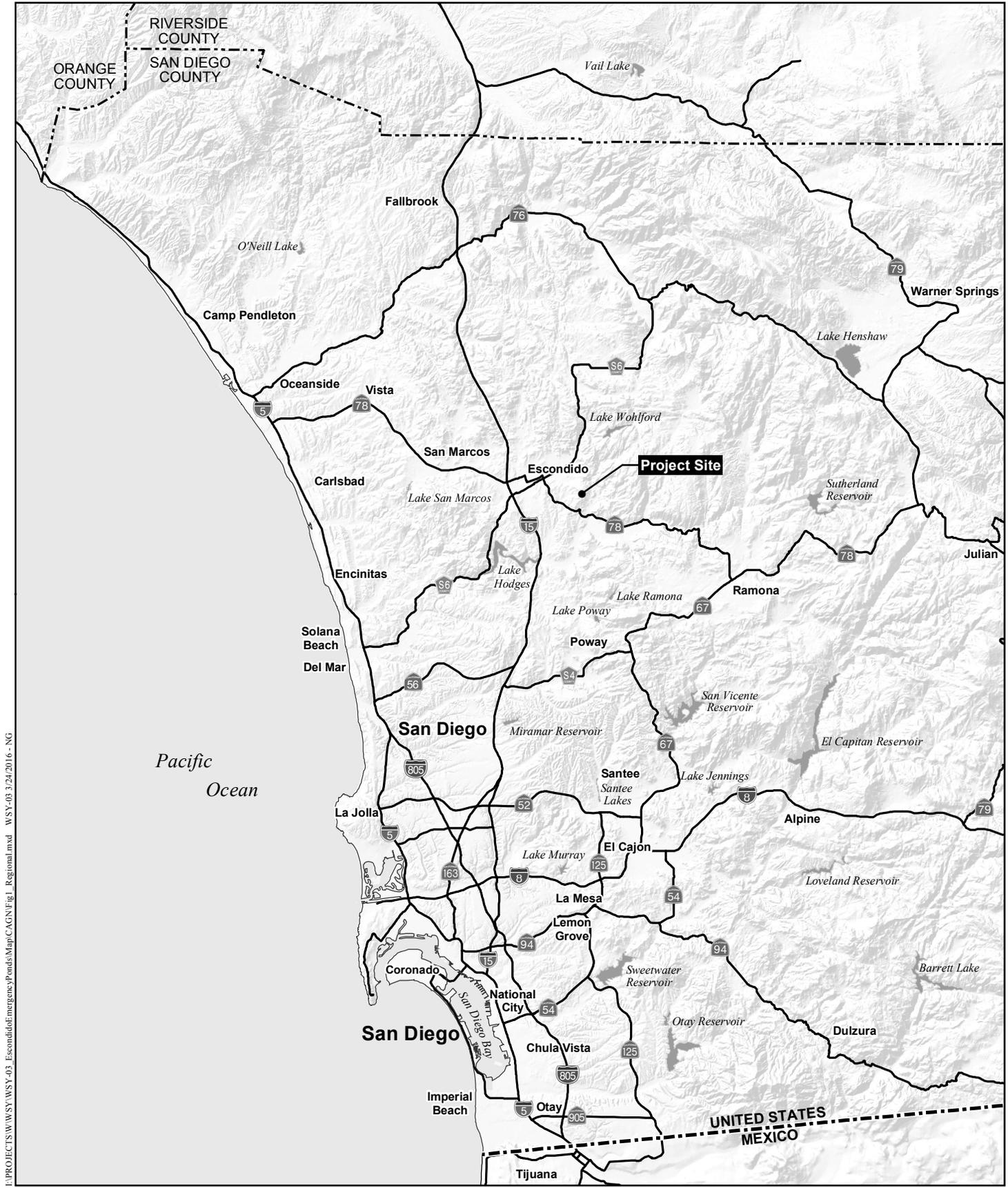
Figure 4 Vegetation Community and Coastal California Gnatcatcher Survey Route Map

REFERENCES

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. State of California, The Resources Agency, 156 pp.

Oberbauer, Thomas. 2008. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. Revised from 1996 and 2005. July.

U.S. Fish and Wildlife Service. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. 5pp.



I:\PROJECTS\W\SY\WSY-03_EscondidoEmergencyPonds\Map\CAGN\Fig1_Regional.mxd WSY-03_3/24/2016 - NG

Regional Location Map

ESCONDIDO EMERGENCY STORAGE POND PROJECT

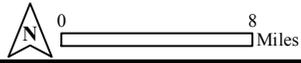
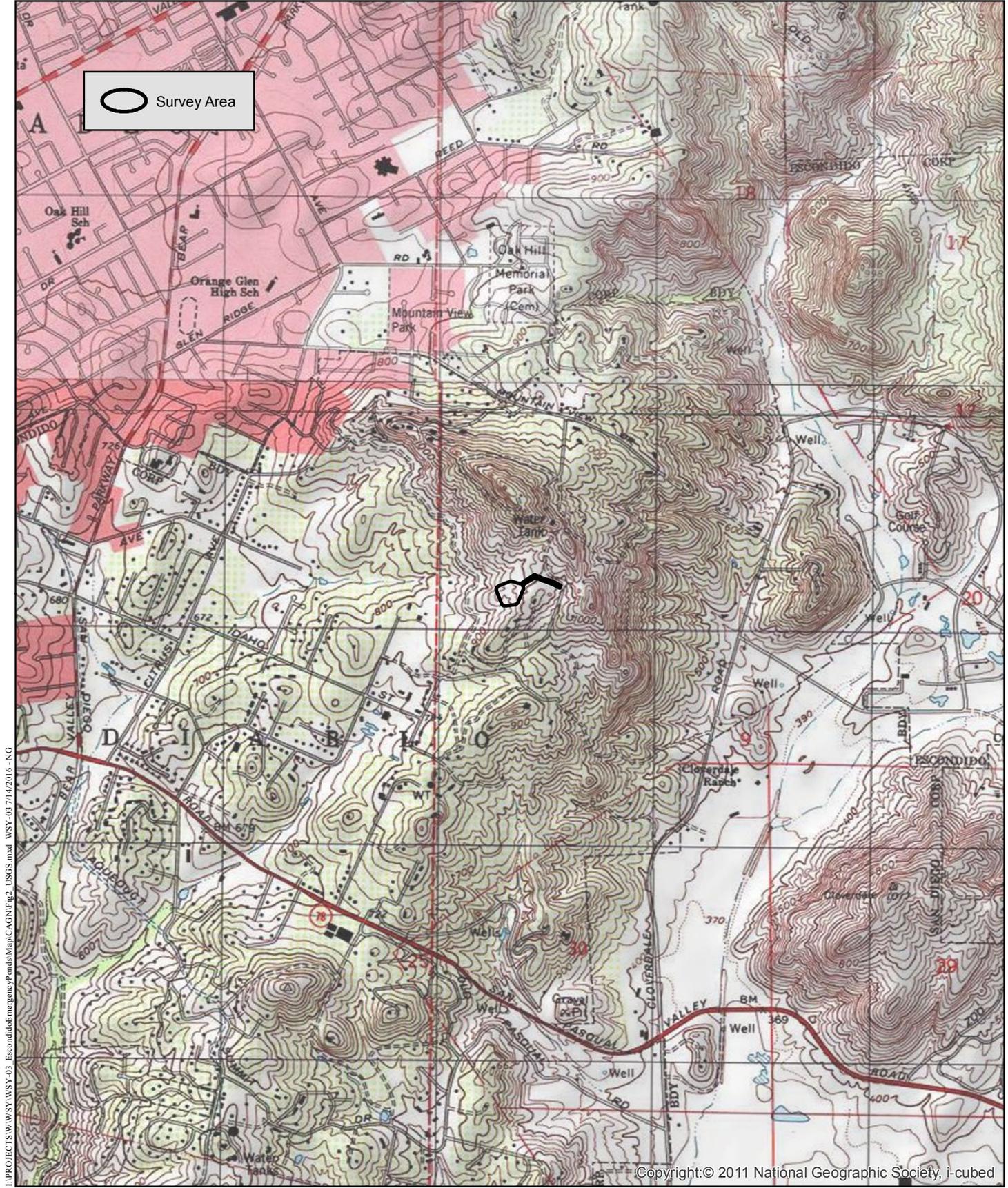


Figure 1



I:\PROJECTS\W\WSY\03 - Escondido\emergency.ponds\Map\CAGN\Fig2_USGS.mxd WSY-03/7/14/2016 - NG

Copyright: © 2011 National Geographic Society, i-cubed

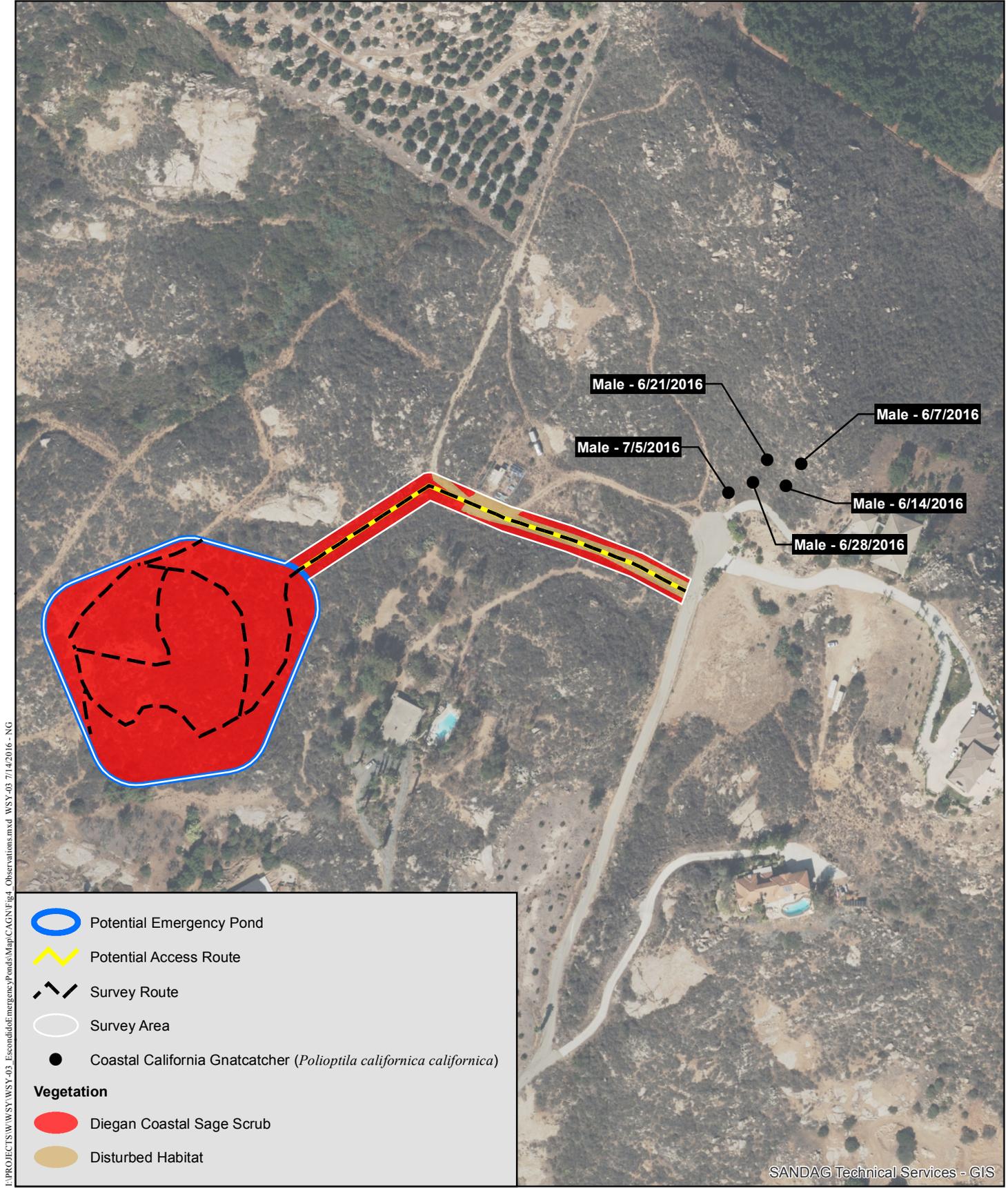
Project Vicinity (USGS Topography)

ESCONDIDO EMERGENCY STORAGE POND PROJECT



Project Vicinity (Aerial Photograph)

ESCONDIDO EMERGENCY STORAGE POND PROJECT



Vegetation Community and Coastal California Gnatcatcher Survey Route Map

ESCONDIDO EMERGENCY STORAGE POND PROJECT

Appendix C

Cultural Resources Survey and Assessment

Emergency Recycled Water Storage Pond Project

CULTURAL RESOURCES SURVEY AND ASSESSMENT

April 2018 | ESC-26



Mary Robbins-Wade
Director of Cultural Resources

Prepared for:

City of Escondido, Utilities Department
201 N. Broadway
Escondido, CA 92025

Prepared by:

HELIX Environmental Planning, Inc.
7578 El Cajon Boulevard
La Mesa, CA 91942

Emergency Recycled Water Storage Pond Project

Cultural Resources Survey and Assessment

Prepared for:

City of Escondido, Utilities Department

201 N. Broadway
Escondido, CA 92025

Prepared by:

HELIX Environmental Planning, Inc.

7578 El Cajon Boulevard
La Mesa, CA 91942

April 2018 | ESC-26

National Archaeological Database Information

Authors: Kristina Davison and Mary Robbins-Wade, RPA

Firm: HELIX Environmental Planning, Inc.

Client/Project: City of Escondido Utilities Department/ Emergency Recycled Water Storage Pond Project

Report Date: April 2018

Report Title: Cultural Resources Survey and Assessment for the City of Escondido Emergency Recycled Water Storage Pond Project

Type of Study: Cultural Resources Survey and Assessment

New Sites: Sinsonte 1 and Sinsonte 2 (permanent site numbers pending)

Updated Sites: None

USGS Quad: Escondido 7.5-minute Quadrangle

Acreage:

Key Words: San Diego County, Escondido; inland; positive archaeological survey and testing; bedrock milling features, flaked stone (debitage, hammer, rejuvenation flake), ground stone (mano fragment); Township 12 South, Range 1 West, unsectioned

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION.....	1
1.1 Project Location And Description	1
1.2 Regulatory Framework	1
1.2.1 California Environmental Quality Act	1
1.2.2 National Historic Preservation Act.....	3
1.2.3 Tribal Cultural Resources	4
2.0 PROJECT SETTING.....	5
2.1 Physical Environmental Setting	5
2.2 Cultural Environment.....	5
2.2.1 Prehistory.....	5
2.2.2 Historic Background.....	7
2.2.3 Native American Perspective.....	8
2.2.4 Project Vicinity	8
3.0 STUDY METHODS	9
3.1 Field Survey Methods	9
3.2 Testing Methods	9
4.0 PREVIOUS RESEARCH	10
4.1 Previously Recorded Resources	10
4.2 Previous Studies.....	11
5.0 RESULTS	11
5.1 2018 Field Survey.....	11
5.2 2018 Testing.....	14
5.3 Native American Outreach	15
5.4 Historic Topographic Maps and Aerial Photographs	16
6.0 IMPACTS, SIGNIFICANCE, AND MITIGATION RECOMMENDATIONS.....	16
6.1 Impacts and Significance.....	16
6.2 Mitigation Recommendations	16
7.0 REFERENCES.....	19

TABLE OF CONTENTS (cont.)

LIST OF APPENDICES

- A Resumes of Key Personnel
- B Artifact Catalogs

LIST OF CONFIDENTIAL APPENDICES (Bound Separately)

- A Records Search Maps
- B Native American Correspondence
- C Site Records
- D Cultural Resource Maps

LIST OF FIGURES

<u>No.</u>	<u>Title</u>	<u>Follows Page</u>
1	Regional Location	2
2	USGS Topography	2
3	Project Vicinity (Aerial Photograph)	2
4	Project Plan	2
5	Site Map	in Confidential Appendix D
6	Site in Relation to Project Plan	in Confidential Appendix D

LIST OF TABLES

<u>No.</u>	<u>Title</u>	<u>Page</u>
1	Previously Recorded Resources within ½ Mile	10

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
AMSL	above mean sea level
APE	Area of Potential Effect
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
CRHR	California Register of Historical Resources
GPS	Global Positioning System
HELIX	HELIX Environmental Planning, Inc.
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
PRC	Public Resources Code
SLF	Sacred Lands File
SHPO	State Historic Preservation Officer
SCIC	South Coastal Information Center
STP	shovel test pit
THPO	Tribal Historic Preservation Officer
TCP	Traditional Cultural Properties
TCR	Tribal Cultural Resources
USGS	U.S. Geological Survey

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

The Emergency Recycled Water Storage Pond Project (project) site is located in an unincorporated area in northern San Diego County, adjacent to the City of Escondido (City). The project area is located east of Interstate 15, north of State Route 78, and west of San Pasqual Valley. Specifically, the project site is just west of Via Sinsonte, and the proposed access road for the pond spans between the pond and Via Sinsonte. The project area is in an unsectioned portion of Township 12 South, Range 1 West on the U.S. Geological Survey (USGS) 7.5-minute Escondido quadrangle, in the former Rancho Rincon del Diablo.

The project proposes to develop the site for use as an emergency storage pond for excess recycled water as part of the City's recycled water program. The project plan includes the existing permanent easement that connects the proposed pond location to Via Sinsonte and would be used as an access road; temporary and permanent easements outside of the grading footprint are also included in the current project plan. In addition, one 8-inch diameter pond fill pipe and one 8-inch pond drain line would be installed and would extend outside of the grading footprint of the pond. The pond basin would measure approximately 308 feet east/west by 225 feet north/south and would include graded slopes down into the pond.

HELIX Environmental Planning, Inc. (HELIX) was contracted to conduct a cultural resources survey and assessment program for the project. Two pond locations were surveyed for cultural resources in 2016. The project was subsequently redesigned, and a single pond location is now proposed, in a different footprint from the one studied in 2016. This location was surveyed for cultural resources in January 2018; a testing program was conducted in March 2018 at two archaeological sites identified within the project site.

Site Sinsonte-1 includes one bedrock milling feature with three slicks, as well as three flaked stone artifacts and eight fragments of animal bone on the surface. No subsurface cultural material was recovered in five shovel test pits (STPs) excavated at the site. Sinsonte-2 includes two bedrock milling features, one with a single slick and one with three slicks. Nine surface artifacts were collected from Sinsonte-2, including a mano fragment, a flaked stone hammer, a rejuvenation flake, and six debitage. A mano recovered in an STP was the only subsurface cultural material encountered (two STPs were excavated at the site). Based on the very limited cultural material recovered, the sites do not meet the criteria for significance under the California Environmental Quality Act or the National Historic Preservation Act. Thus, impacts would not constitute significance effects. However, the general area is rich in cultural resources, and ground visibility was poor during the survey and testing. Therefore, there is a potential for encountering cultural material during project implementation. A cultural resources monitoring program is recommended, as detailed in this report. If cultural resources are identified during monitoring, they will be assessed, and appropriate avoidance or mitigation measures will be implemented.

THIS PAGE INTENTIONALLY LEFT BLANK

1.0 INTRODUCTION

1.1 PROJECT LOCATION AND DESCRIPTION

The Emergency Recycled Water Storage Pond Project (project) site is located in an unincorporated area in northern San Diego County, adjacent to the City of Escondido (City). The project area is located east of Interstate (I-) 15, north of State Route (SR-) 78, and west of San Pasqual Valley (Figure 1, *Regional Location*). Specifically, the project site is just west of Via Sinsonte, and the proposed access road for the pond spans between the pond and Via Sinsonte (Figures 2 and 3, *USGS Topography* and *Project Vicinity [Aerial Photograph]*, respectively). The project area is in an unsectioned portion of Township 12 South, Range 1 West on the U.S. Geological Survey (USGS) 7.5-minute Escondido quadrangle, in the former Rancho Rincon del Diablo (Figure 2).

The project proposes to develop the site for use as an emergency storage pond for excess recycled water as part of the City's recycled water program. The project plan includes the existing permanent easement which connects the proposed pond location to Via Sinsonte and would be used as an access road; temporary and permanent easements outside of the grading footprint are also included in the current project plan. In addition, one 8-inch pond fill pipe and one 8-inch pond drain line would be installed and would extend outside of the grading footprint of the pond. The pond basin would measure approximately 308 feet east/west by 225 feet north/south and would include graded slopes down into the pond (Figure 4, *Project Plan*).

HELIX Environmental Planning, Inc. (HELIX) was contracted to conduct a cultural resources survey and assessment program for the project. Two pond locations were surveyed for cultural resources in 2016. The project was subsequently redesigned, and a single pond location is now proposed. This location was surveyed for cultural resources in January 2018; a testing program was conducted in March 2018 at two archaeological sites identified within the project site. Mary Robbins-Wade, RPA, served as the principal investigator/project manager. Kristina Davison was the crew chief for the 2018 study. Native American monitoring was provided by Red Tail Monitoring and Research (Kumeyaay) and Saving Sacred Sites (Luiseño). Resumes of key HELIX personnel are included in Appendix A.

1.2 REGULATORY FRAMEWORK

Resource importance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of the region in history, architecture, archaeology, engineering, and culture. Several criteria are used in demonstrating resource importance. Specifically, criteria outlined in the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA) provide the guidance for making such a determination. This section details the criteria that a resource must meet in order to be determined significant.

1.2.1 California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines (§15064.5) address determining the significance of impacts to archaeological, historic, and tribal cultural resources. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance (Office of Historic Preservation 1995). Significant

resources are designated as “historical resources,” and are defined per Public Resources Code 21084.1 and CEQA Guidelines, California Code of Regulations (CCR) Title 14 Section 15064.5 as follows:

- Resource(s) listed or eligible for listing in the California Register of Historic Resources (CRHR) (14 CCR Section 15064.5[a][1])
- Resource(s) either listed in the National Register of Historic Places (NRHP) or in a “local register of historical resources” unless “the preponderance of evidence demonstrates that it is not historically or culturally significant” (14 CCR Section 15064.5[a][2])
- Resources identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code (14 CCR Section 15065.5[a][2])

For listing in the CRHR, a historical resource must be significant at the local, state, or national level under one or more of the following four criteria:

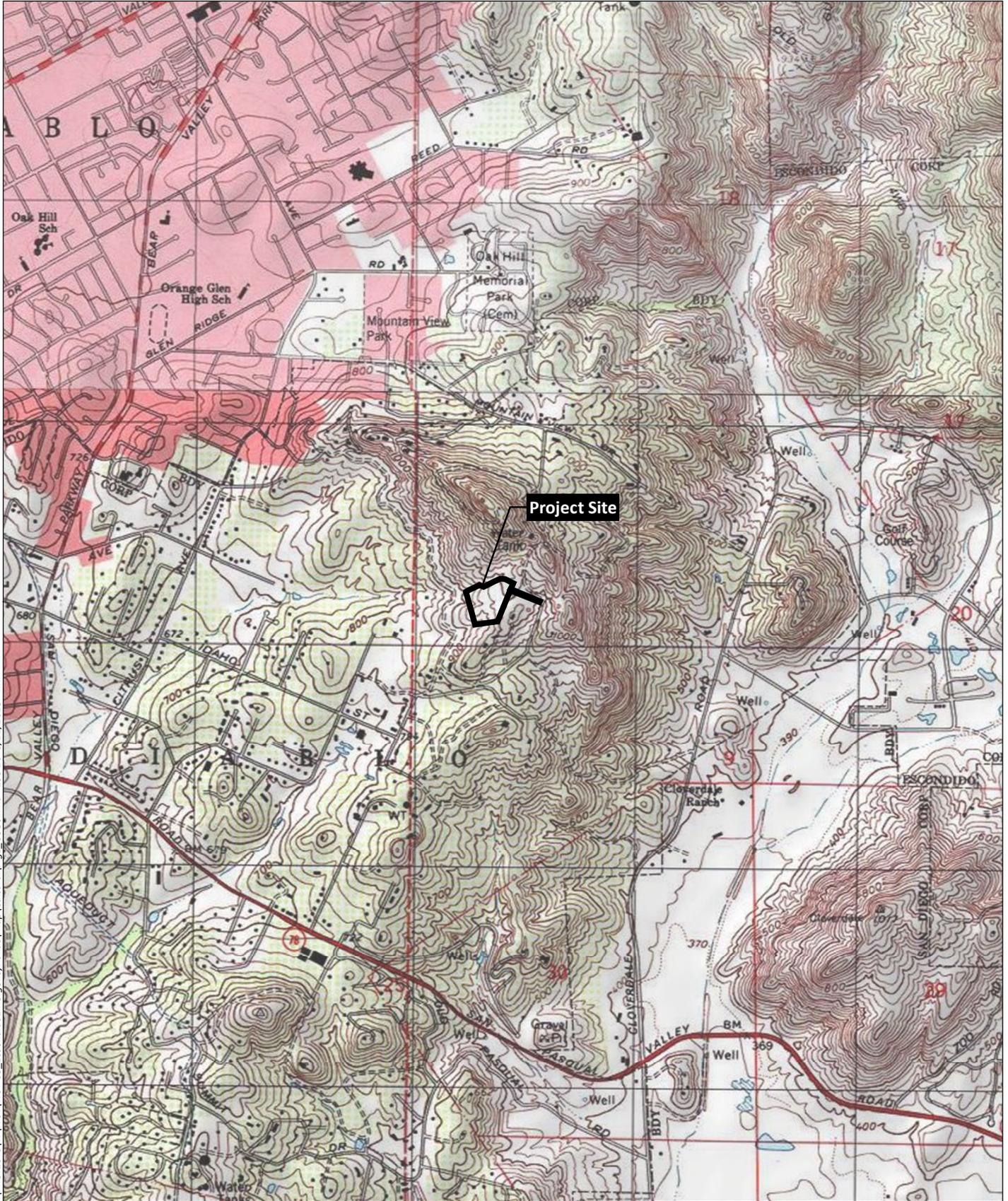
- A. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- B. It is associated with the lives of persons important to local, California, or national history;
- C. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; and
- D. It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

All resources nominated for listing must have integrity, which is the authenticity of a historical resource’s physical identity evidenced by the survival of characteristics that existed during the resource’s period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. A resource must also be judged with reference to the particular criteria under which it is proposed for nomination.

Under 14 CCR Section 15064.5(a)(3), the final category of “historical resources” may be determined at the discretion of the lead agency.

CEQA also addresses tribal cultural resources. Section 21074 of the statute reads:

- (a) “Tribal cultural resources” are either of the following:
 - (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

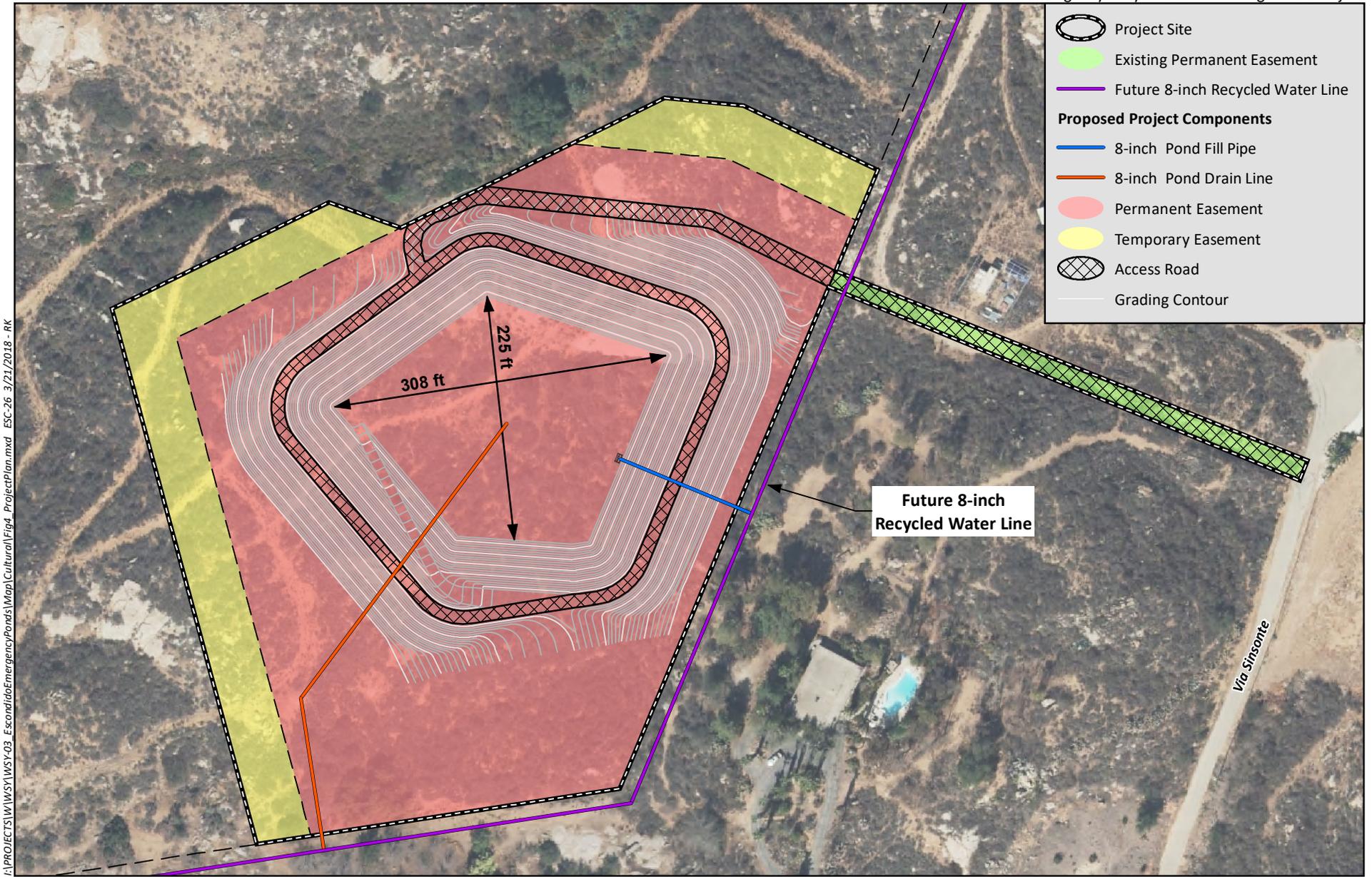


I:\PROJECTS\WWSY\WWSY-03_EsccondidoEmergencyPonds\Map\Cultural\Fig2_USGS.mxd ESC-26 3/21/2018 - RK

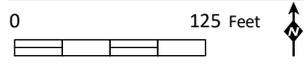
Source: Esccondido 7.5' Quad (USGS)



I:\PROJECTS\WWSY\03_EsccondidoEmergencyPonds\Map\Cultural\Fig3_Aerial.mxd ESC-26 3/21/2018 - RK



I:\PROJECTS\WWSY\WWSY-03_EsccondidoEmergencyPonds\Map\Cultural\Fig4_ProjectPlan.mxd ESC-26 3/21/2018 - RK



- (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
- (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- (b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- (c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

1.2.2 National Historic Preservation Act

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, “Protection of Historic Properties” (36 Code of Federal Regulations [CFR] Part 800), became effective August 5, 2004.

Historic properties are properties that are included in the National Register of Historic Places (NRHP) or those that meet the criteria for inclusion in the NRHP, as outlined below. If the agency’s undertaking could affect historic properties, the agency determines the scope of appropriate identification efforts and then proceeds to identify historic properties in the Area of Potential Effects (APE). The agency reviews background information, consults with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) and others, seeks information from knowledgeable parties, and conducts additional studies as necessary. Districts, sites, buildings, structures, and objects listed in the NRHP are considered; unlisted properties are evaluated against the National Park Service’s published criteria, in consultation with the SHPO/THPO and any Indian tribe or Native Hawaiian organization that may attach religious or cultural importance to them.

If questions arise about the eligibility of a given property, the agency may seek a formal determination of eligibility from the National Park Service. Section 106 review gives equal consideration to properties that have been included in the NRHP and those that have not been but that meet NRHP criteria.

If the agency finds that no historic properties are present or affected, it provides documentation to the SHPO/THPO and, barring any objection in 30 days, proceeds with its undertaking. If the agency finds that historic properties are present, it proceeds to assess possible adverse effects. If adverse effects are identified, they must be resolved.

Section 60.6 of 36 CFR Part 60 presents the criteria for the evaluation of cultural resources for nomination to the NRHP as follows:

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, and association, and

- (a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) That are associated with the lives of persons significant in our past; or
- (c) That embody the distinctive characteristics of a type, period or method or construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (d) That have yielded, or may be likely to yield, information important in prehistory or history [36 CFR Part 60].

Cultural resources that are eligible for inclusion in the NRHP are defined as historic properties. Impacts to historic properties constitute effects under the NHPA.

1.2.3 Tribal Cultural Resources

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the cultural sensitivity of the project area has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project.

Potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties (TCPs) in discussions of cultural resource management performed under federal auspices or Tribal Cultural Resources (TCRs) under CEQA. “Traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices (Parker and King 1998).

Cultural resources can include TCRs, such as gathering areas, landmarks, and ethnographic locations, in addition to archaeological districts. Generally, a TCR may consist of a single site, or group of associated archaeological sites (district or traditional cultural landscape), or an area of cultural/ethnographic importance.

State Assembly Bill (AB) 52, effective July 1, 2015, introduced the TCR as a class of cultural resource and additional considerations relating to Native American consultation into CEQA. As a general concept, a TCR is similar to the federally defined TCP; however, it incorporates consideration of local and state significance and required mitigation under CEQA. A TCR may be considered significant if included in a local or state register of historical resources; or determined by the lead agency to be significant pursuant to criteria set forth in PRC §5024.1; or is a geographically defined cultural landscape that meets

one or more of these criteria; or is a historical resource described in PRC §21084.1, a unique archaeological resource described in PRC §21083.2; or is a non-unique archaeological resource if it conforms with the above criteria.

2.0 PROJECT SETTING

2.1 PHYSICAL ENVIRONMENTAL SETTING

The project site is located in the foothills of northern San Diego County. The project area is located about 2.3 miles north of the San Dieguito River, and a large tributary to the river is located less than a mile to the east. A number of streams and drainages are found in the vicinity. The rolling foothills west of the Las Lomas Muertas Mountains are located approximately 2 miles to the east, with the San Pasqual Valley about 2 miles southeast of the project area. Elevations within the project area range from approximately 943 feet above mean sea level (AMSL) in the southwestern corner to approximately 1,028 feet AMSL in the northeastern corner. Geologically, the project site is underlain by Cretaceous granitic rocks mapped as miscellaneous granodiorite (Tan and Kennedy 1999). One soil type is mapped within the project area: Cieneba very rocky coarse sandy loam (Web Soil Survey 2018). Cieneba soils consist of very shallow and shallow, somewhat excessively drained soils that formed in material weathered from the underlying granitic rock (Natural Resources Conservation Service 2012). This soil would have supported native plant species such as flattop buckwheat, chamise, California sagebrush, and annual forbs and grasses (Bowman 1973). A biological survey by HELIX mapped the vast majority of the project area as Diegan Coastal Sage Scrub, with a small area of southern willow scrub (HELIX 2018). Many of the plant species found in these vegetation communities and those found in the project vicinity are known to have been used by native populations for food, medicine, tools, and ceremonial and other uses (Bean and Shipek 1978; White 1963). Animal species living within these communities (such as rabbits, deer, small mammals, and birds) would have been used by native inhabitants as well.

Prehistorically, the streams and drainages close to the project site, as well as the San Dieguito River, would have provided an excellent seasonal water source for local Native American populations. The accompanying riparian environment of the larger drainages and the river held a variety of resources, as well as habitat for wildlife, which would have been utilized in multiple ways by these inhabitants.

2.2 CULTURAL ENVIRONMENT

2.2.1 Prehistory

Several summaries discuss the prehistory of San Diego County and provide a background for understanding the archaeology of the general area surrounding the project. Moratto's (1984) review of the archaeology of California contains important discussions of Southern California, including the San Diego region, as does a relatively recent book by Neusius and Gross (2007). Bull (1983, 1987), Carrico (1987), Gallegos (1987), and Warren (1985, 1987) provide summaries of archaeological work and interpretations; another paper (Arnold et al. 2004) discusses advances since the 1980s. The following is a brief discussion of the culture history of the San Diego region.

Carter (1957, 1978, 1980), Minshall (1976) and others (e.g., Childers 1974; Davis 1968, 1973) have long argued for the presence of Pleistocene humans in California, including the San Diego area. The sites

identified as “early man” are all controversial. Carter and Minshall are best known for their discoveries at Texas Street and Buchanan Canyon. The material from these sites is generally considered nonartifactual, and the investigative methodology is often questioned (Moratto 1984).

The earliest accepted archaeological manifestation of Native Americans in the San Diego area is the San Dieguito complex, dating to approximately 10,000 years ago (Warren 1967). The material culture of the San Dieguito complex consists primarily of scrapers, scraper planes, choppers, large blades, and large projectile points. The San Dieguito complex is chronologically equivalent to other Paleoindian complexes across North America, and sites are sometimes called “Paleoindian” rather than “San Dieguito.” San Dieguito material underlies La Jolla complex strata at the C. W. Harris site in San Dieguito Valley (Warren, ed. 1966).

The traditional view of San Diego prehistory has the San Dieguito complex followed by the La Jolla complex at least 7000 years ago, possibly as long as 9000 years ago (Rogers 1966). The La Jolla complex is part of the Encinitas tradition and equates with Wallace's (1955) Millingstone Horizon, also known as Early Archaic or Milling Archaic. The Encinitas tradition is generally “recognized by millingstone assemblages in shell middens, often near sloughs and lagoons” (Moratto 1984:147). “Crude” cobble tools, especially choppers and scrapers, characterize the La Jolla complex (Moriarty 1966). Basin metates, manos, discoidals, a small number of Pinto series and Elko series points, and flexed burials are also characteristic.

Warren et al. (1961) proposed that the La Jolla complex developed with the arrival of a desert people on the coast who quickly adapted to their new environment. Moriarty (1966) and Kaldenberg (1976) suggested an in-situ development of the La Jolla people from the San Dieguito. Moriarty later proposed a Pleistocene migration of an ancestral stage of the La Jolla people to the San Diego coast. He suggested this Pre-La Jolla complex is represented at Texas Street, Buchanan Canyon, and the Brown site (Moriarty 1987).

Various authors (see Bull 1987; Gallegos 1987) have proposed that the San Dieguito, La Jolla, and Pauma complexes are manifestations of the same culture, with differing site types “explained by site location, resources exploited, influence, innovation and adaptation to a rich coastal region over a long period of time” (Gallegos 1987:30). The classic “La Jolla” assemblage is one adapted to life on the coast and appears to continue through time (Robbins-Wade 1986, 1988; Winterrowd and Cárdenas 1987). Inland sites adapted to hunting contain a different tool kit, regardless of temporal period (Cárdenas and Van Wormer 1984).

Other archaeologists argue that an apparent overlap among assemblages identified as “La Jolla,” “Pauma,” or “San Dieguito” does not preclude the existence of an Early Milling period culture in the San Diego region, separate from an earlier culture (see Cook 1985; Gross and Hildebrand 1998; Warren 1998). One perceived problem is that many site reports in the San Diego region present conclusions based on interpretations of stratigraphic profiles from sites at which stratigraphy cannot validly be used to address chronology or changes through time. The subsurface deposits at numerous sites are the result of such agencies as rodent burrowing, insect activity, and other bioturbative factors (see Bocek 1986; Erlandson 1984; Gross 1992; Johnson 1989).

The Late Prehistoric period is represented by the San Luis Rey complex in the northern portion of San Diego County and the Cuyamaca complex in the southern portion of the county. The San Luis Rey complex represents the Shoshonean predecessors of the ethnohistoric Luiseño people, while the

Cuyamaca complex is the archaeological manifestation of the Yuman forebears of the Kumeyaay. The name Luiseño derives from Mission San Luis Rey de Francia and has been used to refer to the Indian people associated with that mission, while the Kumeyaay people are also known as Ipai, Tipai, or Diegueño (named for Mission San Diego de Alcalá). Agua Hedionda Creek is often described as the division between the territories of the Luiseño and the Kumeyaay people (Bean and Shipek 1978; Luomala 1978; White 1963), although various archaeologists and ethnographers use slightly different boundaries. The Native American people know their traditional use areas through stories and songs passed down through generations. The project location is in a transitional area between the traditional territories of the Kumeyaay and the Luiseño peoples.

The Luiseño language belongs to the Cupan group of the Takic subfamily, which has also been called Southern California Shoshonean, and is part of the widespread Uto-Aztecan language family (Bean and Shipek 1978; Sparkman 1908; White 1963). Neighboring groups that speak Cupan languages are Cupeño, Cahuilla, and Gabrielino. The people associated with Mission San Juan Capistrano were called Juaneño by the Spanish; they call themselves Acjachemen. The language, culture, and territory of the Luiseño and Juaneño people are so closely related that the two are sometimes considered by ethnographers to be a single ethnic nationality (Bean and Shipek 1978; White 1963); however, the Luiseño and Juaneño people consider themselves to be separate tribes, and archaeological differences have been noted between the two groups (Cameron 1987).

At the time of Spanish contact, Yuman-speaking Kumeyaay bands occupied southern San Diego and southwestern Imperial counties and northern Baja California. The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherías. Most rancherías were the seat of a clan, although it is thought that, aboriginally, some clans had more than one ranchería and some rancherías contained more than one clan (Bean and Shipek 1978). Several sources indicate that large Kumeyaay villages or rancherías were located in river valleys and along the shoreline of coastal estuaries (Bean and Shipek 1978; Brackett 1951; Hoover et al. 1966; Kroeber 1925).

2.2.2 Historic Background

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. It was that year that the Royal Presidio of San Diego was founded on a hill overlooking Mission Valley. The Mission San Diego de Alcalá was constructed in its current location five years later. The Spanish Colonial period lasted until 1821 and was characterized by religious and military institutions bringing Spanish culture to the area and attempting to convert the Native American population to Christianity. Mission San Diego was the first mission founded in Southern California. Mission San Luis Rey, in Oceanside, was founded in 1798. Asistencias (chapels) were established at Pala (1816) and Santa Ysabel (1818).

The Mexican period lasted from 1821, when Mexico gained its independence from Spain, to 1848, when Mexico ceded California to the United States under the treaty of Guadalupe Hidalgo at the end of the Mexican-American War. Following secularization of the missions in 1834, mission lands were given as large land grants to Mexican citizens as rewards for service to the Mexican government. The society made a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. The Pueblo of San Diego was established during the period, and transportation routes were expanded. Cattle ranching prevailed over agricultural activities.

The American period began in 1848, when California was ceded to the United States. The territory became a state in 1850. Terms of the Treaty of Guadalupe Hidalgo brought about the creation of the Lands Commission in response to the Homestead Act of 1851, which was adopted as a means of validating and settling land ownership claims throughout the state. Few of the large Mexican ranchos remained intact, due to legal costs and the difficulty of producing sufficient evidence to prove title claims. Much of the land that once constituted rancho holdings became available for settlement by immigrants to California. The influx of people to California and to the San Diego region resulted from several factors, including the discovery of gold in the state, the end of the Civil War, the availability of free land through passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. During the late 19th and early 20th centuries, rural areas of San Diego County developed small agricultural communities centered on one-room schoolhouses. Such rural farming communities consisted of individuals and families tied together through geographical boundaries, a common schoolhouse, and a church. Farmers living in small rural communities were instrumental in the development of San Diego County. They fed the growing urban population and provided business for local markets. Rural farm school districts represented the most common type of community in the county from 1870 to 1930. The growth and decline of towns occurred in response to boom and bust cycles in the 1880s.

2.2.3 Native American Perspective

It must be noted that interpretations by archaeologists and linguistic anthropologists may differ from the beliefs of the Kumeyaay and Luiseño people. The Native American perspective is that they have been here from the beginning, as described by their creation stories. Similarly, they do not necessarily agree with the distinction that is made between different archaeological cultures or periods, such as “La Jolla” and “San Dieguito.” They instead believe that there is a continuum of ancestry from the first people to the present Native American populations of San Diego.

2.2.4 Project Vicinity

As discussed above, the project site is situated in a transitional area between Kumeyaay and Luiseño traditional territories. The project is located within the historic land grant of Rincon del Diablo Rancho, Spanish for “the devil’s corner.” Rincon del Diablo Rancho was a 12,653.77-acre land grant given to Juan Bautista Alvarado (a relative of the former California governor of the same name) in 1843 by Mexican Governor Manuel Micheltorena. The rancho consisted of the present town of Escondido and the surrounding area bordered by Los Vallecitos de San Marcos Rancho to the west and San Bernardo Rancho to the south. Juan Bautista Alvarado was the first regidor, or municipalities’ council member, in San Diego during 1835 and 1836. After American annexation of California, Judge Oliver S. Witherby purchased the rancho in 1857 and owned it until 1868. In 1885, the Escondido Land and Town Company, a business syndicate from Los Angeles and San Diego, bought the rancho, began subdividing the valley into farms, and established the town of Escondido at the location of a post office and crossroads called the Apex (Brackett 1951:42-43; City of Escondido n.d.). The subdivided properties sold quickly, and in 1886 bonds were sold to construct a dam and water-distributing system to facilitate the citrus groves and vineyards being planted (Brackett 1951:42-43). This construction birthed Lake Wohlford. The City of Escondido was incorporated in 1888 (City of Escondido n.d.). The economic collapse of San Diego in the late 1800s threatened the irrigation district enterprise, but its success was established by 1905, when the community gathered to celebrate the first of an annual festival called “Grape Day” that continues to be celebrated today (Brackett 1951:42-43).

3.0 STUDY METHODS

HELIX conducted a cultural resource survey in 2016 for the previously proposed project design, which included a portion of the current project area. The 2016 survey included a records search, Sacred Lands File (SLF) search, Native American outreach, a review of historic maps and aerial photographs, and a field survey by a HELIX archaeologist accompanied by a Native American (Kumeyaay) monitor. The 2016 records search, SLF search, and historic review were used for the current project, as they include the current study area.

HELIX conducted a records search of the California Historical Resources Information System (CHRIS) at the South Coastal Information Center (SCIC) on March 24, 2016. The records search covered a ½ -mile radius around the project area and included archaeological and historical resources, locations and citations for previous cultural resources studies, as well as a review of the state Office of Historic Preservation (OHP) historic properties directory. The records search summary and map are included as Confidential Appendix A to this report.

HELIX contacted the Native American Heritage Commission (NAHC) on March 29, 2016 for a Sacred Lands File search and list of Native American contacts for the project area. Letters were sent to the recommended tribal contacts in April 2016. Follow-up phone calls were made in December 2016. Native American correspondence is included as Confidential Appendix B.

Historic maps and aerial photographs were reviewed during the 2016 study to assess the potential for historic archaeological resources and assess the extent of past disturbance (HELIX 2016). Historic aerial photographs from 1928 to 2016 were reviewed, as were historic topographic maps from 1901 to 2012. Maps included the 1901 USGS 15-minute Escondido quadrangle, the 1948 USGS 7.5-minute Escondido quadrangle, and the 1968 USGS 7.5-minute Escondido quadrangle. The 1928 historic aerial photograph of the project area was obtained from the SCIC and reviewed. Other historic aerial photographs were reviewed at historicaerials.com (NETR Online 2016).

3.1 FIELD SURVEY METHODS

Subsequent to the 2016 survey, the project was redesigned. The current project area partially overlaps the previous survey area, but much of the current project site was not examined during the earlier survey. HELIX archaeologist Kristina Davison and Kumeyaay Native American monitor Justin Linton from Red Tail Monitoring and Research surveyed the current project site for cultural resources on January 28, 2018. A majority of the survey area supports dense vegetation with very low to nonexistent ground visibility and as such, parallel transects were not feasible throughout most of the project site. The perimeter of the project site was traversed, and any observable pockets of exposed ground were carefully inspected. Exposed bedrock surfaces were assessed for evidence of cultural use. Locations of features and artifacts encountered during the survey were recorded using a Trimble Global Positioning System (GPS) unit with sub-meter accuracy.

3.2 TESTING METHODS

Subsequent to the survey conducted in January 2018, a testing program was developed to assess the significance of archaeological resources identified during the survey. One archaeological site, designated with the temporary site number Sinsonte-1, was identified during the January 2018 survey. During the

testing program in March 2018, two additional bedrock milling features and additional surface artifacts resulted in the identification of a second site, designated Sinsonte-2. The testing program included excavation of a total of seven shovel test pits (STPs), collection of surface artifacts from concentration areas, and documentation of two milling features, one at each site. One additional milling feature was observed at Sinsonte-2; however, it was outside the project footprint and was not fully documented. STPs measured 30 centimeters (cm) by 30 cm and were oriented to true north. STPs were placed near locations of observed surface artifacts; five STPs were excavated at Sinsonte-1, and two were excavated at Sinsonte-2. Shovels, dig bars, and 1/8-inch mesh screens with were used. Locations of surface artifacts, milling features, and STPs were recorded using a Trimble GPS unit with sub-meter accuracy. The two milling features were drawn in plan view, and standard Department of Parks and Recreation (DPR) forms, including the milling feature record forms were completed for the resources and submitted to SCIC. The DPR forms included as Confidential Appendix C.

4.0 PREVIOUS RESEARCH

4.1 PREVIOUSLY RECORDED RESOURCES

As previously noted, a records search was conducted in March 2016 at the SCIC for the previously proposed project site and a ½-mile radius. The records search results indicated that 13 cultural resources had been previously identified within the search radius, and nine cultural resource studies had been conducted within the radius. There are no previously recorded historic addresses within the search radius. Previously recorded resources are summarized in Table 1. The records search maps are included as Confidential Appendix A to this report.

Table 1
PREVIOUSLY RECORDED RESOURCES WITHIN ½ MILE

Resource Number (P-37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date
005662	5662	Campsite with extensive artifact and feature concentrations (“mortars, slicks, stone enclosures...scrapers, pointes, pottery, metate fragments, flakes, manos, and a possible bone awl”)	de Vries, 1976
005663	5663	Campsite with bedrock milling features (mortars, slicks) and artifact scatter (quartz flakes, ceramics, projectile points)	de Vries, 1976
005664	5664	Campsite with lithic scatter, three stone circles, and a possible petroglyph	Sherman, 1976
005665	5665	Campsite with stone structures, one slick, and artifact scatter (flakes, ceramics, projectile points)	Sherman, 1976
011048	11048	Bedrock milling station with eight slicks	Smith, 1988
012524	12524	Historic trash scatter (ceramic, glass, metal, brick)	James et al., 1991

Table 1 (cont.)
PREVIOUSLY RECORDED RESOURCES WITHIN ½ MILE

Resource Number (P-37-#)	Resource Number (CA-SDI-#)	Description	Recorder, Date
019061	15818	Bedrock milling station with one slick	Pigniolo, 2000
019062		Isolated Santiago Peak flake	Pigniolo, 2000
019063		Isolated Santiago Peak flake	Pigniolo, 2000
019064		Historic Escondido Gravity Float Line	Pigniolo and Dietler, 2000
023977	15983	Bedrock milling station with two features and associated lithic scatter	Pigniolo and Murray, 2001
023978	15984	Bedrock milling station with one feature	Pigniolo and Murray, 2001
024408	16184	Bedrock milling station with four slicks	Pigniolo, 2001

Of the 13 previously recorded resources, none were recorded within the project area; however, six resources are mapped within 1,000 feet of the proposed pond location: CA-SDI-11048 (P-37-011048), CA-SDI-15818 (P-37-019061), CA-SDI-16184 (P-37-024408), P-37-19062, P-37-19063, and P-37-19064. Of these sites, three are bedrock milling stations with no associated artifacts (CA-SDI-11048, CA-SDI-15818, and CA-SDI-16184), two are isolated prehistoric Santiago Peak flakes (P-37-19062 and P-37-19063), and one is the historic Escondido gravity float line (P-37-19064).

In addition to these previously recorded resources, one additional site was identified approximately 1,300 feet west of the project area on the same property during the field survey conducted by HELIX and Red Tail Monitoring and Research in March 2016. This site, CA-SDI-21896, consists of four bedrock milling outcrops with over 40 milling features among them and associated flaked stone, ground stone, and ceramic artifacts. Thus, there are 14 resources currently recorded within one-half mile of the project area.

4.2 PREVIOUS STUDIES

Of the nine previously conducted studies, one included the project site (City of Escondido 1980). This report was the draft environmental impact report for the expansion of a City of Escondido wastewater treatment facility; it is unclear as to whether the study involved any fieldwork. As discussed previously, HELIX also surveyed a portion of the current project site in March 2016, during which no resources were observed; ground visibility within the current project site was noted as poor, and one bedrock was examined and described as weathered and exfoliated, with the surrounding soils consisting of decomposing granitic sand and gravel. As stated above, the 2016 survey did identify a rich habitation site (CA-SDI-21896) on the same property, but to the west of the current project location (HELIX 2016).

5.0 RESULTS

5.1 2018 FIELD SURVEY

As previously noted, the proposed project area was modified and enlarged following a survey conducted by HELIX in 2016. During the January 2018 survey, a previously unrecorded resource (Sinsonte-1), consisting of one milling feature (Sinsonte-1, Milling Feature A) with three slicks and four associated

surface artifacts, was observed in the northern portion of the project site, although ground visibility was poor outside of established access roads and animal trails (Plate 1). Outside of these scattered pockets of open ground, dense vegetation consisting of chamise, buckwheat, sumac, sagebrush, and scattered elderberry trees obscured the ground surface. A majority of the bedrock within the project site is moderately to heavily weathered due to exposure and exfoliation.



Plate 1. Overview of Sinsonte-1, Milling Feature A, view north

Portions of the project site were noted as lightly to moderately disturbed, but a majority of the site appeared relatively undisturbed; disturbances include animal trails and several graded dirt paths including the access road from Via Sinsonte. The easement road leading into the project site from Via Sinsonte has been cut roughly 5 to 6.5 feet in depth from the top of the slope to the road level, with a gradual slope upward leading into the project site. Three additional dirt access roads, somewhat less established than that connecting to Via Sinsonte, are located throughout the project. Two of these are located adjacent to the milling features associated with Sinsonte-1 and Sinsonte-2. Several modern refuse dumps were observed aside the existing access road from Via Sinsonte; modern materials observed include lumber of various sizes, paint cans, roofing material, fiberglass corrugated siding, steel I-beams, a telephone pole, a modern beer bottle, and a plastic Arizona tea bottle. Orange snow fencing was observed in the northeastern portion of the project site, and several white PVC boundary markers appearing to delineate the angles of the project boundary were observed.

In addition to the milling features and associated surface artifacts at Sinsonte-1, two bedrock outcrop areas were inspected and assessed as possible granary bases. Two clusters of small to medium-sized, heavily weathered granitic rocks were observed atop the surfaces of two separate bedrock outcrops; the highly weathered appearance of the rocks atop the bedrock starkly contrasts with the appearance of the bedrock, which has been water-polished through natural erosion. The surrounding topography of the slope drains in an east-to-west direction, over the tops of these two outcrops. The western of the two weathered rock clusters sits atop the highest point of the ground-level outcrop (Plate 2). The possibility of the western cluster being a granary base was initially noted by Mr. Linton, who had worked on a granary site to the northeast which consisted of rock circles atop bedrock outcrops. The eastern of the

two rock clusters is situated within a shallow, weathered depression within a prominent bedrock face which slopes to the west, toward the western of the two clusters (Plate 3). Based on the surrounding topography and their associated erosional patterns, it is highly likely that these rock clusters are related to runoff and natural erosional activity. Because they do not appear to be cultural, these rock features were not included within the site boundaries of either resource.



Plate 2. Overview photograph of western rock cluster (possible granary base), view south/southwest



Plate 3. Overview photograph of eastern rock cluster (possible granary base), view west

5.2 2018 TESTING

Because Sinsonte-1 is within the grading footprint for the current project, a testing program was developed and implemented at the site. During the testing program, a second concentration of surface artifacts and two additional milling features (Sinsonte-2, Milling Features A and B) were observed to the southwest of the previously noted site. Sinsonte-2 Milling Feature A is situated on a rounded boulder near the top of a relatively steep slope; the boulder was partially obscured by an elderberry tree and chaparral vegetation (Plate 4). Sinsonte-2 Milling Feature B is located outside of the project area; as a result, it was mapped and photographed but was not further investigated during the current study. The weathered bedrock face appears to have three slicks, but more may be present if further inspected, as the outcrop is rather large and continues downslope to the west and upslope to the southeast (Plate 5).



Plate 4. Overview photograph of Sinsonte-2, Milling Feature A, view west

A total of seven STPs were excavated during the testing program; five STPs (STPs 1 through 5) were excavated around Sinsonte-1, Milling Feature A, and two (STPs 6 and 7) were excavated in the artifact concentration at Sinsonte-2. The first STP excavated near Sinsonte-1, Milling Feature A (STP 1) was terminated at 10 cm due to the presence of bedrock, so an additional STP (STP 5) was placed to the southwest in order to adequately test the area. STPs 1 through 5 were sterile for cultural material. STP 6 extended to 40 cm in depth and produced one ground stone mano fragment from the 20-30 cm level. This STP was placed at the location of a flaked stone hammer and lithic flake on the surface. STP 7 extended to 30 cm in depth and was sterile. Other than the single mano in STP 6, no artifacts were encountered during subsurface testing. Soils were noted as decomposing granitics with clay in STPs nearest the bedrock outcrops, and sandy loam was noted in areas upslope or farther away from bedrock outcrops. Locations of milling features, STPs, and surface artifacts are shown in Figures 5 and 6 (*Site Map* and *Site in Relation to Project Plan*, respectively; in Confidential Appendix D).

A total of 12 surface items were collected from Sinsonte-1: one medium- to coarse-grained metavolcanic flake, one quartz flake, two pieces of angular debris (one quartz and one quartzite), and eight fragments of burnt animal bone. A total of eight surface artifacts were collected from Sinsonte-2: one granitic ground stone mano fragment, one fine-grained metavolcanic core rejuvenation flake, one medium- to coarse-grained metavolcanic flaked stone hammer, and five debitage of medium-to coarse-grained metavolcanics, quartz, and quartzite. As stated above, one artifact (granitic ground stone mano fragment) was collected from the 20-30 cm level of STP 6, located within the artifact concentration at Sinsonte-2. These artifacts were collected during the testing program and cataloged at the HELIX laboratory; the catalog is attached to this report as Appendix B.

In summary, two archaeological sites were identified within the project area. Sinsonte-1 includes one bedrock milling feature with three slicks, as well as four flaked stone artifacts and eight fragments of animal bone on the surface. No subsurface cultural material was recovered in five STPs excavated at the site. Sinsonte-2 includes two bedrock milling features, one with a single slick and one with three slicks. Eight surface artifacts were collected from Sinsonte-2, including a mano fragment, a flaked stone hammer, a rejuvenation flake, and six debitage. A mano recovered in an STP was the only subsurface cultural material encountered (two STPs were excavated at the site).



Plate 5. Overview photograph of Sinsonte-2, Milling Feature B

5.3 NATIVE AMERICAN OUTREACH

The NAHC was contacted for a SLF search and list of Native American contacts in March 2016. A response was received on April 19, 2016, stating that a search of the SLF “was completed for the USGS quadrangle information provided with negative results.” It was noted that the absence of specific site information does not mean there are no Native American cultural resources within the project area. Letters were sent on April 20, 2016 to the contacts provided by the NAHC. Follow-up phone calls were made on December 5, 2016. Two tribal contacts, Carmen Mojado of the San Luis Rey Band of Mission

Indians and Clint Linton of the Lipay Nation of Santa Ysabel, responded that they recommend monitoring by both Kumeyaay and Luiseño Native American monitors during all ground-disturbing construction activities. Virgil Perez, Chairman of the Lipay Nation of Santa Ysabel, requested additional information on the project. An email was sent to him providing further information on December 5, 2016. No further responses were received. Native American correspondence is included at Confidential Appendix B.

5.4 HISTORIC TOPOGRAPHIC MAPS AND AERIAL PHOTOGRAPHS

Historic aerial photographs and topographic maps were referenced for historical information about the project site. No buildings are visible within the project site on any of the aerial photographs reviewed, which include photographs from the following years: 1946, 1947, 1953, 1964, 1967, 1968, 1980, 1989, 1995, 1996, 2002, 2003, 2005, 2009, 2010, and 2012 (NETR Online 2016), as well as tax factor aerial photographs taken in 1928. Likewise, there are no buildings within the project site on USGS topographic maps from 1901 (15-minute Escondido quadrangle), 1949 (7.5-minute Escondido quadrangle), and 1968 (7.5-minute Escondido quadrangle). The trails that run through the northern perimeter of the project area first appear on aerial photographs between 1980 and 1995. Groves south and east of the project first appear in aerial photographs from 1964, and the houses to the south first appear in 1980.

6.0 IMPACTS, SIGNIFICANCE, AND MITIGATION RECOMMENDATIONS

6.1 IMPACTS AND SIGNIFICANCE

As the features and artifacts at Sinsonte-1 are all within the proposed grading footprint, the current design of the project would impact the site. In addition, although the milling features at Sinsonte-2 are located outside of the grading footprint, one of them (Milling Feature A) is located within the temporary and permanent easements for the project and may be subject to impacts. The results of the subsurface testing at both sites do not indicate the presence of a subsurface cultural deposit, and very limited cultural material was recovered. Given this, the two archaeological sites do not meet the criteria for significance under CEQA or the NHPA. As such, impacts to them would not be considered significant effects. It must be noted that all cultural material is of importance to the Native American community, but no TCRs have been identified within the project area. The historic maps and aerial photographs indicate a very low potential for historic archaeological resources to be encountered.

The project site is in an area that is quite rich in cultural resources, and ground visibility during the field survey and testing program was poor outside of existing animal trails, footpaths, and small pockets of exposed ground. Based on this, there is the potential that previously unidentified features or artifacts could be encountered during grading within the project site and would need to be documented and assessed for significance.

6.2 MITIGATION RECOMMENDATIONS

Although no significant impacts are anticipated from project implementation, as discussed above, there is a potential for encountering previously unidentified cultural resources within the project area during construction. Therefore, the following cultural mitigation measures are recommended for the project.

- CUL-1:** The City of Escondido should enter into a Tribal Cultural Resource Treatment and Monitoring Agreement (also known as a pre-excavation agreement) with a tribe that is traditionally and culturally affiliated with the project location (“TCA Tribe”) prior to the commencement of any ground-disturbing activity. The purposes of the agreement are (1) to provide the City with clear expectations regarding tribal cultural resources, and (2) to formalize protocols and procedures between the City and the TCA Tribe for the protection and treatment of, including but not limited to, Native American human remains, funerary objects, cultural and religious landscapes, ceremonial items, traditional gathering areas and cultural items, located and/or discovered through a monitoring program in conjunction with the construction of the proposed project, including additional archaeological surveys and/or studies, excavations, geotechnical investigations, grading, and all other ground-disturbing activities.
- CUL-2:** The City shall retain a qualified archaeologist and a Native American monitor associated with a TCA Tribe to implement the monitoring program. The archaeologist shall be responsible for coordinating with the Native American monitor.
- CUL-3:** The qualified archaeologist and a Native American monitor shall attend the pre-grading meeting with the grading contractors to explain and coordinate the requirements of the monitoring program.
- CUL-4:** During the initial grubbing, site grading, excavation or disturbance of the ground surface, the qualified archaeologist and the Native American monitor shall be on site full-time. The frequency of inspections shall depend on the rate of excavation, the materials excavated, and any discoveries of Tribal Cultural Resources as defined in California Public Resources Code Section 21074. Archaeological and Native American monitoring will be discontinued when the depth of grading and soil conditions no longer retain the potential to contain cultural deposits. The qualified archaeologist, in consultation with the Native American monitor, shall be responsible for determining the duration and frequency of monitoring.
- CUL-5:** In the event that previously unidentified archaeological or tribal cultural resources are discovered, the qualified archaeologist and the Native American monitor shall equally have the authority to temporarily divert or temporarily halt ground disturbance operation in the area of discovery to allow for the evaluation of potentially significant cultural resources. Isolates and clearly non-significant deposits shall be minimally documented in the field and collected so the monitored grading can proceed.
- CUL- 6:** If a potentially significant archaeological or tribal cultural resource is discovered, the archaeologist shall notify the City of said discovery. The qualified archaeologist, in consultation with the City, the TCA Tribe and the Native American monitor, shall determine the significance of the discovered resource. A recommendation for the treatment and disposition of the resource shall be made by the qualified archaeologist in consultation with the TCA Tribe and the Native American monitor and be submitted to the City for review and approval.
- CUL-7:** The avoidance and/or preservation of the significant tribal cultural resource and/or unique archaeological resource must first be considered and evaluated as required by CEQA. Where any significant tribal cultural resources and/or unique archaeological resources have been discovered and avoidance and/or preservation measures are deemed to be infeasible by the City, then a research design and data recovery program to mitigate impacts shall be prepared

by the qualified archaeologist (using professional archaeological methods), in consultation with the TCA Tribe and the Native American monitor, and shall be subject to approval by the City. The archaeological monitor, in consultation with the Native American monitor, shall determine the amount of material to be recovered for an adequate artifact sample for analysis. Before construction activities are allowed to resume in the affected area, the research design and data recovery program activities must be concluded to the satisfaction of the City.

- CUL-8:** As specified by California Health and Safety Code Section 7050.5, if human remains are found on the project site during construction or during archaeological work, the person responsible for the excavation, or his or her authorized representative, shall immediately notify the San Diego County Coroner's office. Determination of whether the remains are human shall be conducted on-site and in situ where they were discovered by a forensic anthropologist, unless the forensic anthropologist and the Native American monitor agree to remove the remains to an off-site location for examination. No further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the Coroner has made the necessary findings as to origin and disposition. A temporary construction exclusion zone shall be established surrounding the area of the discovery so that the area would be protected, and consultation and treatment could occur as prescribed by law. In the event that the remains are determined to be of Native American origin, the Most Likely Descendant, as identified by the Native American Heritage Commission, shall be contacted in order to determine proper treatment and disposition of the remains in accordance with California Public Resources Code section 5097.98.
- CUL-9:** If the qualified archaeologist elects to collect any tribal cultural resources, the Native American monitor must be present during any testing or cataloging of those resources. Moreover, if the qualified archaeologist does not collect the cultural resources that are unearthed during the ground-disturbing activities, the Native American monitor, may at their discretion, collect said resources and provide them to the TCA Tribe for respectful and dignified treatment in accordance with the Tribe's cultural and spiritual traditions. Any tribal cultural resources collected by the qualified archaeologist shall be repatriated to the TCA Tribe. Should the TCA Tribe or other traditionally and culturally affiliated tribe decline the collection, the collection shall be curated at the San Diego Archaeological Center. All other resources determined by the qualified archaeologist, in consultation with the Native American monitor, to not be tribal cultural resources, shall be curated at the San Diego Archaeological Center.
- CUL-10:** Prior to the release of the grading bond, a monitoring report and/or evaluation report, if appropriate, which describes the results, analysis and conclusion of the archaeological monitoring program and any data recovery program on the project site shall be submitted by the qualified archaeologist to the City. The Native American monitor shall be responsible for providing any notes or comments to the qualified archaeologist in a timely manner to be submitted with the report. The report will include California Department of Parks and Recreation Primary and Archaeological Site Forms for any newly discovered resources.

7.0 REFERENCES

- Arnold, J.E., M.R. Walsh, and S.E. Hollimon
2004 The Archaeology of California. *Journal of Archaeological Research* 12:1-73.
- Bean, Lowell John, and Florence C. Shippek
1978 Luiseño. In *California*, edited by Robert F. Heizer, pp. 550-563. *The Handbook of North American Indians*, vol. 8. William C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.
- Bocek, Barbara
1986 Rodent Ecology and Burrowing Behavior: Predicted Effects on Archaeological Site Formation. *American Antiquity* 51:589-603.
- Brackett, R. W.
1951 *The History of San Diego County Ranchos*. Union Title Insurance and Trust Co., San Diego, California.
- Bull, Charles S.
1983 Shaking the Foundations: The Evidence for San Diego Prehistory. *Casual Papers: Cultural Resource Management* 1(3):15-64. Cultural Resource Management Center, San Diego State University.

1987 A New Proposal: Some Suggestions for San Diego Prehistory. In *San Dieguito-La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 35-42. San Diego County Archaeological Society, Research Paper 1.
- Cárdenas, D. Seán, and Stephen R. Van Wormer
1984 *Archaeological Investigation of SDI-4648 and SDM-W-348*. RBR & Associates, Inc., San Diego. Report submitted to the City of El Cajon, Planning Department. Report on file at South Coastal Information Center, San Diego State University.
- Carrico, Richard L.
1987 Sixty-Five Years of San Diego County Archaeology. In *San Dieguito-La Jolla: County Archaeological Society*, Research Paper 1.
- Carter, George F.
1957 *Pleistocene Man at San Diego*. Johns Hopkins Press, Baltimore.

1978 An American Lower Paleolithic. *Anthropological Journal of Canada* 16:2-38.

1980 *Earlier Than You Think: A Personal View of Man in America*. Texas A&M University Press, College Station.
- Childers, W. Morlin
1974 Preliminary Report on the Yuha Burial, California. *Anthropological Journal of Canada* 12 (1):2-9.

Cook, John R.

- 1985 *An Investigation of the San Dieguito Quarries and Workshops near Rancho Santa Fe, California*. Mooney-Lettieri and Associates, San Diego. Report submitted to County of San Diego, Department of Planning and Land Use. Report on file at South Coastal Information Center, San Diego State University.

Davis, E.L.

- 1968 Early Man in the Mojave Desert. *Eastern New Mexico University Contributions in Anthropology* 1 (4):42-47.
- 1973 People of the Old Stone Age at China Lake. Ms., on file at Great Basin Foundation, San Diego.

Erlandson, Jon M.

- 1984 A Case Study in Faunalurbation: Delineating the Effects of the Burrowing Pocket Gopher on the Distribution of Archaeological Materials. *American Antiquity* 49:785-790.

Gallegos, Dennis

- 1987 A Review and Synthesis of Environmental and Cultural Material for the Batiquitos Lagoon Region. In *San Dieguito-La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 23-34. San Diego County Archaeological Society, Research Paper 1.

Gross, G. Timothy

- 1992 Site Formation and Transformation Processes in Coastal Shell Middens and Shell-Rich Sites. In *Essays on the Prehistory of Maritime California*, edited by Terry L. Jones, pp. 195-204. Center for Archaeological Research at Davis Publications 10, University of California, Davis.

Gross, G. Timothy, and John A. Hildebrand

- 1998 San Dieguito and La Jolla: Insights from the 1964 Excavations at the C.W. Harris Site. Paper presented at the 32nd Annual Meeting of the Society for California Archaeology, San Diego.

Hoover, Mildred, Hero Eugene Rensch, and Ethel Grace Rensch

- 1966 *Historic Spots in California*. 3rd ed. Stanford University Press, Stanford, California.

Johnson, Donald L.

- 1989 Subsurface Stone Lines, Stone Zones, Artifact-Manuport Layers, and Biomantles Produced by Bioturbation Via Pocket Gophers (*Thomomys bottae*). *American Antiquity* 54:370-389.

Kaldenberg, Russell L.

- 1976 *Paleo-technological Change at Rancho Park North, San Diego County, California*. Unpublished Master's thesis, Department of Anthropology, San Diego State University.

Kennedy, Michael P., and Siang S. Tan

- 2007 *Geologic Map of the Oceanside 30 x 60-Minute Quadrangle, California*: Digital preparation by Kelly R. Bovard, Rachel M. Alvarez, Michael J. Watson, and Carlos I. Gutierrez California Geological Survey, Regional Geologic Map No. 2, scale 1:100000. California Department of Conservation, California Geological Survey.

Kroeber, Alfred L.

- 1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.

Luomala, Katherine

- 1978 Tipai-Ipai. In *California*, edited by Robert F. Heizer, pp. 592-609. *The Handbook of North American Indians*, vol. 8. William G. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Minshall, Herbert L.

- 1976 *The Broken Stones*. Copley Books, San Diego.

Moratto, Michael J.

- 1984 *California Archaeology*. Academic Press, Orlando.

Moriarty, James R., III

- 1966 Cultural Phase Divisions Suggested by Typological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego. *The Anthropological Journal of Canada* 4 (4):20-30.

- 1987 A Separate Origins Theory for Two Early Man Cultures in California. In *San Dieguito-La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 49-60. San Diego County Archaeological Society, Research Paper 1.

NETR Online

- 2016 *Historic Aerials*. Nationwide Environmental Title Research, LLC. Electronic document available at: <http://www.historicaerials.com>.

Neusius, Sarah W., and G. Timothy Gross

- 2007 *Seeking Our Past: An Introduction to North American Archaeology*. Oxford University Press, New York.

Office of Historic Preservation

- 1995 Instructions for Recording Historical Resources. California Office of Historic Preservation, Sacramento, CA.

Parker, Patricia L. and Thomas F. King

- 1998 *Guidelines for Evaluating and Documenting Traditional Cultural Properties*. National Park Service, Washington, D.C.

Robbins-Wade, Mary

- 1986 Rising Glen: SDM-W-143/146 (SDI-5213 C & D). *Casual Papers* 2 (2):37-58. Cultural Resource Management Center, San Diego State University.
- 1988 Coastal Luiseño: Refining the San Luis Rey Complex. *Proceedings of the Society for California Archaeology, Fresno, California* 1:75-95. Society for California Archaeology, San Diego.

Rogers, Malcolm J.

- 1966 *Ancient Hunters of the Far West*. Union-Tribune Publishing Company, San Diego.

Sparkman, Philip Stedman

- 1908 The Culture of the Luiseño Indians. *University of California Publications in American Archaeology and Ethnology* 8(4):187-234.

Wallace, William J.

- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214-230.

Warren, Claude N.

- 1967 The San Dieguito Complex: A Review and Hypothesis. *American Antiquity* 32:168-185.
- 1985 Garbage about the Foundations: A Comment on Bull's Assertions. *Casual Papers: Cultural Resource Management* 2(1):82-90. Cultural Resource Management Center, San Diego State University.
- 1987 The San Dieguito and La Jolla: Some Comments. In *San Dieguito-La Jolla: Chronology and Controversy*, edited by Dennis Gallegos, pp. 73-85. San Diego County Archaeological Society, Research Paper 1.
- 1998 San Dieguito-La Jolla: Chronology and Controversy, Ten Years Later. Discussant in symposium at the 32nd Annual Meeting of the Society for California Archaeology, San Diego.

Warren, Claude N. (editor)

- 1966 *The San Dieguito Type Site: M. J. Rogers' 1938 Excavation on the San Dieguito River*. San Diego Museum Papers No. 5. San Diego Museum of Man.

Warren, Claude N., D.L. True, and Ardith A. Eudey

- 1961 Early Gathering Complexes of Western San Diego County: Results and Interpretations of an Archaeological Survey. *University of California, Los Angeles Archaeological Survey Annual Report 1960-1961*, pp. 1-106. Department of Anthropology, University of California, Los Angeles.

White, Raymond C.

- 1963 Luiseño Social Organization. *University of California Publications in American Archaeology and Ethnology* 48(2):91-194.

Winterrowd, Cathy L., and D. Seán Cárdenas

1987 *An Archaeological Indexing of a Portion of the Village of La Rinconada de Jamo SDI-5017 (SDM-W-150)*. RBR & Associates, Inc., San Diego. Submitted to the City of San Diego, Planning Department. Report on file at South Coastal Information Center, San Diego State University.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A

Resumes of Key Personnel

Summary of Qualifications

Ms. Robbins-Wade has extensive experience in both archaeological research and general environmental studies. She oversees the management of all archaeological, historic, and interpretive projects; prepares and administers budgets and contracts; designs research programs; supervises personnel; and writes reports. Ms. Robbins-Wade has managed or participated in hundreds of projects in conformance with the California Environmental Quality Act (CEQA), Section 106, and the National Environmental Policy Act (NEPA). She has an excellent relationship with the local Native American community and the Native American Heritage Commission (NAHC). Ms. Robbins-Wade has worked in Southern California archaeology for 35 years. She has conducted archaeological studies for numerous local agencies, water districts/water agencies, Caltrans, SANDAG, U.S. Navy, SDG&E, educational institutions, non-profits, and a variety of other entities. Work for public projects has ranged from constraints studies for pipeline alternatives to survey, testing, and monitoring programs for public projects, such as roadways, parks, and various utilities. Ms. Robbins-Wade has also managed a range of mitigation monitoring projects in the public sector.

Selected Project Experience

Campo Creek Bridge (2016 - 2017). Project Manager/Principal Investigator for the cultural resources monitoring program for this emergency bridge replacement project on SR-94 in San Diego County. The project area is very sensitive in terms of Native American cultural resources, as well as historic resources. Responsible for development and implementation of the monitoring and discovery plan. The project requires effective communication and coordination with construction crews, Caltrans staff, and Native American monitors. Work performed as a subconsultant to the general contractor, with Caltrans as the lead agency.

Lilac Hills Ranch (2014 - 2016). Project Manager/Principal Investigator of a cultural resources survey and testing program for an approximately 608-acre mixed-use development in the Valley Center area of northern unincorporated San Diego County. Oversaw background research, field survey, testing, recording archaeological sites and historic structures, and report preparation. Responsible for development of the research design and data recovery program, the preservation plan, and Native American outreach and coordination. Project coordination is still underway while the project finishes the environmental review process. The proposed Specific Plan includes residential and commercial use, Town Center, park and private recreation areas, senior center, school site, waste recycling facility, wastewater reclamation facility, active orchards, and other supporting infrastructure. The project also included recording historic structures, development of a research design and data recovery program for a significant archaeological site, and coordination with the Native American community and the client to develop a preservation plan for a significant

Education

Master of Arts,
Anthropology, San
Diego State
University, California,
1990

Bachelor of Arts,
Anthropology,
University of
California, Santa
Barbara, 1981

Registrations/ Certifications

Register of
Professional
Archaeologists
#10294, 1991

County of San Diego,
Approved CEQA
Consultant for
Archaeological
Resources, 2014

NCTD, Roadway
Worker ID #C02943

Professional Affiliations

Society for American
Archaeology

Archaeological
Society

Mary Robbins-Wade, RPA

Senior Archaeologist

cultural resource. The project changed over time, so new survey areas were added, and a variety of off-site improvement alternatives were addressed. Work performed for Accretive Investments, Inc.

Valiano Cultural Resources (2012 - 2015). Project Manager/Principal Investigator of a cultural resources survey and testing program for a 239-acre residential planned community in the Escondido area of the County of San Diego, following a burn affecting much of the project area. Oversaw background research, field survey, testing, recording archaeological sites and assessment of historic structures, Native American outreach and coordination, and report preparation. Archaeological testing was conducted at several sites that could not be avoided through project design. The project site is in an area that is of cultural importance to both the Kumeyaay and Luiseño people; HELIX archaeologists worked with Native American representatives from both groups. Coordination was conducted to determine the feasibility of preserving bedrock milling features by moving them to open space areas within the project. Other archaeological sites were retained in open space through project design. Work performed for Integral Partners Funding, LLC.

Mission Cove Data Recovery (2014 - 2016). Project Manager/Principal Investigator for a cultural resources data recovery program at a significant archaeological site with cultural significance to the Luiseño people in the City of Oceanside. Prior to the data recovery program, worked with the client and the San Luis Rey Band of Mission Indians to redesign the project (an affordable housing/mixed-use development) to avoid impacts to cultural resources to the extent feasible. Oversaw background research, excavation and related fieldwork, cataloging and analysis, coordination of ancillary studies (e.g. radiocarbon analysis and shell analysis), Native American coordination, and report preparation. Analysis and report preparation are currently underway. The data recovery program was conducted to mitigate impacts that could not be avoided through project design. Work performed for National Community Renaissance.

Mission Cove Monitoring (2014 - 2016). Project Manager/Principal Investigator of an archaeological monitoring program for the 14.47-acre Mission Cove Affordable Housing mixed-use project area in the City of Oceanside. Oversaw field monitoring and documentation of finds. A significant archaeological and cultural resource is within the project, and there is a potential for unknown buried resources, given the alluvial setting. Work performed for National Community Renaissance.

Village Park Recycled Water (2014 - 2015). Project Manager/Principal Investigator of a cultural resources study for a proposed recycled water system consisting of approximately 6.6 miles of pipelines and a pump station mainly within existing roadways in the City of Encinitas. Oversaw background research, field checks, Native American coordination, and report preparation. Work performed for Olivenhain Municipal Water District.

Mary Robbins-Wade, RPA

Senior Archaeologist

Espola Road Widening and Improvements (2002 - 2010). Project Manager/ Principal Investigator for historic study, historic structures assessment, and archaeological survey for road widening and improvements under the City of Poway and Caltrans. Oversaw field survey, historic study, structures evaluation, and report preparation.

Bear Valley/East Valley Parkways Road Widening, Realignment, and Improvements (2000 - 2004). Project Manager/Principal Investigator for historic study, historic structures assessment, archaeological survey, and archaeological testing for road widening, realignment, and improvements under City of Escondido and Caltrans. Oversaw field survey, testing, historic study and structures assessment, and report preparation.

Torrey Meadows Drive Overcrossing at SR-56 (2014). Project Manager/Principal Investigator on a cultural resources survey for a proposed bridge over SR 56, which would connect two existing termini of Torrey Meadows Drive in the Carmel Valley community of the City of San Diego. The project is being undertaken by the City, but includes some Caltrans right-of-way, necessitating Caltrans encroachment permits. Oversaw survey, report preparation, and coordination with Caltrans cultural resources staff. Work performed as subconsultant for an engineering prime, with City of San Diego as lead agency.

SR-163/Friars Road Widening and Interchange Improvements (2002 - 2007). Project Manager/Principal Investigator for historic study, historic structures assessment, and archaeological survey for road widening and interchange improvements under City of San Diego and Caltrans. Oversaw field survey, historic study and structures assessment, and report preparation. Reports included Archaeological Survey Report, Historic Resources Evaluation Report, and Historic Property Survey Report for Caltrans, as well as Archaeological Survey Report and Historic Evaluation for City of San Diego.

SR-76 East Mitigation Monitoring (2015 - 2017). Project Manager/Principal Investigator for a cultural resources monitoring project for roadway improvements at the SR-76/I-15 Interchange and on SR-76 along the San Luis Rey River in the Bonsall area of San Diego County. The area along the San Luis Rey River is quite sensitive in terms of cultural resources. Overseeing field monitoring, report preparation, and monitor coordination with Caltrans field staff. Responsible for Native American coordination and coordination with Caltrans cultural resources staff. Work is being conducted for Caltrans and SANDAG.

Campo Bus Yard (2015 - 2016). Cultural Resources Task Manager/Principal Investigator for a cultural resources survey for a proposed MTS bus yard in the Campo area of the County of San Diego. The project is immediately adjacent to a County-listed and National Register-eligible historic property (Camp Lockett), and features associated with that historic district extend into the project area. Oversaw background research, field survey, coordination, Native American outreach, and report preparation. Work was conducted under an as-needed contract with SANDAG.

Mary Robbins-Wade, RPA

Senior Archaeologist

Batiquitos Lagoon Double Track Project (2015). Senior Archaeologist for the addition of a second main track along a 2.7-mile-long segment of the LOSSAN Rail Corridor in Encinitas and Carlsbad. Overseeing the Federal Aviation Administration (FAA) Section 106 process for addition of antenna sites. Work performed for HNTB Corporation, with SANDAG as the local lead agency and Federal Transit Administration as the federal lead agency for the overall project, and FAA as the federal lead agency for the antenna sites.

Summary of Qualifications

Ms. Davison is a staff archaeologist at HELIX. She assists in conducting archaeological, historic, and interpretive studies and helps prepare reports. She has participated in projects under the California Environmental Quality Act (CEQA) and has also worked on archaeological studies under various federal jurisdictions addressing Section 106 compliance and National Environmental Policy Act (NEPA) issues. She regularly conducts fieldwork and research for projects under the jurisdiction of local agencies. She has also worked on projects for the California Department of Transportation (Caltrans) and several water districts/water agencies.

Ms. Davison has conducted numerous surveys and served as an archaeological monitor for various projects. She acts as a crew chief, supervising survey and excavation fieldwork. She also conducts lab work, which includes cataloging and analysis. Ms. Davison has quickly developed an excellent working relationship with the local Native American community and effectively communicates and coordinates with Native American monitors, construction crews, and supervisors regarding scheduling and fieldwork.

Selected Project Experience

SR-76 Cultural Monitoring (2014 - present). Cultural Resources Monitor for all environmentally sensitive areas (ESAs) in conjunction with the SR-76 Improvements project under Caltrans. Responsible for coordination with Caltrans staff, Native American monitors, and contractor as part of construction monitoring. Work performed for Caltrans and SANDAG.

Orange County Sanitation District Newhope-Placentia TSR, No. 2-72 B (2016). Staff Archaeologist for a sewer replacement project located in the City of Anaheim in southern Orange County. The project proposed the replacement of 20,679 feet of existing 33- to 42-inch sewer pipes with 48- to 54-inch pipes within an existing alignment. Project work included a field check of the alignment and proposed staging areas. Work performed for Orange County Sanitation District.

Cemetery Area Water Pipeline Replacement-Construction Monitoring (2016). Archaeological Monitor for a water pipeline replacement project in eastern Escondido. Responsible for field monitoring, coordination with construction crew and Native American monitors, and daily field notes. Work performed for the City of Escondido.

Genesee Sewer/Monte Verde (2014 - 2016). Archaeologist conducting cultural resources monitoring for a portion of the sewer installation project in the culturally sensitive Rose Canyon area of the City of San Diego. Work performed for Garden Communities.

Education

Bachelor of Arts,
Anthropology with
emphasis in
Archaeology,
Northern Arizona
University, 2012

Registrations/ Certifications

NCTD, Roadway
Worker ID C022385-
16
HAZMAT,
HAZWOPER 24

Professional Affiliations

Society for California
Archaeology

Kristina Davison

Staff Archaeologist

Agua Hedionda Lift Station Temporary Emergency Bypass Pumps (2014). Archaeological Monitor for a Capital Improvements Project for the City of Vista. The lift station is located on the south side of Agua Hedionda, in the City of Carlsbad. Responsible for coordination with contractor and Native American monitors as part of construction monitoring. Work performed for the City of Vista.

Village Park Recycled Water System (2015). Staff Archaeologist assisting with report for proposed recycled water system in Encinitas for Olivenhain Municipal Water District. Responsible for reviewing and synthesizing records search data and assisting with report preparation.

Buena Vista Outfall (2013 - 2014). Staff Archaeologist for survey for proposed sewer system improvements for the City of Vista and Buena Sanitation District. The project is located in the City of Carlsbad. Responsible for field survey and assistance with report preparation.

Vista Engineering Delpy Ditch Sewer (2016). Staff Archaeologist for survey for proposed project to provide an engineered solution for long-term stabilization of the Delpy Ditch bank, in order to protect the existing sewer line, which has been damaged by erosion. Work for project included field survey and assistance with report preparation. Work performed for the City of Vista.

Moreno Valley 2060 Potable Water Storage Tank and Transmission Pipeline IS/MND (2016). Staff Archaeologist for a project proposing to construct a 2.5-million-gallon potable water storage tank, approximately 3,000 linear feet of 18-inch-diameter transmission pipeline, a paved access road, a detention basin, and other associated utilities to support tank operation. Project work included background research in preparation for field survey and assistance with report preparation. Work performed for Eastern Municipal Water District.

Lake Wohlford Dam (2014 - 2015). Assisted in a cultural resources survey and assessment of Lake Wohlford located in the City of Escondido. Revisited previously identified cultural resources and updated site boundaries, as well as recorded previously unknown archaeological sites in the project area.

Mission Cove Monitoring (2013 - 2016). Conducted cultural resources monitoring for ground-disturbing activities within the 15-acre Mission Cove Affordable Housing project area in the City of Oceanside, including monitoring of biannual discing of the site, general site clearing, mass grading of the site, and trenching for off-site utilities. Recorded cultural material associated with a known significant cultural resource, as well as additional cultural features encountered during monitoring.

5th & Nutmeg (2014). Archaeologist conducting cultural resources monitoring for a condominium development in Bankers Hill in the City of San Diego. Identified and recorded subsurface historic deposits during grading of the project site. Numerous small historic period trash deposits were encountered and documented as part of the monitoring program. Work performed for ColRich Properties.

Vista Vineyards (2014 - 2015). Assisted in conducting a pedestrian reconnaissance of the 15.2-acre project area located in the City of Vista. Conducted site assessment of several cultural sites within the project area, including test excavations, surface collection of artifacts, the re-mapping of a previously

Kristina Davison

Staff Archaeologist

recorded bedrock milling complex, and artifact analysis and cataloguing. Also co-authored the report. Work performed for City of Vista.

Executive Ridge (2013). Archaeological Monitor during grading for a commercial development in the City of Vista. Responsible for documenting cultural material recovered and coordination with contractor and Native American monitors as part of construction monitoring.

Burton Hawkins Monitoring (2013 - 2015). Archaeologist for a remodel project at a home in La Jolla. Assisted with the site assessment and conducted cultural resources monitoring. The home is in the Spindrift site, a significant cultural resource in terms of both archaeological importance and Native American cultural values. Work performed for John Hawkins.

Vista Ridge Apartments (2012 - 2015). Staff Archaeologist for survey, test excavation, and construction monitoring in conjunction with a proposed residential development project in the City of Vista. Responsible for field survey, mapping, excavation of shovel test pits, documentation of bedrock milling features, artifact cataloguing, construction monitoring, and assistance with report preparation.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B

Artifact Catalogs

Sinsonte-1
Artifact Catalog

Site	Artifact #	Unit type	Unit number	Upper depth	Lower depth	Artifact Class	Item	Material	Count	Weight (g)
Sinsonte-1	1	Mapped point	1	0	0	Flaked stone	Debitage	Medium to coarse grained metavolcanic	1	1.8
Sinsonte-1	2	Mapped point	2	0	0	Flaked stone	Debitage	Quartz	1	6
Sinsonte-1	3	Mapped point	3	0	0	Bone, nonhuman	Bulk unmodified	Unclassified Bone	8	3.2
Sinsonte-1	4	Mapped point	4	0	0	Flaked stone	Debitage	Quartz	1	3.6
Sinsonte-1	9	Mapped point	8	0	0	Flaked stone	Debitage	Quartzite	1	3.1
									12	17.7

Sinsonte-2
Artifact Catalog

Site	Artifact #	Unit type	Unit number	Upper depth	Lower depth	Artifact Class	Item	Material	Count	Weight (g)
Sinsonte-2	5	Mapped point	5	0	0	Ground stone	Mano	Granitic	1	324.7
Sinsonte-2	6	Mapped point	6	0	0	Flaked stone	Rejuvenation flake	Fine grained metavolcanic	1	5.2
Sinsonte-2	7	Mapped point	6	0	0	Flaked stone	Debitage	Medium to coarse grained metavolcanic	1	0.1
Sinsonte-2	8	Mapped point	7	0	0	Flaked stone	Hammer	Medium to coarse grained metavolcanic	1	99.8
Sinsonte-2	10	Mapped point	9	0	0	Flaked stone	Debitage	Medium to coarse grained metavolcanic	1	38.9
Sinsonte-2	11	Mapped point	10	0	0	Flaked stone	Debitage	Medium to coarse grained metavolcanic	1	1.4
Sinsonte-2	12	Mapped point	11	0	0	Flaked stone	Debitage	Quartz	1	52.2
Sinsonte-2	13	Mapped point	12	0	0	Flaked stone	Debitage	Medium to coarse grained metavolcanic	1	32.3
Sinsonte-2	14	Shovel test pit	6	20	30	Ground stone	Mano	Granitic	1	140.9
									9	695.5

Appendix D

Construction Noise Calculations

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/22/2018

Case Description: WSY-03

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	75	75	75

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Hydra Break Ram	Yes	10	90	90	100	0

Calculated (dBA)

Equipment	*Lmax	Leq
Hydra Break Ram	84	74
Total	84	74

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/22/2018

Case Description: WSY-03

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	75	75	75

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compactor (ground)	No	20		83.2	100	0

Calculated (dBA)

Equipment	*Lmax	Leq
Compactor (ground)	77.2	70.2
Total	77.2	70.2

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 8/22/2018
 Case Description: WSY-03

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	75	75	75

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	100	0
Front End Loader	No	40		79.1	100	0

Calculated (dBA)

Equipment	*Lmax	Leq
Dozer	75.6	71.7
Front End Loader	73.1	69.1
Total	75.6	73.6

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/22/2018

Case Descriptio WSY-03

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	75	75	75

		Equipment				
Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	100	0
Front End Loader	No	40		79.1	100	0

Calculated (dBA)

Equipment	*Lmax	Leq
Excavator	74.7	70.7
Front End Loader	73.1	69.1
Total	74.7	73

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 8/22/2018
 Case Description: WSY-03

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Residential	Residential	75	75	75

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Scraper	No	40		83.6	100	0

Calculated (dBA)

Equipment	*Lmax	Leq
Scraper	77.6	73.6
Total	77.6	73.6

*Calculated Lmax is the Loudest value.