

Final

San Pasqual Undergrounding Project

Environmental Assessment

Initial Study/Mitigated Negative Declaration

October 2016

Final

San Pasqual Undergrounding Project
Environmental Assessment
Initial Study/Mitigated Negative Declaration

October 2016

Prepared for:
City of Escondido
Vista Irrigation District
Bureau of Indian Affairs

Prepared by:

ATKINS

3570 Carmel Mountain Road, Suite 300
San Diego, California 92130
Atkins Project No.: 100049195

Final Mitigation Measures for the San Pasqual Undergrounding Project

A Draft Environmental Assessment – Initial Study/Mitigated Negative Declaration (EA-IS/MND) was prepared by the City of Escondido and Vista Irrigation District to assess the impacts of the construction and operation of the San Pasqual Undergrounding Project (proposed project). As described in the Finding of No Significant Impact (FONSI), eight written comments were received during the public comment review period from various agencies, individuals, or groups. The comments and responses are identified in the FONSI. As a result of comments on the EA-IS/MND, mitigation measures from the Draft EA-IS/MND were revised. The purpose of this document is to provide the final mitigation measures identified for the San Pasqual Undergrounding Project (proposed project). The final mitigation measures are provided below.

The organization of the Final Mitigation Measures table follows the subsection formatting style presented within the Final EA-IS/MND. Only those subsections of the environmental issues presented in the EA-IS/MND that have mitigation measures are provided below in the mitigation measures table. All other subsections in the EA-IS/MND do not contain mitigation measures.

Final Mitigation Measures San Pasqual Undergrounding Project

Aesthetics (Visual Resources)

- Aes-1 **Visually Compatible Landscaping.** The following landscaping measures shall be implemented for each proposed component project:
- a. For pipelines and access roads installed in naturally vegetated areas, the short-term disturbance footprints associated with construction for the pipeline corridor and associated construction staging areas shall be hydroseeded, following backfilling and recontouring, using a non-irrigated native plant mix consistent with original site conditions and surrounding vegetation.
 - b. For aboveground structures in naturally vegetated settings, any disturbed unpaved areas following construction that are not designated for vehicular or pedestrian access shall be revegetated (hydroseeding and/or plantings) using native plant materials consistent with original site conditions and surrounding vegetation. A temporary irrigation system shall

be installed and maintained by the project proponent, or watering trucks shall be used at a frequency to be determined by a qualified biologist or landscape architect, to maintain successful plant growth. Temporary irrigation shall be discontinued upon determination by the qualified biologist or landscape architect that the landscaping has permanently established, without the need for supplemental watering.

- c. For aboveground structures in more urban settings, any disturbed unpaved areas following construction that are not designated for vehicular or pedestrian access shall be landscaped using native plant materials consistent with original site conditions and/or surrounding ornamental vegetation in order to return the disturbed area to its existing visual character.
- d. The landscaping plan for aboveground structures associated with the desilting basin shall include the planting of large trees and/or shrubs, where appropriate, to provide adequate screening of the proposed basin and its structures.

Aes-2 Visually Compatible Design. The following design measures shall be implemented for each proposed project component that includes aboveground facilities (including access roads):

- a. Aboveground facilities and access roads shall use appropriate building materials and color palettes that are visually consistent with the surrounding natural vegetation and/or built environment.
- b. Aboveground facilities and access roads shall use low-reflective, low-glare paint and materials, unless required for safety or by law.
- c. Access roads shall be designed to minimize grading, slope ratios, and the blockage of existing views when possible. Access roads shall not contain features such as asphalt coating, lighting fixtures, signage, guard rails, walls, fences, curbing, pavement marking, or other service structures or appurtenances, unless required for safety or by law.

Biological Resources

Bio-1 Project-Level Biological Resource Surveys. During the design phase and prior to the construction of the proposed project, the project proponent shall retain a qualified biologist to conduct and/or update project-level biological resources surveys and prepare biological resources technical reports.

- a. If the rare plant surveys or focused protocol-level surveys determine the presence of federally or state-listed endangered or threatened species and occupied habitat on site, then, in compliance with the Federal Endangered Species Act and the California Endangered Species Act, the project proponent shall consult and obtain all applicable regulatory permits and authorizations from the USFWS and CDFW, and the conditions of the regulatory permits and authorizations shall be implemented accordingly and/or the underlying project would be modified to avoid direct “take” of the species and/or minimize adverse impacts to the species and occupied habitat.
- b. Coastal California gnatcatcher (CAGN) protocol-level presence/absence survey shall be conducted in suitable sage scrub habitat within 500 feet of the project impact area at the start of the nesting season prior to any construction within that season. Prior to conducting surveys, the required notice of intent to conduct surveys shall be filed with

the USFWS, and surveys must be conducted by a qualified biologist who holds the appropriate Section 10(a)(1)(A) permit. The CAGN surveys shall follow the 1997 USFWS CAGN Presence/Absence Survey Guidelines which includes six surveys at least one week apart if conducted during the breeding season survey period (February 15 through August 30). If surveys are conducted outside the breeding season, nine surveys at least two weeks apart shall be conducted.

If surveys document the presence of CAGN, impacts to CAGN would be mitigated below the level of significance when occupied coastal sage scrub is fenced, direct impacts are avoided, and construction within 500 feet of occupied habitat occurs only between September 1 and February 15 to avoid indirect impacts to nesting CAGN. If avoidance is not feasible, a temporary noise barrier shall be used during construction, at the appropriate location(s), in coordination with CDFW and the USFWS. The noise barrier shall attenuate noise levels to 60 dBA or less at the edge of breeding habitat.

Construction work performed within 500 feet of habitat identified for CAGN during the period of February 15 to August 30 shall be monitored at least weekly by a qualified biologist. Monthly monitoring letter reports of construction activities and their impacts on biological resources shall be provided to USFWS and/or CDFW.

- c. Protocol-level surveys shall be conducted prior to any construction in suitable riparian habitat within 500 feet of the project impact area during the breeding season for the least Bell's vireo (LBVI) (March 15 through September 15). The LBVI surveys shall follow the 2001 USFWS LBVI Survey Guidelines (USFWS 2001) and include eight surveys at least ten days apart within the protocol survey period (April 10 through July 31). Surveys shall be conducted between dawn and 11:00 a.m. and avoid periods of excessive or abnormal heat, wind, rain, fog, or other inclement weather.

If surveys document absence of LBVI, no additional avoidance or minimization measures are required. However, if surveys document the presence of LBVI, impacts to LBVI would be mitigated below the level of significance when occupied riparian habitat is fenced, direct impacts are avoided, and construction within 500 feet of occupied habitat occurs only between September 15 and March 15 to avoid indirect impacts to nesting LBVI. If avoidance is not feasible, a temporary noise barrier shall be used during construction, at the appropriate location(s), in coordination with CDFW and the USFWS. The noise barrier shall attenuate noise levels to 60 dBA or less at the edge of the breeding habitat. Construction work performed within 500 feet of occupied LBVI habitat during the period of March 15 to September 15 shall be monitored at least weekly by a qualified biologist. Monthly monitoring letter reports of construction activities and their impacts on biological resources shall be provided to USFWS and/or CDFW.

Bio-2 Avoidance of Nesting Birds. To prevent impacts to nesting passerines (song birds) and other non-raptors protected under the federal MBTA and CFG Code, it is recommended that all vegetation removal activities occur outside of the general bird breeding season (February 1 through August 31). Where this is unavoidable, the project proponent shall enforce the following:

- a. If construction occurs during the general nesting season (February 1 through August 31), and where any mature tree, shrub, or structure capable of supporting a bird nest occurs within 300 feet of proposed project construction activities, the project proponent shall

retain a qualified biologist to conduct a pre-construction survey for nesting birds prior to clearing, grading and/or construction activities. The survey will be conducted within 72 hours prior to the start of construction.

- b. If any nesting birds are present on or within 300 feet of the proposed project construction activities, the following shall be required, as approved by the USFWS and/or CDFW:
 1. The project proponent shall retain a qualified biologist to flag and demarcate the location of all nesting birds and monitor construction activities. Temporary avoidance of active bird nests, including the enforcement of an avoidance buffer of 300 feet, as determined by the qualified biological monitor, shall be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Requests for buffer reductions of less than 300 feet shall be provided to the USFWS and/or CDFW. Documentation of the nesting bird surveys and any follow-up monitoring shall be provided to the USFWS and CDF within 10 days of completing the final survey or monitoring event.

Bio-3 Avoidance of Nesting Raptors. To prevent impacts to nesting raptors protected under the federal MBTA and CFG Code, it is recommended that all vegetation removal activities occur outside of the raptor breeding season (January 15 through July 31). Where this is unavoidable, the project proponent shall enforce the following:

- a. If construction occurs during the raptor nesting season (January 15 through July 31), and where any mature tree or structure capable of supporting a raptor nest occurs within 500 feet of proposed project construction activities, the project proponent shall retain a qualified biologist to conduct a pre-construction survey for nesting raptors prior to clearing, grading and/or construction activities. The survey will be conducted within 72 hours prior to the start of construction.
- b. If any nesting raptors are present on or within 500 feet of the proposed project construction activities, the following shall be required, as approved by the USFWS and/or CDFW:
 1. The project proponent shall retain a qualified biologist to flag and demarcate the location of all nesting raptors and monitor construction activities. Temporary avoidance of active raptor nests, including the enforcement of an avoidance buffer of 500 feet will be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Documentation of the raptor surveys and any follow-up monitoring, as necessary, will be provided to the USFWS and CDFW within 10 days of completing the final survey or monitoring event.
- c. In the event that a California State fully protected species (e.g., white tailed kite) is found to be nesting on the project site, all work in the area will stop and the project proponent shall notify the CDFW and/or USFWS. No impacts will be permitted to occur to fully protected species.

Bio-4 Construction Fencing. Prior to vegetation clearing, grading, and/or construction activities for each proposed project component, the project proponent shall retain a qualified biologist to oversee and monitor installation of appropriate fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of sensitive

resources identified through project-level surveys (conducted pursuant to mitigation measure Bio-1). Specific impacts to Engelmann oak trees including their root systems would be avoided, to the maximum extent feasible, through the modification of the construction corridor and through delineation of construction limits to avoid this sensitive resource. In order to avoid inadvertent impacts to the peninsular (Ramona) spineflower (*Chorizanthe leptotheca*) specimens which were recorded outside of the study area, a qualified biologist will demarcate and communicate the location and extent of the population to ensure direct and indirect impacts are avoided and minimized during project actions. Temporary fencing (with silt barriers) shall be installed at the limits of project impacts (including construction staging areas and access routes) to prevent additional sensitive habitat impacts and the spread of silt from the construction zone into adjacent habitats to be avoided. Fencing shall be installed in a manner that does not impact habitats to be avoided. For projects potentially affecting special status species and sensitive resources, and for which permits or approvals from the USFWS or CDFW require confirmation of project impacts and submittal of as-built plans, the project proponent shall submit to the USFWS and CDFW for approval, at least 30 days prior to initiating project impacts, the final plans for initial clearing and grubbing of sensitive habitat and project construction. These plans shall also be submitted to the USACE, Regional Water Quality Control Board (RWQCB), or other local agency, from which, approval or permitting is required, as applicable. The final plans shall include photographs that show the fenced limits of impact and all sensitive areas to be impacted or avoided. If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the qualified biologist, project proponent, USFWS, CDFW, USACE, and/or other agency. Upon project completion, temporary construction fencing shall be removed by the project proponent under the oversight of the qualified biologist.

- Bio-5 Construction Staging Areas.** Prior to construction activities of the proposed project components where it has been demonstrated through project-level surveys (conducted pursuant to mitigation measure Bio-1) that drainages, wetlands and areas supporting sensitive habitats or species could be affected by project construction, the project proponent shall setback construction staging areas to avoid drainages, wetlands, and areas supporting sensitive habitats or species, where feasible. Fueling of equipment shall occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits shall be maintained to minimize and control fluid and grease leaks. Provisions to contain and clean up unintentional fuel, oil, fluid and grease leaks/spills shall be included in construction documents and in place prior to construction.
- Bio-6 Pre-Construction Meeting.** Prior to vegetation clearing, grading, and/or construction activities for each proposed project component, the project proponent shall retain a qualified biologist to attend a pre-construction meeting to inform construction crews of the sensitive species and habitats for that particular project component.
- Bio-7 Construction-Related Noise.** Construction noise created during the general avian breeding season (January 15 to September 15) that could affect the breeding of the CAGN, migratory songbirds, and other bird species associated with adjacent undeveloped areas shall be avoided. No loud construction noise (exceeding 60 dBA hourly average, adjusted for ambient noise levels, at the nesting site) may take place within 500 feet of active nesting sites during the general breeding season (January 15 through September 15). If it is confirmed through

project-level surveys (conducted pursuant to mitigation measure Bio-1) that a proposed project component could result in construction-related noise impacts to breeding birds during the general breeding season, the project proponent shall retain a qualified biologist to monitor the construction operations. The biological monitor shall be present to monitor construction activities that occur adjacent to undeveloped open space areas potentially supporting breeding birds. The biological monitor shall verify that construction noise levels do not exceed 60 dBA hourly average and shall have the ability to halt construction work, if necessary, and confer with the project proponent, USFWS, and/or CDFW to ensure the proper implementation of additional protection measures during construction. The qualified biologist shall report any violation to the USFWS and/or CDFW within 24 hours of its occurrence.

Bio-8 Hydroseeding of Graded Areas. Unless otherwise required by the USFWS, USACE, RWQCB, and/or CDFW, after completion of final grading for each proposed project component located adjacent to native vegetation, construction documents shall require that all graded areas within 100 feet of native vegetation, excluding those areas where a permanent access road, path, or other permanent development is required, are hydroseeded and/or planted with native plant species similar in composition to the adjacent undisturbed vegetation communities. The project proponent shall retain a qualified biologist with expertise in southern California ecosystems to monitor these activities to ensure non-native or invasive plant species are not used in the hydroseed mix or planting palettes. The hydroseeded/planted areas shall be watered via a temporary drip irrigation system or watering truck. Irrigation shall cease after successful plant establishment and growth, to be determined by the biologist. Any irrigation runoff from hydroseeded/ planted areas shall be directed away from adjacent native vegetation communities and contained and/or treated within the development footprint of individual component projects. All planting stock shall be inspected for exotic invertebrate pests (e.g., argentine ants) and any stock found to be infested with such pests shall not be allowed to be used in the hydroseeded/planted areas.

Bio-9 Habitat Replacement. Unavoidable impacts to sensitive natural communities shall be mitigated by the project proponent according to the range of ratios provided below, and would be increased or decreased depending on whether the habitat supports special status species or other sensitive resources, and/or the impacts and mitigation would occur inside or outside an existing preserve area:

<u>Sensitive Natural Community</u>	<u>Mitigation Ratio</u>
Southern Willow Scrub	3:1
Coast Live Oak Woodland	3:1
Engelmann Oak Woodland	3:1
Southern Coast Live Oak Riparian Forest	3:1
Diegan Coastal Sage Scrub	1:1 – 3:1
Southern Mixed Chaparral	0.5:1 – 3:1
Non-Native Grassland	0.5:1
Other Wetlands	3:1

Permanent and temporary impacts to sensitive natural communities shall be mitigated in-kind by the project proponent through implementation of any one or combination of the

following measures, as approved and/or amended by the USFWS, USACE, RWQCB, and/or CDFW for individual component projects, if applicable:

- a. On site as creation of new habitat within avoided and preserved areas at the project site;
- b. On site as restoration of existing habitat within temporary impact areas and/or avoided and preserved areas at the project site;
- c. On site as enhancement of existing habitat within avoided and preserved areas at the project site;
- d. Off site as purchase of habitat credits within an approved mitigation bank or combination of banks (e.g., North County Habitat Bank);
- e. Off site as habitat preservation, creation, restoration, and/or enhancement within other properties or approved mitigation programs available at the time of grading; or
- f. A combination of the above.

For on-site or off-site creation, restoration, and/or enhancement mitigation of upland sensitive natural communities (e.g., grassland, coastal sage scrub, chaparral, woodland) for each individual project component, the project proponent shall prepare an Upland Habitat Restoration Plan, Habitat Mitigation and Monitoring Plan, or similar plan, detailing the specific upland habitat creation, restoration, and/or enhancement measures to be implemented as project mitigation. The Upland Habitat Restoration Plan shall be approved by the USFWS and/or CDFW, as appropriate, prior to vegetation clearing, grading, and/or construction activities.

For on- or off-site creation, restoration, and/or enhancement mitigation of riparian and wetland sensitive natural communities (e.g., riparian forest, riparian scrub, willow scrub, mule fat scrub, freshwater marsh) for each individual project component, the project proponent shall prepare a Riparian/Wetland Habitat Restoration Plan, Habitat Mitigation and Monitoring Plan, or similar plan, detailing the specific riparian/wetland creation, restoration, and/or enhancement measures to be implemented as project mitigation. The Riparian/Wetland Habitat Restoration Plan shall be approved by the USFWS, USACE, RWQCB, and/or CDFW, as appropriate, prior to vegetation clearing, grading, and/or construction activities.

In addition, for on-site preservation, restoration and/or enhancement mitigation required as part of the reclamation of the land occupied by the replaced canal, a specific Engelmann Oak Preservation and Canal Restoration Plan will be prepared by the project proponent. The dominant vegetation communities that make up the current canal section includes coast live oak woodland containing Engelmann oak trees and southern mixed chaparral. This plan shall detail the specific canal restoration, and/or enhancement measures to be implemented as part of project mitigation. The plan shall provide an implementation schedule including site preparation methods, an irrigation plan, non-native plant removal, planting specifications, as well as detailed maintenance and monitoring/reporting schedules, as necessary. The Engelmann Oak Preservation and Canal Restoration Plan shall require approval by the USFWS and/or CDFW, as appropriate, prior to any vegetation clearing, grading, and/or construction activities.

Any upland or riparian/wetland habitat impacts that occur beyond the approved work limits of any project (see mitigation measure Bio-5) shall be mitigated at a ratio to be negotiated with the USFWS, USACE, RWQCB, and/or CDFW.

- Bio-10** **Jurisdictional Delineation.** Where it has been confirmed through jurisdictional delineation that jurisdictional waters or wetlands would be impacted by the proposed project, the proposed proponent shall obtain the required federal and state permits from the USACE, RWQCB, and/or CDFW, pursuant to Section 404 of the Clean Water Act, Section 401 of the Clean Water Act, and Section 1600 et seq. of the CFG Code, respectively. In compliance with permit requirements, the project proponent shall mitigate the loss of jurisdictional waters or wetlands through implementation of the in-kind habitat replacement identified in mitigation measure Bio-10, unless otherwise conditioned by the USACE, RWQCB, and/or CDFW in the federal and state permits.

Cultural Resources

- Cul-1** **Archaeological Monitoring.** During the construction of the proposed project, the project proponent shall retain a qualified archaeologist and appropriate Native American monitor to perform monitoring of all ground-disturbing activities to a depth of native soils. If subsurface cultural resources are encountered during construction, mitigation measure Cul-2 shall be implemented.
- Cul-2** **Procedures for Unintentional Disturbance of Cultural Resources.** If subsurface cultural resources are encountered during construction of the proposed project, or if evidence of an archaeological site or other suspected historical resource is encountered, all ground-disturbing activity shall be ceased within 100 feet of the resource. Potentially significant cultural resources could consist of, but are not limited to, stone, bone, wood, or shell artifacts and features, including structural remains, historic dumpsites, hearths, and middens. Midden features are characterized by darkened soil and could conceal material remains, including worked stone, fired clay vessels, faunal bone, hearths, storage pits, or burials; thus, special attention should always be paid to uncharacteristic soil color changes. A qualified archaeologist shall be retained by the project proponent to assess the find and determine whether the resource requires further study. Any previously undiscovered resources found during construction shall be recorded using the Department of Parks and Recreation Form 523 in accordance with all applicable regulations and evaluated for significance and eligibility for inclusion in all applicable federal, state, and local historic registers. No further grading shall occur in the area of the discovery until the project proponent approves measures to protect the resources.
- Cul-3** **Avoidance of Known Archaeological Sites.** None of the resources within the APE have been determined to meet the criteria for inclusion in the NRHP or the CRHR. Although unlikely there is a possibility that a subsurface component to CA-SDI-257 extends within the APE and may be impacted by the proposed project. There is also a possibility that inadvertent discoveries of archaeological sites be made during construction of the proposed project.
- a. Known cultural resources that can be avoided shall be demarcated as Environmentally Sensitive Areas (ESAs). All potentially NRHP and/or CRHR-eligible resources that would not be affected by direct impacts, but are within 50 feet of direct impact areas, shall be designated as ESAs. Protective fencing or other markers shall be erected and maintained

to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. An archaeologist shall monitor during ground-disturbing activities at all cultural resource ESAs.

- b. **Construction Monitoring:** Prior to issuance of grading permit(s), the project applicant shall retain a qualified archaeologist, in accordance with the Secretary of the Interior's Standards and Guidelines (Secretary's Standards) (36 CFR 61), and Native American observer to monitor ground-disturbing activities in culturally sensitive areas in an effort to identify any unknown resources. A qualified archaeologist shall attend preconstruction meetings, as needed, to make comments and/or suggestions concerning the monitoring program and to discuss excavation plans with the excavation contractor. The requirements for archaeological monitoring shall be noted on the construction plans. A qualified paleontologist shall be retained to monitor earth disturbances in all areas of paleontological sensitivity, per approval by lead agency. All construction activities in environmentally sensitive areas, or any other area of the project deemed sensitive for containing cultural resources, shall be monitored by a qualified archaeologist. Since significant portions of the project site contain sedimentary deposits that have the potential to contain buried cultural resources, then full-time cultural resources monitoring shall be implemented during all phases of ground-disturbing work in these areas. A cultural resource monitor shall meet the Secretary of the Interior Standards Qualifications as a professional archaeologist and, as appropriate, shall be on the lead agencies approved consultants list. The archaeological monitor(s) shall also be familiar with the project area and, therefore, be capable of anticipating the types of cultural resources that may be encountered.
- c. **Training for Contractor:** Prior to construction, all applicant, contractor, and subcontractor personnel shall receive training regarding the appropriate work practices necessary to effectively implement the mitigation measures and to comply with the applicable environmental laws and regulations (including penalties for violation under the appropriate state and federal laws), avoiding ESAs, the potential for exposing subsurface cultural resources and paleontological resources, and to recognize possible buried resources. This training shall include presentation of the procedures to be followed upon discovery or suspected discovery of archaeological materials, including Native American remains and their treatment, as well as of paleontological resources.
- d. **Discovery of Unknown Resources:** In the event that cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist shall evaluate the significance of the discovered resources based on eligibility for the NRHP, CRHR, or local registers. Preliminary determinations of NRHP eligibility shall be made by the lead agencies, in consultation with other appropriate agencies and local governments, and the SHPO.

Cul-4 The City of Escondido Planning Division ("City") recommends the applicant enter into a Tribal Cultural Resource Treatment, Cultural Resource Curation Agreement, 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 the 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-5 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 and the Bureau of Indian Affairs, Pacific Region Office (BIA-PRO) in a letter from the project archaeologist that confirms the selected Native American monitor is from a TCA Tribe. The City, prior to any pre-construction meeting, shall approve all persons involved in the monitoring program.
- Cul-6 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-7 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 and any existing TCA Tribal cultural resource laws and ordinances. 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-8 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-9 If a potentially significant tribal cultural resource is discovered, the archaeologist shall notify the City and BIA of said discovery. The qualified archaeologist, in consultation with the City, BIA, 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, BIA and the Native American monitor and be submitted to the City for review and approval.
- Cul-10 The avoidance and/or preservation of the significant tribal cultural resource and/or unique archaeological resource must first be considered and evaluated 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 (implementing current professional archaeological methods), in consultation with the TCA Tribe, BIA 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-11 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-12 If the qualified archaeologist elects to collect any tribal cultural resources, as specified in Cul-9, 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, as specified and agreed to in the Tribal Curation Agreement. 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-13 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 BIA and 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.

- Cul-14 Procedures for Unintentional Disturbance of Paleontological Resources. If paleontological resources are encountered during construction of the proposed project, all ground-disturbing activity shall cease within 100 feet of the resource. A qualified paleontologist shall be retained by the project proponent to evaluate the significance of the find; to salvage, record, clean, and curate significant fossil(s); and to document the find in accordance with current professional paleontological standards. No further grading shall occur in the area of the discovery until the project proponent approves the measures to protect the resources. Any fossils recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the project proponent where they would be afforded long-term preservation to allow future scientific study.

Noise

- Noi-1 Prior to the start of construction, the project proponent shall prepare a noise mitigation plan that demonstrates that the County of San Diego's noise standards will not be exceeded during construction. The plan shall be implemented during construction. The plan shall include, but not be limited to, the following components:
- a. Noise modeling to quantitatively demonstrate construction activities' noise impacts at nearby noise sensitive land uses.
 - b. Require construction activities to be limited to between the hours of 7 a.m. and 7 p.m.
 - c. Require construction equipment to use noise-reduction features (e.g., mufflers, dampers, and engine shrouds) that are no less effective than those originally installed by the manufacturer.
 - d. Require noise monitoring during construction of the pipeline and desilting basin.
- Noi-2 Prior to the start of construction, the project proponent shall prepare a vibration mitigation plan that demonstrates that the County of San Diego's vibration standards will not be exceeded during construction. The plan shall be implemented during construction. The plan shall include, but not be limited to, the following components:
- a. Vibration calculations to quantitatively demonstrate construction activities' vibratory impacts at nearby land uses.
 - b. Require specific measures such as equipment phasing, limitations of use, or vibration-reduction features that are no less effective than those originally installed by the manufacturer.
 - c. Require plan monitoring during construction of the pipeline and desilting basin.

Transportation/Traffic

- Tra-1 **Traffic Management and Control Plans.** Prior to the construction of each component within a public road ROW, the project proponent shall retain a qualified engineer to prepare a traffic control plan for the roadways that may be affected by that particular component project. The

traffic control plan shall be developed in accordance with the California Manual on Uniform Traffic Control Devices and submitted to the County's Traffic Engineering Section for approval on county land. The traffic control plan shall identify temporary lane and roadway closures, safety measures, and alternative routes to be utilized during construction of the proposed project in order to minimize impacts and ensure continuous operations on North Lake Wohlford Road and North Canal Road during pipeline construction activities. The traffic control plan would also include, if applicable:

- a. Speed limit reduction through installation of temporary traffic lights and/or other signage with addition of acceleration, deceleration, and turn lanes on routes with site entrances developed under the proposed project.
- b. Covering trenches (e.g., using metal plates) in roadways during non-working hours.
- c. Limiting construction vehicles traveling on public roadways during the morning and late afternoon peak commute times to minimize impacts on local commuters.
- d. Requirement for workers to park personal vehicles at the approved staging areas and take only necessary project vehicles to the work sites.
- e. Plans for notifications and a process for communication with affected residents and landowners prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which road/lanes and access point/driveways/parking areas would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints.
- f. Sight distance at individual construction site access points will be reviewed to ensure compliance with appropriate sight distance standards at the time of preparation of final grading, and landscaping.
- g. Plans to coordinate all construction activities with emergency service providers in the area. Emergency service providers would be notified of the timing, location, and duration of construction activities. All roads would remain passable to emergency service vehicles at all times.
- h. Provision of vehicle safety procedures for entering and exiting site access roads.
- i. Maintain access to transit, bicycle, and pedestrian facilities along project routes.
- j. Provision of ridesharing/carpooling options for construction staff to reduce the number of vehicles traveling to a work zone.

Draft

San Pasqual Undergrounding Project
Environmental Assessment
Initial Study/Mitigated Negative Declaration

August 2016

Prepared for:
City of Escondido
Vista Irrigation District
Bureau of Indian Affairs

Prepared by:

ATKINS

3570 Carmel Mountain Road, Suite 300
San Diego, California 92130
Atkins Project No.: 100049195

Contents

- 1.0 Executive Summary.....1-1**
 - 1.1 Introduction 1-1
 - 1.2 Project Location and Setting..... 1-1
 - 1.3 Proposed Project..... 1-1
 - 1.4 Alternatives Considered..... 1-2
 - 1.5 Project Impacts 1-3
 - 1.6 Conclusions 1-4

- 2.0 Purpose and Need for Proposed Project2-1**
 - 2.1 Introduction 2-1
 - 2.2 Proposed Project Background 2-5
 - 2.2.1 Historic Operation of the Water System amongst the Settlement Agreement Parties 2-5
 - 2.2.2 San Diego County Water Authority 2-5
 - 2.2.3 The Local Water System 2-5
 - 2.2.4 History of Water Rights..... 2-6
 - 2.2.5 History of Water Litigation 2-7
 - 2.3 Purpose and Need..... 2-8
 - 2.4 Description of Proposed Project 2-8
 - 2.5 Proposed Objectives 2-8
 - 2.6 Lead Agency Responsibilities for Planning and Environmental Review 2-9
 - 2.7 Resources to Be Analyzed 2-9
 - 2.8 Discretionary Actions and Approvals..... 2-10

- 3.0 Proposed Project and Alternatives.....3-1**
 - 3.1 On-Reservation Desilting Basin (Proposed Project)..... 3-1
 - 3.1.1 Proposed Pipeline Alignment 3-1
 - 3.1.2 Pipeline Easements/Land Acquisition..... 3-2
 - 3.1.3 Proposed Pipeline and Desilting Basin Dimensions, Structure, and Operation..... 3-2
 - 3.1.4 Revegetation of Disturbed Areas..... 3-10
 - 3.1.5 Construction Methods, Equipment, and Timing..... 3-10
 - 3.1.6 Pipeline Leaks or Rupture 3-11
 - 3.2 Off-Reservation Desilting Basin Alternative 3-11
 - 3.2.1 Proposed Pipeline Alignment 3-12
 - 3.2.2 Proposed Pipeline and Desilting Basin Dimensions, Structure, and Operation..... 3-12
 - 3.2.3 Construction Methods, Equipment, and Timing..... 3-12
 - 3.3 No Project Alternative 3-12

- 4.0 Environmental Analysis.....4-1**
 - 4.1 Aesthetics (Visual Resources) 4.1-1
 - 4.1.1 Environmental Setting 4.1-1

4.1.2	Regulatory Setting	4.1-4
4.1.3	Thresholds of Significance	4.1-8
4.1.4	Impact Analysis	4.1-8
4.2	Agriculture and Forestry Resources.....	4.2-1
4.2.1	Environmental Setting	4.2-1
4.2.2	Regulatory Setting	4.2-5
4.2.3	Thresholds of Significance	4.2-7
4.2.4	Impact Analysis	4.2-7
4.3	Air Quality	4.3-1
4.3.1	Environmental Setting	4.3-1
4.3.2	Regulatory Setting	4.3-3
4.3.3	Thresholds of Significance	4.3-5
4.3.4	Impact Analysis	4.3-5
4.4	Biological Resources	4.4-1
4.4.1	Environmental Setting	4.4-1
4.4.2	Regulatory Setting	4.4-8
4.4.3	Thresholds of Significance	4.4-10
4.4.4	Impact Analysis	4.4-11
4.5	Cultural and Paleontological Resources	4.5-1
4.5.1	Environmental Setting	4.5-1
4.5.2	Regulatory Setting	4.5-11
4.5.3	Thresholds of Significance	4.5-15
4.5.4	Impacts Analysis.....	4.5-16
4.6	Geology and Soils (Environmental Management)	4.6-1
4.6.1	Environmental Setting	4.6-1
4.6.2	Regulatory Setting	4.6-2
4.6.3	Thresholds of Significance	4.6-5
4.6.4	Impact Analysis	4.6-6
4.7	Greenhouse Gas Emissions.....	4.7-1
4.7.1	Environmental Setting	4.7-1
4.7.2	Regulatory Setting	4.7-2
4.7.3	Thresholds of Significance	4.7-6
4.7.4	Impact Analysis	4.7-7
4.8	Hazards and Hazardous Materials	4.8-1
4.8.1	Environmental Setting	4.8-1
4.8.2	Regulatory Setting	4.8-2
4.8.3	Thresholds of Significance	4.8-4
4.8.4	Impact Analysis	4.8-5
4.9	Hydrology and Water Quality (Water Resources)	4.9-1
4.9.1	Environmental Setting	4.9-1
4.9.2	Regulatory Setting	4.9-5
4.9.3	Thresholds of Significance	4.9-10
4.9.4	Impact Analysis	4.9-11

4.10 Noise 4.10-1
 4.10.1 Environmental Setting 4.10-1
 4.10.2 Regulatory Setting 4.10-3
 4.10.3 Thresholds of Significance 4.10-6
 4.10.4 Impact Analysis 4.10-6
 4.11 Traffic 4.11-1
 4.11.1 Environmental Setting 4.11-1
 4.11.2 Regulatory Setting 4.11-3
 4.11.3 Thresholds of Significance 4.11-7
 4.11.4 Impact Analysis 4.11-7
5.0 Cumulative Impacts 5-1
 5.1 Introduction 5-1
 5.2 Regulatory Framework 5-1
 5.3 Cumulative Effects of the Proposed Project 5-5
6.0 Alternatives 6-1
 6.1 Comparison of Alternatives to the Proposed Project 6-1
 6.1.1 Off-Reservation Desilting Basin 6-1
 6.1.2 No Project Alternative 6-5
 6.2 Alternatives Eliminated from Further Consideration 6-7
 6.2.1 Hellhole Siphon 6-7
 6.2.2 Pipeline Alignments from the 2010 Feasibility Study 6-7
7.0 Growth-Inducement Impacts 7-1
 7.1 Growth Inducement 7-1
 7.2 Significant Irreversible and Irretrievable Changes 7-1
 7.3 Disproportionate Effects (Environmental Justice) 7-2
8.0 Consultation and Coordination 8-1
9.0 List of Preparers 9-1
10.0 References 10-1

Appendices

- A CEQA Initial Study Checklist
- B Air Quality and Greenhouse Gas Emissions Technical Memorandum
- C General Biological Resources Report
- D Delineation of Waters of the United States, Including Wetlands
- E Special Status Plant Species Report
- F Coastal California Gnatcatcher Protocol Survey Report
- G Least Bell’s Vireo Report
- H Cultural Resources Addendum
- I Cultural and Historical Resources Survey and Evaluation Report
- J Mitigation Monitoring and Reporting Program

Tables

Table ES-1	Summary of Environmental Impacts and Mitigation Measures	1-5
Table 3-1	Proposed Project Impact Area	3-5
Table 3-2	Proposed Project Construction Equipment Type	3-10
Table 3-3	Proposed Action Timeline	3-11
Table 4.3-1	Ambient Background Concentrations.....	4.3-2
Table 4.3-2	San Diego Air Basin Attainment Status.....	4.3-4
Table 4.3-3	Air Pollutant Thresholds	4.3-7
Table 4.3-4	Estimated Construction Maximum Air Pollutant Emissions	4.3-8
Table 4.3-5	Applicable De Minimis Thresholds.....	4.3-9
Table 4.3-6	Applicable De Minimis Thresholds.....	4.3-9
Table 4.4-1	Vegetation Acreages within the Study Area	4.4-2
Table 4.4-2	Special Status Plant Species Known or with Potential to Occur in the Study Area	4.4-3
Table 4.4-3	Sensitive Animal Species Known or with Potential to Occur in the Study Area	4.4-5
Table 4.4-4	Maximum Temporary Impacts from Pipeline Construction	4.4-16
Table 4.4-5	Potential Temporary and Permanent Impacts from Construction of Desilting Basin and an Access Road	4.4-17
Table 4.5-1	Cultural Resources Recorded within 1-mile of the Proposed Project’s APE.....	4.5-17
Table 4.5-2	Previous Studies Conducted within 1-mile of the Proposed Action APE.....	4.5-19
Table 4.7-1	Carbon Dioxide Equivalents and Atmospheric Lifetimes of Basic GHGs	4.7-1
Table 4.7-2	Unincorporated County GHG Emissions by Category (2005)	4.7-2
Table 4.7-3	Estimated Construction GHG Emissions	4.7-8
Table 4.9-1	Beneficial Uses of the San Luis Rey River Watershed.....	4.9-5
Table 4.10-1	Ambient Sound Level Measurements (dBA).....	4.10-1
Table 4.10-2	Typical Construction Equipment Maximum Noise Levels, L_{max}	4.10-3
Table 4.10-3	Vibration Levels of Construction Equipment.....	4.10-4
Table 4.10-4	San Diego County Noise Ordinance Exterior Noise Standards	4.10-5
Table 4.10-5	Noise Compatibility Guidelines.....	4.10-5
Table 4.11-1	Level of Service Definitions.....	4.11-3
Table 4.11-2	Roadway Segment Level of Service Existing Conditions	4.11-3
Table 5-1	Geographic Scope of Cumulative Impact Analyses.....	5-1
Table 5-2	List of Cumulative Projects in Vicinity of Proposed Project.....	5-2

Figures

Figure 2-1	Regional Location.....	2-2
Figure 2-2	Overview of the Proposed Project.....	2-3
Figure 3-1	Details of the Proposed Project	3-3
Figure 3-2	Pipeline/Service Road Cross Section.....	3-6
Figure 3-3	Desilting Basin Plan View	3-7
Figure 3-4	Desilting Basin Longitudinal Section	3-8
Figure 3-5	Desilting Basin Cross Section	3-9
Figure 3-6	Off-Reservation Desilting Basin Alternative	3-13
Figure 4.1-1	Key Vantage Point Locations.....	4.1-5
Figure 4.2-1	Agricultural Land Near the Project Area	4.2-3
Figure 4.9-1	San Luis Rey Watershed and Waterways.....	4.9-3
Figure 4.9-2	Flood Zones and Designated Floodways.....	4.9-15
Figure 5-1	Location of Cumulative Projects	5-3

Abbreviations

µg/m ₃	Micrograms per Cubic Meter
AB	Assembly Bill
ADT	Average Daily Trips
AMSL	Above Mean Sea Level
APCD	Air Pollution Control District
APE	Area of Potential Effect
AQIA	Air Quality Impact Analysis
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
B.P.	Before Present
Bands	La Jolla, Rincon, San Pasqual, Pauma, and Pala Bands of Mission Indians
Basin Plan	Water Quality Control Plan for San Diego County
BIA	Bureau of Indian Affairs
BMP	Best Management Practices
BTEX	Ethylbenzene and Xylenes
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAC	California Administrative Code
CAGN	Coastal California Gnatcatcher
Cal Fire	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAT	California Climate Action Team
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFCP	California Farmland Conservancy Program
CFG Code	California Fish and Game Code
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CGS	California Geological Survey
CHP	California Highway Patrol
CMP	Congestion Management Program
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO	Carbon Monoxide
CRHR	California Register of Historic Resources

CUPA	Certified Unified Program Agency
CVWD	Coachella Valley Water District
CWA	Clean Water Act
°F	Degrees Fahrenheit
dB	Decibel
dBA	A-weighted Sound Level
DEH	[County of San Diego] Department of Environmental Health
Diversion Dam	Escondido Canal Diversion Dam
DOC	California Department of Conservation
DTSC	Department of Toxic Substances Control
EA-IS/MND	Environmental Assessment and Initial Study/Mitigated Negative Declaration
ESA	Endangered Species Act
Escondido	City of Escondido
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FONSI	Finding of No Significant Impact
FRPP	Farm and Ranch Lands Protection Program
gpm	Gallons per Minute
HDPE	High Density Polyethylene
HMMP	Hazardous Materials Management Plan
IBC	International Building Code
IID	Imperial Irrigation District
in/hr	Inches per Hour
KVP	Key Vantage Points
LAFCO	Local Agency Formation Commission
LARA	Local Agricultural Resource Assessment
LBVI	Least Bell's Vireo
Ldn	Day/Night Sound Level
Leq	Equivalent Sound Level
LESA	Land Evaluation Site Assessment Model
LHP	Landslide Hazards Program
Local Water	Waters of the San Luis Rey River Watershed Developed by the Local Entities
LOS	Level of Service
LPC	Light Pollution Code
LUPs	Underground/Overhead Projects
MMT	Million Metric Tons
MND	Mitigated Negative Declaration
MSCP	North County Multiple Species Conservation Plan
MSDS	Material Safety Data Sheets
MWD	Metropolitan Water District of Southern California
MYA	Million Years Ago
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission

NCCP	Natural Community Conservation Planning
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
Ninth Circuit	Court of Appeals for the U.S. Ninth Circuit
NO ₂	Nitrogen Dioxide
NOD	Notice of Determination
NOx	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System
NPPA	California Native Plant Protection Act
NRHP	National Register of Historic Places
O ₃	Ozone
OWTS	On-site Wastewater Treatment Systems
PM ₁₀	Course Particulate Matter
PM _{2.5}	Fine Particulate Matter
PPM	Parts per Million
PPV	Peak Particle Velocity
PRC	Public Resources Code
proposed project	San Pasqual Undergrounding Project
RAQS	Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
rms	Root Mean Square
ROW	Rights-of-Way
RPO	Resource Protection Ordinance
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCAQMD	South Coast Air Quality Management District
SCIC	South Coastal Information Center
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCWA	San Diego County Water Authority
SDFD	San Diego Fire Department
SDSU	San Diego State University
Secretary's Standards	Secretary of the Interior's Standards and Guidelines
Settlement Act	San Luis Rey Indian Water Rights Settlement Act
Settlement Agreement	San Luis Rey Indian Water Rights Settlement Agreement
Settlement Parties	Federal, Tribal and Local Entities
SHPO	State Historic Preservation Office
SIP	State Implementation Plans
SLRIWA	San Luis Rey Indian Water Authority
SLRPA	San Luis Rey Participating Agencies
SMAQMD	Sacramento Metropolitan Air Quality Management District's
SO ₂	Sulfur Dioxide
SPCC	Spill Prevention Control and Countermeasure

SR-	State Route
Supplemental Water	San Luis Rey River
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TPH-D	Total Petroleum Hydrocarbons Diesel Range
TPH-G	Total Petroleum Hydrocarbons Gasoline Range
TSD	Transfer/Storage/Disposal
U.S.	United States
UDC	Unified Disaster Council
URM	Unreinforced Masonry
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
VID	Vista Irrigation District
VOC	Volatile Organic Compound
WDR	Waste Discharge Requirement
Winters Doctrine	U.S. Supreme Court case Winters v. United States

1.0 Executive Summary

This chapter highlights the major areas of importance in the environmental analysis for the San Pasqual Undergrounding Project (proposed project). Provided is a brief description of the proposed project, project objectives, and alternatives. In addition, this chapter provides a table summarizing: (1) the level of impact significance before mitigation; (2) the recommended mitigation measures that would avoid or reduce significant environmental impacts; and (3) the level of impact significance after mitigation measures are implemented.

1.1 Introduction

This Draft Joint Environmental Assessment and Initial Study/Mitigated Negative Declaration (EA-IS/MND) has been prepared to assess the impacts of the construction and operation of the San Pasqual Undergrounding Project (proposed project), as required by the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The proposed project is being administered by the nine parties that are signatory to the San Luis Rey Indian Water Rights Settlement Agreement (Settlement Agreement), which includes federal, tribal and local entities (Settlement Parties). The NEPA lead agency is the United States (U.S.) Department of the Interior Bureau of Indian Affairs (BIA), and the CEQA lead agency for the proposed project is the City of Escondido (Escondido). The Vista Irrigation District (VID) is a Responsible Agency under CEQA.

1.2 Project Location and Setting

The project area is located in northern San Diego County. The project area encompasses portions of unincorporated San Diego County within the community of Valley Center and portions of the San Pasqual Reservation, located 5 miles northeast of the city of Escondido, as well as portions of the Escondido service areas.

1.3 Proposed Project

The proposed project would remove, relocate, and replace about 2.5 miles of the Escondido Canal that crosses the San Pasqual Reservation. The proposed project includes the installation, operation, and maintenance of an underground pipeline on the San Pasqual Reservation both within and outside of the existing rights-of-way (ROW) for the Escondido Canal.

The proposed project consists of four primary elements: (1) the construction of a new desilting basin and associated access road on the San Pasqual Indian Reservation along the existing Escondido Canal alignment where the canal first enters the Reservation; (2) the replacement of about 2,000 feet of existing canal with a buried 60-inch pipeline within the existing Escondido Canal ROW; (3) the replacement of another approximately 2 miles of existing canal with a buried 60-inch pipeline within new alignments crossing the San Pasqual Indian Reservation, private lands, and public ROW in Lake Wohlford Road; and

(4) the removal of approximately 2 miles of the existing Escondido Canal that are dewatered when the proposed project is complete, and the reclamation of the land formerly occupied by the canal by means of demolition, debris removal, grading, and reestablishment of drainage, as well as any associated mitigation of environmental impacts that may be required. The connection to the existing underground pipeline would be at a location south of Paradise Mountain Road. No pumping would be required to convey flows through the proposed underground pipeline.

The proposed project objectives are to comply with the Settlement Agreement (January 30, 2015) which pertain chiefly to the rights of the Settlement Parties to both the Supplemental Water and certain waters of the San Luis Rey River watershed and ROWs for the operation and maintenance of water conveyance facilities and appurtenant structures.

1.4 Alternatives Considered

The purpose of the alternatives analysis is to allow the BIA and Escondido decision-makers to make informed decisions concerning the environmental consequences of the proposed project, as well as the alternatives. Two alternatives in addition to the proposed project are investigated in detail in this document:

- Off-Reservation Desilting Basin Alternative
- No Project Alternative

A description of each of these alternatives is provided after the On-Reservation Desilting Basin (proposed project) description.

On-Reservation Desilting Basin (Proposed Project)

The proposed pipeline would be a total of approximately 2.5 miles long and would run generally from north to south within the existing Escondido Canal ROW and along existing roads, primarily North Canal Road, South Canal Road, North Lake Wohlford Road, and Paradise Mountain Road, to the extent feasible. The proposed pipeline would begin at the proposed new desilting basin northeast of North Canal Road (Segment 2) and continue in a southwesterly direction and connect to the existing underground pipeline at a location south of Paradise Mountain Road (Segment 1). The proposed pipeline would include a 100-foot construction corridor (50 feet on each side of pipeline alignment) for its entire 2.5-mile length. The 100-foot-wide construction corridor may be reduced in some areas, as needed, to avoid impacting sensitive biological resources, such as drainages, wetlands, oaks, active nests, and cultural resource sites.

Construction of the proposed project would include:

- Installation of approximately 1.6 miles of 60-inch diameter underground pipeline outside the existing ROW for the Escondido Canal (Segment 1);
- Decommissioning of approximately 0.4 mile of the Escondido Canal and replacement with 60-inch diameter pipe (Segment 2);
- Construction of a 1,350 square foot desilting basin and associated access road at the northern/upstream end of Segment 2 on the San Pasqual Reservation; and
- Decommissioning and reclamation of approximately 2.5 miles of the Escondido Canal that is currently routed through the San Pasqual Reservation.

Off-Reservation Desilting Basin Alternative

Under this alternative, the pipeline would be 342 feet longer to accommodate a desilting basin north of the San Pasqual Reservation boundary, outside of the proposed ROW. All support facilities required for the proposed project, such as a desilting basin and access road, would also be required for this alternative. The desilting basin would be located off the San Pasqual Reservation lands, approximately 72 feet north of the San Pasqual Reservation boundary, and Escondido and VID would need to acquire land or exercise eminent domain to control the property for development and operation of the desilting basin.

The proposed project objectives would be achieved under the Off-Reservation Desilting Basin Alternative. However, this alternative would require securing more land for the desilting basin, at considerable cost to Escondido and VID.

No Project Alternative

The No Project Alternative must be evaluated in this EA-IS/MND as required under Section 1502.14 of the regulations for implementing NEPA. This alternative represents the environmental baseline for the proposed project. Under the No Project Alternative, the proposed project would not be implemented, and the proposed project infrastructure (pipeline, desilting basin, and access roads) would not be constructed. The existing alignment of the Escondido Canal would remain in place and no additional Supplemental Water or waters of the San Luis Rey River watershed would be provided to the Bands by Escondido and VID, which would not align with the Settlement Agreement. None of the potential environmental impacts resulting from implementation of the proposed project would occur. Under the No Project Alternative, the proposed pipeline and related support facilities would not be constructed. The No Project Alternative would:

- Not construct the proposed pipeline or related facilities, including the pipeline, desilting basin, and access roads.
- Not align with the Settlement Agreement to supply needed water.
- Not require grading, excavation, and revegetation to construct the proposed project.

The No Project Alternative would avoid all significant environmental impacts identified for the proposed project because construction of the pipeline and related support facilities would not take place under this alternative. However, although the No Project Alternative would avoid the impacts to environmental resources, it would not meet any of the proposed project objectives.

1.5 Project Impacts

The environmental analysis provides information relative to eleven environmental topics that pertain to the proposed project. This EA-IS/MND examines the potential environmental impacts from implementation of the proposed project, including information related to existing site conditions, analyses of the types and magnitude of individual and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts. The potential environmental impacts of the proposed project are analyzed for the following issue areas:

- | | |
|--------------------------|-----------------------------------|
| ■ Aesthetics | ■ Greenhouse Gas Emissions |
| ■ Agricultural Resources | ■ Hazards and Hazardous Materials |
| ■ Air Quality | ■ Hydrology and Water Quality |
| ■ Biological Resources | ■ Noise |
| ■ Cultural Resources | ■ Traffic |
| ■ Geology and Soils | |

Table ES-1 presented at the end of this chapter, provide summaries of the environmental impacts that could result from implementation of the proposed project and feasible mitigation measures that could reduce or avoid environmental impacts. For each impact, Tables ES-1 identifies the significance of the impact before mitigation, applicable mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures.

Impacts to Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation and Utilities and Service Systems were not considered in detail in this EA/MND, because they would not be impacted by the proposed project. The rationale for these conclusions are given in Chapter 4 of this EA-IS/MND.

1.6 Conclusions

In summary, the analysis within this EA-IS/MND determined that the proposed project would not result in significant adverse impacts to the following resource areas: Agricultural and Forest Resources, Air Quality, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral and Energy Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems.

Impacts that were shown to have a less-than-significant impact with mitigation were Aesthetics, Biological Resources, Cultural Resources, Noise, and Transportation/Traffic as a result of proposed project activities. Measures to avoid or mitigate the impacts would be incorporated into the proposed project to reduce the impacts to below a level of significance. These measures are identified in Table ES-1 and discussed within Section 4, Environmental Analysis.

This EA-IS/MND is a public document that analyzes the environmental impacts of the proposed project, presents feasible measures to reduce or avoid potential environmental impacts with construction of the proposed project, and evaluates alternatives to the proposed project. This EA-IS/MND complies with environmental requirements established by both NEPA and CEQA and serves as an informational document to be used in the decision-making process and does not recommend either approval or denial of the proposed project.

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
<p>Aesthetics (Visual Resources)</p> <p>Would the proposed project have a substantial adverse effect on a scenic vista?</p> <p>Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?</p>	Potentially Significant	<p>Aes-1 Visually Compatible Landscaping. The following landscaping measures shall be implemented for each proposed component project:</p> <ol style="list-style-type: none"> For pipelines and access roads installed in naturally vegetated areas, the short-term disturbance footprints associated with construction for the pipeline corridor and associated construction staging areas shall be hydroseeded, following backfilling and recontouring, using a non-irrigated native plant mix consistent with original site conditions and surrounding vegetation. For aboveground structures in naturally vegetated settings, any disturbed unpaved areas following construction that are not designated for vehicular or pedestrian access shall be revegetated (hydroseeding and/or plantings) using native plant materials consistent with original site conditions and surrounding vegetation. A temporary irrigation system shall be installed and maintained by the project proponent, or watering trucks shall be used at a frequency to be determined by a qualified biologist or landscape architect, to maintain successful plant growth. Temporary irrigation shall be discontinued upon determination by the qualified biologist or landscape architect that the landscaping has permanently established, without the need for supplemental watering. For aboveground structures in more urban settings, any disturbed unpaved areas following construction that are not designated for vehicular or pedestrian access shall be landscaped using native plant materials consistent with original site conditions and/or surrounding ornamental vegetation in order to return the disturbed area to its existing visual character. The landscaping plan for aboveground structures associated with the desilting basin shall include the planting of large trees and/or shrubs, where appropriate, to provide adequate screening of the proposed basin and its structures. <p>Aes-2 Visually Compatible Design. The following design measures shall be implemented for each proposed project component that includes aboveground facilities (including access roads):</p> <ol style="list-style-type: none"> Aboveground facilities and access roads shall use appropriate building materials and color palettes that are visually consistent with the surrounding natural vegetation and/or built environment. Aboveground facilities and access roads shall use low-reflective, low-glare paint and materials, unless required for safety or by law. Access roads shall be designed to minimize grading, slope ratios, and the blockage of existing views when possible. Access roads shall not contain features such as asphalt coating, lighting fixtures, signage, guard rails, walls, fences, curbing, pavement marking, or other service structures or appurtenances, unless required for safety or by law. 	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
Would the proposed project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Potentially Significant	Implementation of mitigation measures Aes-1 and Aes-2.	Less Than Significant
Agriculture and Forestry Resources			
Would the proposed project 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? Would the proposed project conflict with existing zoning for agricultural use, or a Williamson Act contract?	Less Than Significant	No mitigation is required.	Less Than Significant
Would the proposed project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?	Less Than Significant	No mitigation is required.	Less Than Significant
Air Quality			
Would the proposed project conflict with or obstruct implementation of the applicable Air Quality Plan?	Less Than Significant	No mitigation is required.	Less Than Significant
Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Less Than Significant	No mitigation is required.	Less Than Significant
Would the proposed project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is classified as 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	No mitigation is required.	Less Than Significant
Would the proposed project expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant	No mitigation is required.	Less Than Significant
Would the proposed project create objectionable odors affecting a substantial number of people?	Less Than Significant	No mitigation is required.	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
<p>Biological Resources</p> <p>Would the proposed 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 regulation, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</p>	<p>Potentially Significant</p>	<p>Bio-1 Project-Level Biological Resource Surveys. During the design phase and prior to the construction of the proposed project, the project proponent shall retain a qualified biologist to conduct and/or update project-level biological resources surveys and prepare biological resources technical reports.</p> <p>a. If the rare plant surveys or focused protocol-level surveys determine the presence of federally or state-listed endangered or threatened species and occupied habitat on site, then, in compliance with the federal ESA and the CESA, the project proponent shall consult and obtain all applicable regulatory permits and authorizations from the USFWS and CDFW, and the conditions of the regulatory permits and authorizations shall be implemented accordingly and/or the underlying project would be modified to avoid direct “take” of the species and/or minimize adverse impacts to the species and occupied habitat.</p> <p>b. For construction activities after the month of May 2017 a CAGN protocol-level presence/absence survey shall be conducted in suitable sage scrub habitat within 500 feet of the project impact area. Prior to conducting surveys, the required notice of intent to conduct surveys shall be filed with the USFWS, and surveys must be conducted by a qualified biologist who holds the appropriate Section 10(a)(1)(A) permit. The CAGN surveys shall follow the 1997 USFWS CAGN Presence/Absence Survey Guidelines (USFWS 1997) which includes six surveys at least one week apart if conducted during the breeding season survey period (February 15 through August 30). If surveys are conducted outside the breeding season, nine surveys at least two weeks apart shall be conducted.</p> <p>Surveys shall occur between 6:00 a.m. and 12:00 p.m. and avoid periods of excessive or abnormal heat, wind, rain, fog, or other inclement weather. If surveys document absence of CAGN, no additional avoidance or minimization measures are required.</p> <p>If surveys document the presence of CAGN, impacts to CAGN would be mitigated below the level of significance when occupied coastal sage scrub is fenced, direct impacts are avoided, and construction within 500 feet of occupied habitat occurs only between September 1 and February 15 to avoid indirect impacts to nesting CAGN. If avoidance is not feasible, a temporary noise barrier shall be used during construction, at the appropriate location(s), in coordination with CDFW and the USFWS. The noise barrier shall attenuate noise levels to 60 dBA or less at the edge of breeding habitat.</p> <p>Construction work performed within 500 feet of habitat identified for CAGN during the period of February 15 to August 30 shall be monitored at least weekly by a qualified biologist. Monthly monitoring letter reports of construction activities and their impacts on biological resources shall be provided to USFWS and/or CDFW.</p> <p>c. For construction activities which occur after June 2017, and during the breeding season for the LBVI (March 15 through September 15), protocol-level surveys shall be conducted prior to construction in suitable riparian habitat within 500 feet of the project impact area. The LBVI</p>	<p>Less Than Significant</p>

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
		<p>surveys shall follow the 2001 USFWS LBVI Survey Guidelines (USFWS 2001) and include eight surveys at least ten days apart within the protocol survey period (April 10 through July 31). Surveys shall be conducted between dawn and 11:00 a.m. and avoid periods of excessive or abnormal heat, wind, rain, fog, or other inclement weather.</p> <p>If surveys document absence of LBVI, no additional avoidance or minimization measures are required. However, if surveys document the presence of LBVI, impacts to LBVI would be mitigated below the level of significance when occupied riparian habitat is fenced, direct impacts are avoided, and construction within 500 feet of occupied habitat occurs only between September 15 and March 15 to avoid indirect impacts to nesting LBVI. If avoidance is not feasible, a temporary noise barrier shall be used during construction, at the appropriate location(s), in coordination with CDFW and the USFWS. The noise barrier shall attenuate noise levels to 60 dBA or less at the edge of the breeding habitat. Construction work performed within 500 feet of occupied LBVI habitat during the period of March 15 to September 15 shall be monitored at least weekly by a qualified biologist. Monthly monitoring letter reports of construction activities and their impacts on biological resources shall be provided to USFWS and/or CDFW.</p> <p>Bio-2 Avoidance of Nesting Birds. To prevent impacts to nesting passerines (songbirds) and other non-raptors protected under the federal MBTA and CFG Code, the project proponent shall enforce the following:</p> <ol style="list-style-type: none"> a. If construction occurs during the general nesting season (February 1 through August 31), and where any mature tree, shrub, or structure capable of supporting a bird nest occurs within 300 feet of proposed project construction activities, the project proponent shall retain a qualified biologist to conduct a pre-construction survey for nesting birds prior to clearing, grading and/or construction activities. The survey will be conducted within 72 hours prior to the start of construction. b. If any nesting birds are present on or within 300 feet of the proposed project construction activities, the following shall be required, as approved by the USFWS and/or CDFW: <ol style="list-style-type: none"> 1. The project proponent shall retain a qualified biologist to flag and demarcate the location of all nesting birds and monitor construction activities. Temporary avoidance of active bird nests, including the enforcement of an avoidance buffer of 300 feet, as determined by the qualified biological monitor, shall be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Requests for buffer reductions of less than 300 feet shall be provided to the USFWS and/or CDFW. Documentation of the nesting bird surveys and any follow-up monitoring shall be provided to the USFWS and CDFW within 10 days of completing the final survey or monitoring event. 	

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
		<p>Bio-3 Avoidance of Nesting Raptors. To prevent impacts to nesting raptors protected under the federal MBTA and CFG Code, the project proponent shall enforce the following:</p> <ul style="list-style-type: none"> a. If construction occurs during the raptor nesting season (January 15 through July 31), and where any mature tree or structure capable of supporting a raptor nest occurs within 500 feet of proposed project construction activities, the project proponent shall retain a qualified biologist to conduct a pre-construction survey for nesting raptors prior to clearing, grading and/or construction activities. The survey will be conducted within 72 hours prior to the start of construction. b. If any nesting raptors are present on or within 500 feet of the proposed project construction activities, the following shall be required, as approved by the USFWS and/or CDFW: <ul style="list-style-type: none"> 1. The project proponent shall retain a qualified biologist to flag and demarcate the location of all nesting raptors and monitor construction activities. Temporary avoidance of active raptor nests, including the enforcement of an avoidance buffer of 500 feet will be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Documentation of the raptor surveys and any follow-up monitoring, as necessary, will be provided to the USFWS and CDFW within 10 days of completing the final survey or monitoring event. c. In the event that a California State fully protected species (e.g., white tailed kite) is found to be nesting on the project site, all work in the area will stop and the project proponent shall notify the CDFW and/or USFWS. No impacts will be permitted to occur to fully protected species. <p>Bio-4 Construction Fencing. Prior to vegetation clearing, grading, and/or construction activities for each proposed project component, the project proponent shall retain a qualified biologist to oversee and monitor installation of appropriate fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of sensitive resources identified through project-level surveys (conducted pursuant to mitigation measure Bio-1). Temporary fencing (with silt barriers) shall be installed at the limits of project impacts (including construction staging areas and access routes) to prevent additional sensitive habitat impacts and the spread of silt from the construction zone into adjacent habitats to be avoided. Fencing shall be installed in a manner that does not impact habitats to be avoided. For projects potentially affecting special status species and sensitive resources, and for which permits or approvals from the USFWS or CDFW require confirmation of project impacts and submittal of as-built plans, the project proponent shall submit to the USFWS and CDFW for approval, at least 30 days prior to initiating project impacts, the final plans for initial clearing and grubbing of sensitive habitat and project construction. These plans shall also be submitted to the USACE, RWQCB, or other local agency, from which, approval or permitting is required, as applicable. The final plans shall include photographs that show the fenced limits of impact and all sensitive areas to be impacted or avoided. If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the qualified biologist,</p>	

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
		<p>project proponent, USFWS, CDFW, USACE, and/or other agency. Upon project completion, temporary construction fencing shall be removed by the project proponent under the oversight of the qualified biologist.</p> <p>Bio-5 Construction Staging Areas. Prior to construction of the proposed project components where it has been demonstrated through project-level surveys (conducted pursuant to mitigation measure Bio-1) that drainages, wetlands and areas supporting sensitive habitats or species could be affected by project construction, the project proponent shall setback construction staging areas to avoid drainages, wetlands, and areas supporting sensitive habitats or species, where feasible. Fueling of equipment shall occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits shall be maintained to minimize and control fluid and grease leaks. Provisions to contain and clean up unintentional fuel, oil, fluid and grease leaks/spills shall be included in construction documents and in place prior to construction.</p> <p>Bio-6 Pre-Construction Meeting. Prior to vegetation clearing, grading, and/or construction activities for each proposed project component, the project proponent shall retain a qualified biologist to attend a pre-construction meeting to inform construction crews of the sensitive species and habitats for that particular project component.</p> <p>Bio-7 Construction-Related Noise. Construction noise created during the general avian breeding season (January 15 to September 15) that could affect the breeding of the CAGN, migratory songbirds, and other bird species associated with adjacent undeveloped areas shall be avoided. No loud construction noise (exceeding 60 dBA hourly average, adjusted for ambient noise levels, at the nesting site) may take place within 500 feet of active nesting sites during the general breeding season (January 15 through September 15). If it is confirmed through project-level surveys (conducted pursuant to mitigation measure Bio-1) that a proposed project component could result in construction-related noise impacts to breeding birds during the general breeding season, the project proponent shall retain a qualified biologist to monitor the construction operations. The biological monitor shall be present to monitor construction activities that occur adjacent to undeveloped open space areas potentially supporting breeding birds. The biological monitor shall verify that construction noise levels do not exceed 60 dBA hourly average and shall have the ability to halt construction work, if necessary, and confer with the project proponent, USFWS, and/or CDFW to ensure the proper implementation of additional protection measures during construction. The qualified biologist shall report any violation to the USFWS and/or CDFW within 24 hours of its occurrence.</p> <p>Bio-8 Hydroseeding of Graded Areas. Unless otherwise required by the USFWS, USACE, RWQCB, and/or CDFW, after completion of final grading for each proposed project component located adjacent to native vegetation, construction documents shall require that all graded areas within 100 feet of native vegetation, excluding those areas where a permanent access road, path, or other permanent development is required, are hydroseeded and/or planted with native plant</p>	

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation																		
		<p>species similar in composition to the adjacent undisturbed vegetation communities. The project proponent shall retain a qualified biologist to monitor these activities to ensure non-native or invasive plant species are not used in the hydroseed mix or planting palettes. The hydroseeded/planted areas shall be watered via a temporary drip irrigation system or watering truck. Irrigation shall cease after successful plant establishment and growth, to be determined by the biologist. Any irrigation runoff from hydroseeded/planted areas shall be directed away from adjacent native vegetation communities and contained and/or treated within the development footprint of individual component projects. All planting stock shall be inspected for exotic invertebrate pests (e.g., argentine ants) and any stock found to be infested with such pests shall not be allowed to be used in the hydroseeded/planted areas.</p>																			
<p>Would the proposed project 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 California Department of Fish and Game or U.S. Fish and Wildlife Service?</p>	<p>Potentially Significant</p>	<p>Bio-9 Habitat Replacement. Unavoidable impacts to sensitive natural communities shall be mitigated by the project proponent according to the range of ratios provided below, and would be increased or decreased depending on whether the habitat supports special status species or other sensitive resources, and/or the impacts and mitigation would occur inside or outside an existing preserve area:</p> <table border="0"> <thead> <tr> <th><u>Sensitive Natural Community</u></th> <th><u>Mitigation Ratio</u></th> </tr> </thead> <tbody> <tr> <td>Southern Willow Scrub</td> <td>3:1</td> </tr> <tr> <td>Coast Live Oak Woodland</td> <td>2:1 – 3:1</td> </tr> <tr> <td>Engelmann Oak Woodland</td> <td>2:1 – 3:1</td> </tr> <tr> <td>Southern Coast Live Oak Riparian Forest</td> <td>3:1</td> </tr> <tr> <td>Diegan Coastal Sage Scrub</td> <td>1:1 – 3:1</td> </tr> <tr> <td>Southern Mixed Chaparral</td> <td>0.5:1 – 3:1</td> </tr> <tr> <td>Non-Native Grassland</td> <td>0:1 – 0.5:1</td> </tr> <tr> <td>Other Wetlands</td> <td>3:1</td> </tr> </tbody> </table> <p>Permanent and temporary impacts to sensitive natural communities shall be mitigated in-kind by the project proponent through implementation of any one or combination of the following measures, as approved and/or amended by the USFWS, USACE, RWQCB, and/or CDFW for individual component projects, if applicable:</p> <ol style="list-style-type: none"> <li>On site as creation of new habitat within avoided and preserved areas at the project site; <li>On site as restoration of existing habitat within temporary impact areas and/or avoided and preserved areas at the project site; <li>On site as enhancement of existing habitat within avoided and preserved areas at the project site; <li>Off site as purchase of habitat credits within an approved mitigation bank or combination of banks (e.g., North County Habitat Bank); <li>Off site as habitat preservation, creation, restoration, and/or enhancement within other properties or approved mitigation programs available at the time of grading; or <li>A combination of the above. 	<u>Sensitive Natural Community</u>	<u>Mitigation Ratio</u>	Southern Willow Scrub	3:1	Coast Live Oak Woodland	2:1 – 3:1	Engelmann Oak Woodland	2:1 – 3:1	Southern Coast Live Oak Riparian Forest	3:1	Diegan Coastal Sage Scrub	1:1 – 3:1	Southern Mixed Chaparral	0.5:1 – 3:1	Non-Native Grassland	0:1 – 0.5:1	Other Wetlands	3:1	<p>Less Than Significant</p>
<u>Sensitive Natural Community</u>	<u>Mitigation Ratio</u>																				
Southern Willow Scrub	3:1																				
Coast Live Oak Woodland	2:1 – 3:1																				
Engelmann Oak Woodland	2:1 – 3:1																				
Southern Coast Live Oak Riparian Forest	3:1																				
Diegan Coastal Sage Scrub	1:1 – 3:1																				
Southern Mixed Chaparral	0.5:1 – 3:1																				
Non-Native Grassland	0:1 – 0.5:1																				
Other Wetlands	3:1																				

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
		<p>For on-site or off-site creation, restoration, and/or enhancement mitigation of upland sensitive natural communities (e.g., grassland, coastal sage scrub, chaparral, woodland) for each individual project component, the project proponent shall prepare an Upland Habitat Restoration Plan, Habitat Mitigation and Monitoring Plan, or similar plan, detailing the specific upland habitat creation, restoration, and/or enhancement measures to be implemented as project mitigation. The Upland Habitat Restoration Plan shall be approved by the USFWS and/or CDFW, as appropriate, prior to vegetation clearing, grading, and/or construction activities.</p> <p>For on-site or off-site creation, restoration, and/or enhancement mitigation of riparian and wetland sensitive natural communities (e.g., riparian forest, riparian scrub, willow scrub, mule fat scrub, freshwater marsh) for each individual project component, the project proponent shall prepare a Riparian/Wetland Habitat Restoration Plan, Habitat Mitigation and Monitoring Plan, or similar plan, detailing the specific riparian/wetland creation, restoration, and/or enhancement measures to be implemented as project mitigation. The Riparian/Wetland Habitat Restoration Plan shall be approved by the USFWS, USACE, RWQCB, and/or CDFW, as appropriate, prior to vegetation clearing, grading, and/or construction activities.</p> <p>In addition, for on-site preservation, restoration and/or enhancement mitigation required as part of the reclamation of the land occupied by the replaced canal, a specific Engelmann Oak Preservation and Canal Restoration Plan will be prepared by the project proponent. The dominant vegetation communities that make up the current canal section includes coast live oak woodland containing Engelmann oak trees and southern mixed chaparral. This plan shall detail the specific canal restoration, and/or enhancement measures to be implemented as part of project mitigation. The plan shall provide an implementation schedule including site preparation methods, an irrigation plan, non-native plant removal, planting specifications, as well as detailed maintenance and monitoring/reporting schedules, as necessary. The Engelmann Oak Preservation and Canal Restoration Plan shall require approval by the USFWS and/or CDFW, as appropriate, prior to any vegetation clearing, grading, and/or construction activities.</p> <p>Any upland or riparian/wetland habitat impacts that occur beyond the approved work limits of any project (see mitigation measure Bio-5) shall be mitigated at a ratio to be negotiated with the USFWS, USACE, RWQCB, and/or CDFW.</p>	
<p>Would the proposed project 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?</p>	<p>Potentially Significant</p>	<p>Bio-10 Jurisdictional Delineation. Where it has been confirmed through jurisdictional delineation that jurisdictional waters or wetlands would be impacted by the proposed project, the project proponent shall obtain the required federal and state permits from the USACE, RWQCB, and/or CDFW, pursuant to Sections 404 and 401 of the CWA, and Section 1600 et seq. of the CFG Code, respectively. In compliance with permit requirements, the project proponent shall mitigate the loss of jurisdictional waters or wetlands through implementation of the in-kind habitat replacement identified in mitigation measure Bio-9, unless otherwise conditioned by the USACE, RWQCB, and/or CDFW in the federal and state permits.</p>	<p>Less Than Significant</p>

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
Would the proposed project 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	No mitigation required.	Less Than Significant
Would the proposed project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Would the proposed project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less Than Significant	No mitigation required.	Less Than Significant
Cultural and Paleontological Resources			
Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	Potentially Significant	<p>Cul-1 Archaeological Monitoring. During the construction of the proposed project, the project proponent shall retain a qualified archaeologist and appropriate Native American monitor to perform monitoring of all ground-disturbing activities to a depth of native soils. If subsurface cultural resources are encountered during construction, mitigation measure Cul-2 shall be implemented.</p> <p>Cul-2 Procedures for Unintentional Disturbance of Cultural Resources. If subsurface cultural resources are encountered during construction of the proposed project, or if evidence of an archaeological site or other suspected historical resource is encountered, all ground-disturbing activity shall be ceased within 100 feet of the resource. Potentially significant cultural resources could consist of, but are not limited to, stone, bone, wood, or shell artifacts and features, including structural remains, historic dumpsites, hearths, and middens. Midden features are characterized by darkened soil and could conceal material remains, including worked stone, fired clay vessels, faunal bone, hearths, storage pits, or burials; thus, special attention should always be paid to uncharacteristic soil color changes. A qualified archaeologist shall be retained by the project proponent to assess the find and determine whether the resource requires further study. Any previously undiscovered resources found during construction shall be recorded using the Department of Parks and Recreation Form 523 in accordance with all applicable regulations and evaluated for significance and eligibility for inclusion in all applicable federal, state, and local historic registers. No further grading shall occur in the area of the discovery until the project proponent approves measures to protect the resources.</p>	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Potentially Significant	<p>Cul-3 Avoidance of Known Archaeological Sites. None of the resources within the APE have been determined to meet the criteria for inclusion in the NRHP or the CRHR. Although unlikely there is a possibility that a subsurface component to CA-SDI-257 extends within the APE and may be impacted by the proposed project. There is also a possibility that inadvertent discoveries of archaeological sites be made during construction of the proposed project.</p> <p>a. Known cultural resources that can be avoided shall be demarcated as Environmentally Sensitive Areas (ESAs). All potentially NRHP and/or CRHR-eligible resources that would not be affected by direct impacts, but are within 50 feet of direct impact areas, shall be designated as ESAs. Protective fencing or other markers shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. An archaeologist shall monitor during ground-disturbing activities at all cultural resource ESAs.</p> <p>b. Construction Monitoring: Prior to issuance of grading permit(s), the project applicant shall retain a qualified archaeologist, in accordance with the Secretary of the Interior’s Standards and Guidelines (Secretary’s Standards) (36 CFR 61), and Native American observer to monitor ground-disturbing activities in culturally sensitive areas in an effort to identify any unknown resources. A qualified archaeologist shall attend preconstruction meetings, as needed, to make comments and/or suggestions concerning the monitoring program and to discuss excavation plans with the excavation contractor. The requirements for archaeological monitoring shall be noted on the construction plans. A qualified paleontologist shall be retained to monitor earth disturbances in all areas of paleontological sensitivity, per approval by lead agency. All construction activities in environmentally sensitive areas, or any other area of the project deemed sensitive for containing cultural resources, shall be monitored by a qualified archaeologist. Since significant portions of the project site contain sedimentary deposits that have the potential to contain buried cultural resources, then full-time cultural resources monitoring shall be implemented during all phases of ground-disturbing work in these areas. A cultural resource monitor shall meet the Secretary of the Interior Standards Qualifications as a professional archaeologist and, as appropriate, shall be on the lead agencies approved consultants list. The archaeological monitor(s) shall also be familiar with the project area and, therefore, be capable of anticipating the types of cultural resources that may be encountered.</p> <p>c. Training for Contractor: Prior to construction, all applicant, contractor, and subcontractor personnel shall receive training regarding the appropriate work practices necessary to effectively implement the mitigation measures and to comply with the applicable environmental laws and regulations (including penalties for violation under the appropriate state and federal laws), avoiding ESAs, the potential for exposing subsurface cultural resources and paleontological resources, and to recognize possible buried resources. This training shall</p>	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
		<p>include presentation of the procedures to be followed upon discovery or suspected discovery of archaeological materials, including Native American remains and their treatment, as well as of paleontological resources.</p> <p>d. Discovery of Unknown Resources: In the event that cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist shall evaluate the significance of the discovered resources based on eligibility for the NRHP, CRHR, or local registers. Preliminary determinations of NRHP eligibility shall be made by the lead agencies, in consultation with other appropriate agencies and local governments, and the SHPO.</p>	
Would the proposed project directly or indirectly destroy a significant tribal cultural resource?	Potentially Significant	Implementation of mitigation measure Cul-3.	Less Than Significant
Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially Significant	Cul-4 Procedures for Unintentional Disturbance of Paleontological Resources. If paleontological resources are encountered during construction of the proposed project, all ground-disturbing activity shall cease within 100 feet of the resource. A qualified paleontologist shall be retained by the project proponent to evaluate the significance of the find; to salvage, record, clean, and curate significant fossil(s); and to document the find in accordance with current professional paleontological standards. No further grading shall occur in the area of the discovery until the project proponent approves the measures to protect the resources. Any fossils recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the project proponent where they would be afforded long-term preservation to allow future scientific study.	Less Than Significant
Would the proposed project disturb any human remains, including those interred outside of formal cemeteries?	Potentially Significant	Implementation of construction monitoring, mitigation measures, and compliance with state and federal laws.	Less Than Significant
Geology and Soils (Environmental Management)			
Would the proposed project expose people or structures to geologic hazards, including rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure, including liquefaction and/or landslides?	Less Than Significant	No mitigation required.	Less Than Significant
Would the proposed project result in substantial soil erosion or the loss of topsoil?	Less Than Significant	No mitigation required.	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
<p>Would the proposed project 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 landslides, lateral spreading, subsidence, liquefaction or collapse?</p> <p>Would the proposed project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?</p>	Less Than Significant	No mitigation required.	Less Than Significant
Greenhouse Gas Emissions			
<p>Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would the proposed project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</p>	Less Than Significant	No mitigation required.	Less Than Significant
Hazards and Hazardous Materials			
<p>Would implementation of the proposed project result in a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?</p> <p>Would implementation of the proposed project result in the release of hazardous materials into the environment through reasonably foreseeable accident conditions?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would implementation of the proposed project result in activities that emit hazardous emissions or handle hazardous materials within one-quarter mile of an existing or proposed school?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would implementation of the proposed project result in activities located on a listed hazardous materials site creating a significant hazard to the public or environment?</p>	Less Than Significant	No mitigation required.	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
<p>Would the proposed 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, result in a safety hazard for people residing or working in the project area?</p> <p>Would the proposed project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would implementation of the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would implementation of the proposed project expose people or structures to a significant risk of loss, injury or death involving wildland fires?</p>	Less Than Significant	No mitigation required.	Less Than Significant
Hydrology and Water Quality (Water Resources)			
<p>Would the proposed project violate any water quality standards or waste discharge requirements?</p> <p>Would the proposed project otherwise substantially degrade water quality?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?</p> <p>Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?</p> <p>Would the proposed project 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?</p>	Less Than Significant	No mitigation required.	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
Would the proposed project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	Less Than Significant	No mitigation required.	Less Than Significant
Would the proposed project 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 map? Would the proposed project place within a 100-year flood hazard area structures which would impede or redirect flood flows? Would the proposed project 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?	Less Than Significant	No mitigation required.	Less Than Significant
Would the proposed project inundate by Seiche, Tsunami, or mudflow?	Less Than Significant	No mitigation required.	Less Than Significant
Noise			
Would the proposed project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Potentially Significant	Noi-1 Prior to the start of construction, the project proponent shall prepare a noise mitigation plan that demonstrates that the County of San Diego's noise standards will not be exceeded during construction. The plan shall be implemented during construction. The plan shall include, but not be limited to, the following components: <ul style="list-style-type: none"> a. Noise modeling to quantitatively demonstrate construction activities' noise impacts at nearby noise sensitive land uses. b. Require construction activities to be limited to between the hours of 7 a.m. and 7 p.m. c. Require construction equipment to use noise-reduction features (e.g., mufflers, dampners, and engine shrouds) that are no less effective than those originally installed by the manufacturer. d. Require noise monitoring during construction of the pipeline and desilting basin. 	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
Would the proposed project expose persons to or generate excessive groundborne vibration or groundborne noise levels?	Potentially Significant	<p>Noi-2 Prior to the start of construction, the project proponent shall prepare a vibration mitigation plan that demonstrates that the County of San Diego's vibration standards will not be exceeded during construction. The plan shall be implemented during construction. The plan shall include, but not be limited to, the following components:</p> <ul style="list-style-type: none"> a. Vibration calculations to quantitatively demonstrate construction activities' vibratory impacts at nearby land uses. b. Require specific measures such as equipment phasing, limitations of use, or vibration-reduction features that are no less effective than those originally installed by the manufacturer. c. Require plan monitoring during construction of the pipeline and desilting basin. 	Less Than Significant
<p>Would the proposed project cause a substantial permanent increase in the ambient noise levels in the proposed project vicinity above levels existing without the proposed project?</p> <p>Would the proposed project cause a substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project?</p>	Less Than Significant	No mitigation required.	Less Than Significant
<p>Would the proposed 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, expose people residing or working in the project area to excessive noise levels?</p> <p>Would the proposed project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?</p>	Less Than Significant	No mitigation required.	Less Than Significant
Traffic			
Would the proposed project 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?	Potentially Significant	<p>Tra-1 Traffic Management and Control Plans. Prior to the construction of each component within a public road ROW, the project proponent shall retain a qualified engineer to prepare a traffic control plan for the roadways that may be affected by that particular project component. The traffic control plan shall be developed in accordance with the California Manual on Uniform Traffic Control Devices and submitted to the County's Traffic Engineering Section for approval on county land. The traffic control plan shall identify temporary lane and roadway closures, safety measures, and alternative routes to be utilized during construction of the proposed project in order to minimize impacts and ensure</p>	Less Than Significant

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
		<p>continuous operations on North Lake Wohlford Road and North Canal Road during pipeline construction activities. The traffic control plan would also include, if applicable:</p> <ol style="list-style-type: none"> a. Speed limit reduction through installation of temporary traffic lights and/or other signage with addition of acceleration, deceleration, and turn lanes on routes with site entrances developed under the proposed project. b. Covering trenches (e.g., using metal plates) in roadways during non-working hours. c. Limiting construction vehicles traveling on public roadways during the morning and late afternoon peak commute times to minimize impacts on local commuters. d. Requirement for workers to park personal vehicles at the approved staging areas and take only necessary project vehicles to the work sites. e. Plans for notifications and a process for communication with affected residents and landowners prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which road/lanes and access point/driveways/parking areas would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints. f. Sight distance at individual construction site access points will be reviewed to ensure compliance with appropriate sight distance standards at the time of preparation of final grading, and landscaping. g. Plans to coordinate all construction activities with emergency service providers in the area. Emergency service providers would be notified of the timing, location, and duration of construction activities. All roads would remain passable to emergency service vehicles at all times. h. Provision of vehicle safety procedures for entering and exiting site access roads. i. Maintain access to transit, bicycle, and pedestrian facilities along project routes. j. Provision of ridesharing/carpooling options for construction staff to reduce the number of vehicles traveling to a work zone. 	

Table ES-1 Summary of Environmental Impacts and Mitigation Measures

Threshold	Significance Prior to Mitigation	Mitigation Measure(s) or Project Requirements	Significance After Mitigation
Would the proposed project 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?	Potentially Significant	Implementation of mitigation measure Tra-1.	Less Than Significant
Would the proposed project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Potentially Significant	Implementation of mitigation measure Tra-1.	Less Than Significant
Would the proposed project result in inadequate emergency access?	Potentially Significant	Implementation of mitigation measure Tra-1.	Less Than Significant

This page intentionally left blank.

2.0 Purpose and Need for Proposed Project

2.1 Introduction

This Environmental Assessment and Initial Study/Mitigated Negative Declaration (EA-IS/MND) has been prepared to assess the impacts of the construction and operation of the San Pasqual Undergrounding Project (proposed project), as required by NEPA and CEQA. The proposed project is being administered by the nine parties that are signatory to the San Luis Rey Indian Water Rights Settlement Agreement (Settlement Agreement), which includes federal, tribal and local entities. The NEPA lead agency is the U.S. Department of the Interior Bureau of Indian Affairs (BIA), and the CEQA lead agency for the proposed project is the City of Escondido (Escondido). The Vista Irrigation District (VID) is a Responsible Agency under CEQA. The proposed action of the BIA is the granting a right of way on trust lands of the San Pasqual Indian Reservation which is necessary for the implementation of the proposed project.

The proposed project would remove, relocate, and replace about 2.5 miles of the Escondido Canal that crosses the San Pasqual Reservation. The proposed project includes the installation, operation, and maintenance of an underground pipeline on the San Pasqual Reservation both within and outside of the existing ROW for the Escondido Canal. The regional location of the proposed project area is shown in Figure 2-1 and layout of the components of the proposed project is shown in Figure 2-2.

For proposed projects like this, which are subject to both state and local CEQA requirements as well as federal NEPA review, CEQA strongly encourages state and local agencies to prepare a joint environmental document (CEQA Section 21083.6; CEQA Guidelines Section 15222). Section 21083.6 of CEQA, Section 15222 of the CEQA Guidelines, and Section 1506.2 of the federal NEPA regulations describe the process for preparing a joint CEQA/NEPA document. The NEPA regulations similarly encourage federal agencies to cooperate with local agencies "to the fullest extent possible to reduce duplication between NEPA and comparable state and local requirements," including the preparation of a joint document (Title 40 Code of Federal Regulations Section 1506.2 [40 CFR 1506.2]). However, the joint document cannot be prepared solely by a state or local agency; it must include direct federal agency involvement (40 CFR 1506.2).

This EA-IS/MND is a public document that analyzes the environmental impacts of the proposed project, presents feasible measures to reduce or avoid potential environmental impacts, and evaluates alternatives to the proposed project. It complies with environmental requirements established by both NEPA and CEQA. This EA-IS/MND serves as an informational document to be used in the decision-making process and does not recommend either approval or denial of the proposed project.

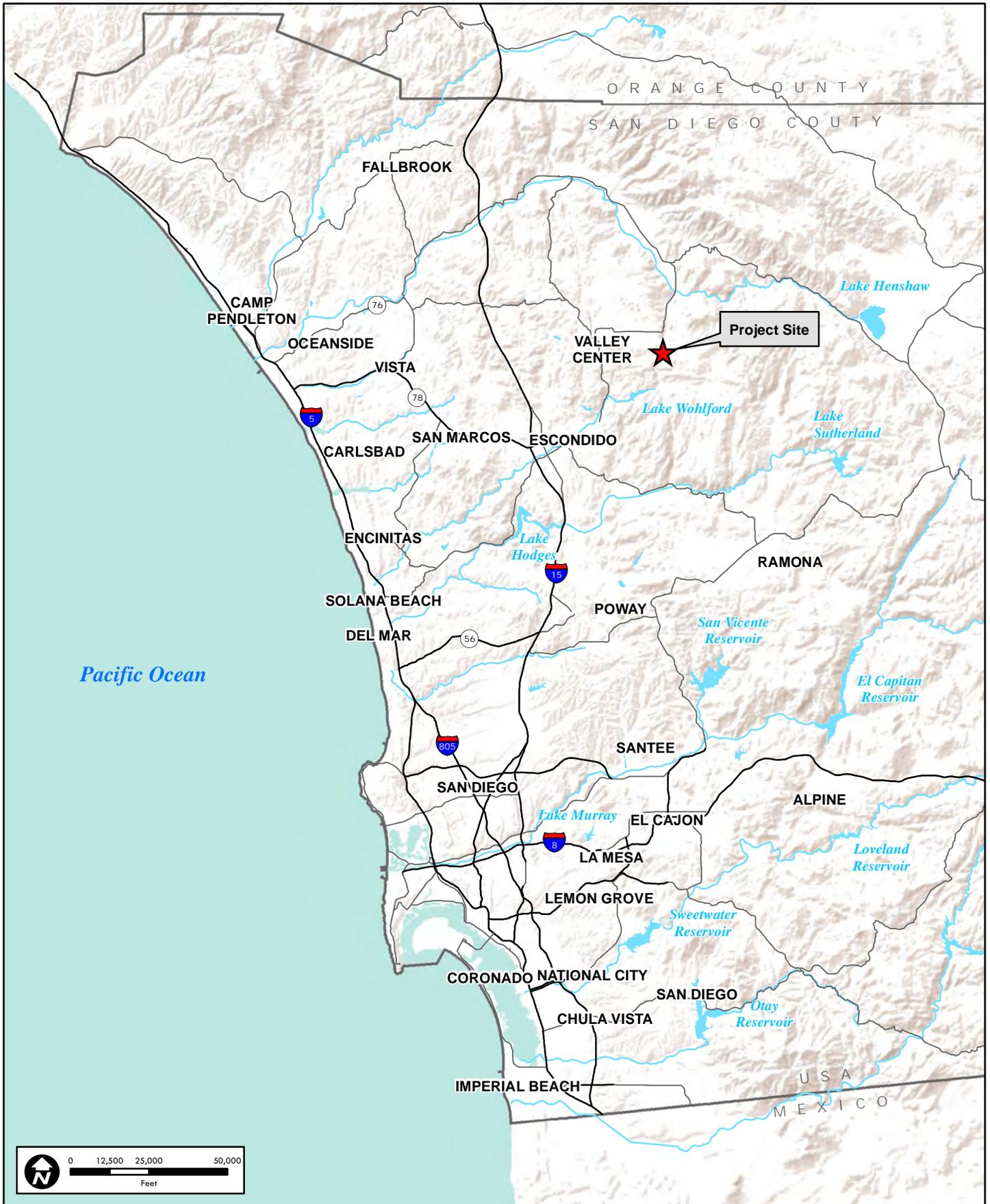


Figure 2-1
Regional Location



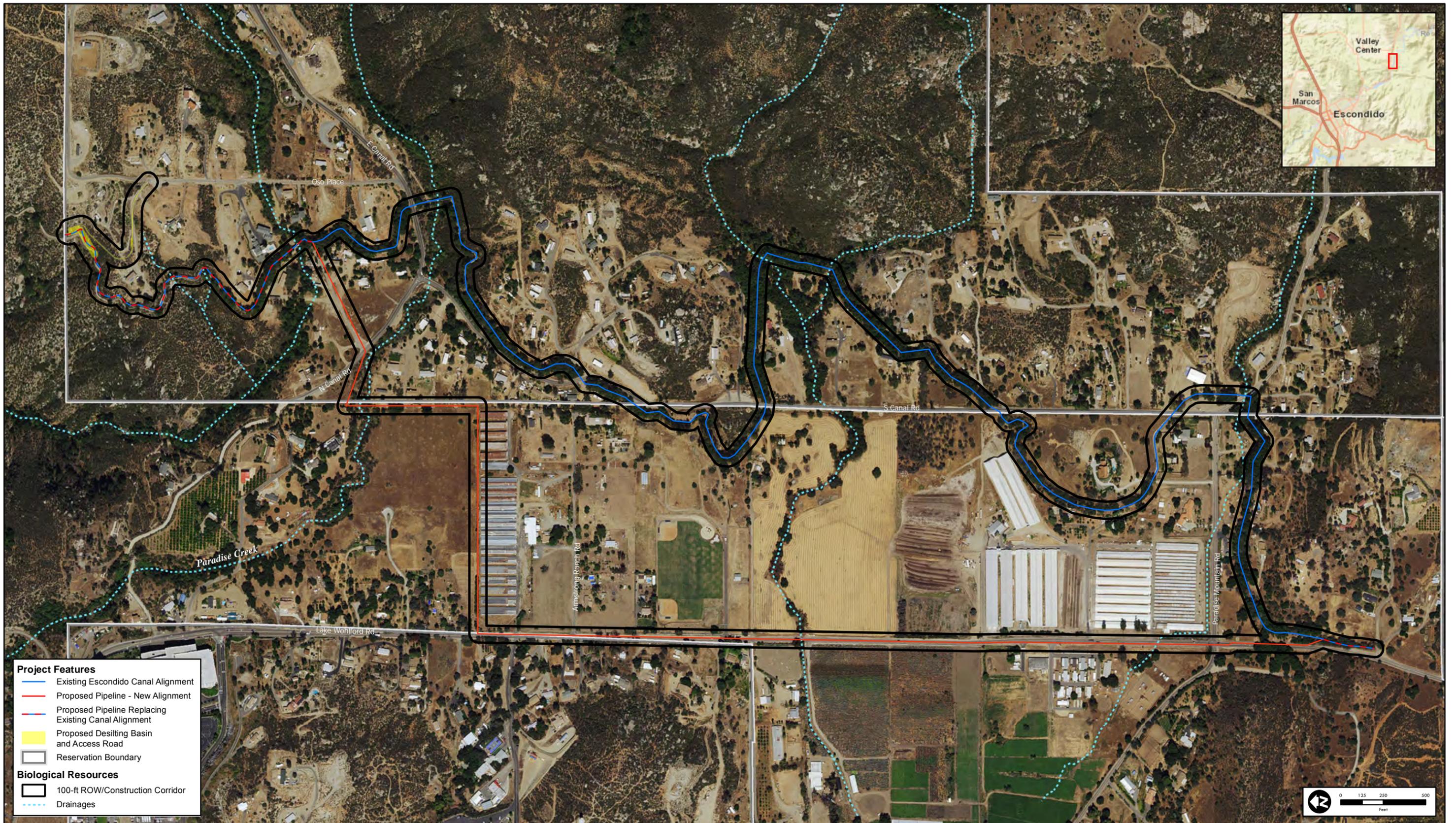


Figure 2-2
Overview of the Proposed Project
 100049195 2016 San Pasqual Undergrounding Project

This page intentionally left blank.

2.2 Proposed Project Background

2.2.1 Historic Operation of the Water System amongst the Settlement Agreement Parties

The proposed project is an integral component of the Settlement Agreement including the United States (acting through the Secretary of the Interior and the Attorney General of the United States); the La Jolla, Rincon, San Pasqual, Pauma, and Pala Bands of Mission Indians (the Bands); the San Luis Rey Indian Water Authority (SLRIWA); Escondido; and VID. These nine parties exclusive of the United States are referred to throughout this document as the Settlement Parties. The water historically developed and used by the Parties consists of a combination of imported water delivered by the San Diego County Water Authority (SDCWA) and various local water supplies.

The water supply of the San Pasqual Reservation has been partially derived from the springs, surface water, and groundwater supplies that occur naturally on that reservation, as well as imported water delivered through arrangements with the Valley Center Municipal Water District. A portion of the waters of the San Luis Rey River watershed (Local Water) developed by Escondido and VID has also historically been delivered to the neighboring Rincon Band by releases from the Escondido Canal. This Local Water delivery has historically been primarily used by the Rincon Band to augment the recharge of their local groundwater supply.

Escondido and VID are member agencies of the SDCWA and supply Local Water that they develop from the San Luis Rey River watershed and imported water from the SDCWA. The existing SDCWA, Escondido and VID water delivery infrastructure are described below.

2.2.2 San Diego County Water Authority

Most of the water supply furnished by the SDCWA is obtained through the facilities of the Metropolitan Water District of Southern California (MWD). Water obtained through MWD is chiefly a blend of water from the Colorado River and the State Water Project (from the Sacramento-San Joaquin Delta in northern California). The SDCWA delivers water from MWD in five pipelines buried in two ROWs called the First and Second San Diego Aqueducts. The delivery points from MWD to SDCWA are located about six miles south of the Riverside-San Diego County line. From there, water is distributed through approximately 300 miles of pipeline to the SDCWA's 24 member agencies, including Escondido and VID.

2.2.3 The Local Water System

The facilities owned and operated by VID and Escondido to develop, store, divert, convey, and deliver water from the watershed of the San Luis Rey River to the Bands and to Escondido and VID's water treatment plant is referred to as the Local Water System. Lake Henshaw is the most upstream storage feature of the Local Water System. Lake Henshaw is owned and operated by VID. It is located between State Route (SR-) 76 and SR-79 in the Santa Ysabel community of unincorporated San Diego County. Henshaw Dam was built in 1922 and modified in 1981 to increase the dam's stability during seismic events to prevent uncontrolled water releases in the event of seismically-induced deformations. Lake Henshaw is located on the upper reach of the San Luis Rey River, and has the capacity to impound nearly 52,000 acre-feet of water. Water reaches Lake Henshaw either by surface flow from the Warner Valley hydrologic area within the San Luis Rey River watershed, or by pumping groundwater from the Warner Wellfield. The Warner Wellfield is generally located northeast of Lake Henshaw and is utilized

conjunctively with surface water runoff to augment the supply of Local Water in Lake Henshaw. Lake Henshaw accommodates public recreation opportunities including year-round boating and fishing and seasonal waterfowl hunting.

Water is released from Lake Henshaw into the San Luis Rey River where it mixes with the natural runoff from the San Luis Rey River that occurs below Lake Henshaw. A concrete diversion structure, known as the Escondido Canal Diversion Dam (Diversion Dam), is located on the San Luis Rey River within the La Jolla Reservation, approximately 10 miles downstream from Henshaw Dam. San Luis Rey River water has been diverted into the Escondido Canal at approximately this location since 1895. Since 1924, the diversions have also included the controlled releases into the river from Lake Henshaw.

The Escondido Canal is owned by Escondido and has also been in use since 1895. The 14-mile-long canal extends from the Diversion Dam to Lake Wohlford, traversing the La Jolla, Rincon, and San Pasqual reservations, as well as other federal and private lands. Much of the canal is trapezoidal in shape, with roughly 2:1 side slopes and a bottom width of around 4 to 6 feet. While the majority of the canal is tucked against a hillside, some of the canal is elevated on flumes across drainage areas, or flows within tunnels through rock outcroppings. The current hydraulic capacity of the Escondido Canal is currently limited to a maximum of about 55 cubic feet per second. The Escondido Canal is subject to damage from debris during storm runoff events and is also vulnerable to damage from earthquakes. Historically, approximately 10 percent of the water in the Escondido Canal has been delivered to the Rincon Reservation. The remainder of water in the Escondido Canal flows into Lake Wohlford at the Escondido Canal terminus.

Lake Wohlford stores the water obtained from the San Luis Rey River via the Escondido Canal and also stores water from natural runoff in the Escondido Creek watershed above Wohlford Dam. Escondido Creek has a drainage area of approximately seven square miles. Lake Wohlford is owned and operated by Escondido and serves as a regulating reservoir for subsequent water deliveries to Escondido and VID for consumption. Since its expansion in 1924, Lake Wohlford has had the capacity to impound approximately 6,500 acre-feet of water and is operated to secure a consistent delivery of water to Escondido and VID. Currently, the operational capacity of Lake Wohlford is limited to 2,800 acre-feet due to seismic safety concerns. Efforts are underway, by Escondido, to address the seismic issues in order to restore the capacity of Lake Wohlford to 6,500 acre-feet.

2.2.4 History of Water Rights

In the late 1800s, the United States began setting aside certain land as reservations for the Bands in or near the San Luis Rey River watershed. Soon after these Indian reservations were being established, Escondido and its predecessors, relying upon a series of water appropriations, permits, and contracts, began diverting San Luis Rey River water for use in Escondido. In 1922, relying upon other water appropriations, permits, and contracts, VID and its predecessors began storing flood waters in Henshaw Dam (located upstream of the Indian reservations) for subsequent release into the San Luis Rey River, from which the water was diverted for use in Escondido and Vista. In 1924, the Federal Power Commission, predecessor to the Federal Energy Regulatory Commission (FERC), issued Escondido's previous water utility, the Escondido Mutual Water Company, a license for "Project 176," which authorized Escondido to use various federal lands for the Escondido Canal and appurtenant facilities transporting diversions from the San Luis Rey River across portions of the La Jolla, Rincon, and San Pasqual reservations to two small hydroelectric power plants, including one located on the Rincon Reservation.

In 1908, the U.S. Supreme Court case *Winters v. United States* (Winters Doctrine) established that when an Indian reservation is created, the United States impliedly intends to also reserve water for use in an amount necessary to fulfill the purpose of the reservation.

2.2.5 History of Water Litigation

In 1969-1972, the Bands, and the United States on their behalf, sued Escondido and VID, claiming that the Escondido and VID's diversion of San Luis Rey River flows deprived the Bands of adequate water on their reservations located downstream of the Diversion Dam. The Bands claimed that the state and federal appropriations, permits, contracts and licenses which made those diversions possible were either invalid or had been breached. At the same time, the Bands, and the Secretary of the Interior on their behalf, opposed Escondido's continued operation of Project 176 under its FERC license.

After extensive hearings, FERC issued a new license for Project 176 to Escondido and VID. The Court of Appeals for the U.S. Ninth Circuit (Ninth Circuit) reversed FERC's issuance of the new license, but the U.S. Supreme Court partially reversed the Ninth Circuit decision, and the matter was remanded to FERC for additional proceedings (*Escondido Mut. Water Co. v. La Jolla Band of Mission Indians*, 466 U.S. 765 (1984)). Following the Supreme Court's decision, the Settlement Parties and the United States entered into settlement negotiations to resolve the then fifteen-year long litigation. Their negotiations culminated in the Congressional enactment of Public Law No. 100-675, the San Luis Rey Indian Water Rights Settlement Act (Settlement Act), in 1988.

Title I of the Settlement Act recognized the inadequacy of the San Luis Rey River to supply the needs of both the Bands, Escondido, and VID. To solve this problem, the Settlement Act directed the Secretary of the Interior to provide 16,000 acre-feet of water annually from a source other than the San Luis Rey River (Supplemental Water) for the benefit of the Bands Escondido, and VID, and created SLRIWA¹ to administer the Bands' share of the Local Water and Supplemental Water. The Settlement Act also appropriated \$30 million to pay the SLRIWA for its administrative and operational expenses, to fulfill its obligations under the Settlement Agreement, and to foster the economic development of the Bands' reservation lands, and their members.

Although the Settlement Act directed the Secretary of the Interior to provide 16,000 acre-feet of Supplemental Water annually to the Settlement Parties, the source of such water was not officially determined until 2000 when U.S. Congress enacted Public Law No. 106-377, the "Packard Amendment," which mandated that the Supplemental Water come from water conserved by the All-American Canal and Coachella Canal lining projects, which had originally been authorized by Title II of the Settlement Act. In 2001, the Settlement Parties entered into an Implementation Agreement with the United States, consistent with the Boulder Canyon Project Act, by which the Secretary of the Interior agreed to furnish 16,000 acre feet annually of the Supplemental Water from the Colorado River at Lake Havasu.

In October 2003, the United States and the Settlement Parties, along with the Imperial Irrigation District (IID), Coachella Valley Water District (CVWD), MWD, and SDCWA, entered into an Allocation Agreement to detail how the water conserved by the canal lining projects would be allocated. In accordance with the Settlement Act, the Allocation Agreement provides that 17 percent of the water conserved by the lining project (up to a maximum of 16,000 acre-feet annually) would be furnished for the benefit of the Settlement Parties upon a final settlement of their water rights dispute. A Water Exchange Agreement

¹ A permanent intertribal entity established by Congress and comprised of representatives of each of the Bands.

with MWD and a Water Conveyance Agreement with SDCWA allows for the use of MWD and SDCWA facilities to deliver the Supplemental Water to the Settlement Parties.

2.3 Purpose and Need

The purpose and need of the proposed project is to comply with the Settlement Agreement (January 30, 2015) which pertain chiefly to the rights of the Settlement Parties to both the Supplemental Water and certain waters of the San Luis Rey River watershed developed by Escondido and VID, and ROWs for the operation and maintenance of water conveyance facilities and appurtenant structures.

The operative provisions of the Settlement Agreement establish the rights and responsibilities of each of the Settlement Parties by which they may access both Local Water and Supplemental Water, and establishes the completion date of the proposed action at no more than six years from the effective date of the Settlement Agreement (per Exhibit A, Implementing Agreement). The proposed action addresses the need for the infrastructure necessary to deliver water pursuant to the Settlement Agreement.

2.4 Description of Proposed Project

The Escondido Canal is an approximately 14-mile-long water conveyance system that transports water from a diversion dam on the San Luis Rey River across portions of the La Jolla, Rincon, and San Pasqual reservations and federal and private lands to Lake Wohlford in northern San Diego County, California (Figure 2-1).

The proposed project would decommission, relocate, or replace about 2.5 miles of the Escondido Canal that crosses the San Pasqual Reservation (Figure 2-2).

The proposed project consists of four primary elements: (1) the construction of a new desilting basin and associated access road on the San Pasqual Reservation along the existing Escondido Canal alignment where the canal first enters the San Pasqual Reservation; (2) the replacement of about 2,000 feet of existing canal with a buried 60-inch pipeline within the existing Escondido Canal ROW; (3) the replacement of another approximately 2 miles of existing canal with a buried 60-inch pipeline within new alignments crossing the San Pasqual Indian Reservation, private lands, and public ROW in Lake Wohlford Road; and (4) the removal of approximately 2 miles of the existing Escondido Canal that are dewatered when the proposed project is complete, and the reclamation of the land formerly occupied by the canal by means of demolition, debris removal, grading, and reestablishment of drainage, as well as any associated mitigation of environmental impacts that may be required. The connection to the existing underground pipeline would be at a location south of Paradise Mountain Road. No pumping would be required to convey flows through the proposed underground pipeline.

2.5 Proposed Objectives

NEPA and CEQA require the identification of the purpose and need or project objectives, respectively, sought by the proposed action. Under NEPA, the purpose and need is used to establish the basis for the development of the range of reasonable alternatives, if any, to assist with the identification and selection of the preferred alternative (for a discussion of Alternatives please see Chapter 3). Under CEQA, the project objectives provide an explanation of the underlying fundamental purpose of the proposed action. In this EA-IS/MND, the NEPA Purpose and Need and the CEQA Project Objectives are interchangeable. Thus, the proposed objectives are to comply with the Settlement Agreement (January

30, 2015) which pertain chiefly to the rights of the Settlement Parties to both the Supplemental Water and certain waters of the San Luis Rey River watershed and ROWs for the operation and maintenance of water conveyance facilities and appurtenant structures.

2.6 Lead Agency Responsibilities for Planning and Environmental Review

As stated above in Section 2.1, the NEPA lead agency is the BIA, and the CEQA lead agency for the proposed action is Escondido. Under CEQA, Escondido and VID are also the “Applicants,” defined as a person or persons (including associations, businesses and agencies), who propose to carry out a project/action which needs a lease, permit, license, certificate, or other entitlement for use or financial assistance from one or more public agencies when that person applies for the governmental approval or assistance (CEQA Guidelines Section 15351). A “responsible agency” is a public agency, other than the lead agency, with discretionary approval authority over a portion of a CEQA project/action (CEQA Guidelines Section 15381). “Trustee agencies” under CEQA are State agencies having jurisdiction by law over natural resources affected by a project/action that are held in trust for the people of the state, such as the Department of Fish and Game’s responsibility for fish and wildlife (CEQA Guidelines Section 15386).

The BIA, is the principal federal agency with jurisdiction and responsibility over the protection of lands held in trust by the United States for Native Americans. The BIA also holds jurisdiction and responsibility for other related trust matters. Because the proposed pipeline alignment would cross a portion of tribal trust lands on the San Pasqual Reservation, the San Pasqual Band and the BIA must approve the use of this ROW. Because BIA approval is required, it is the lead agency under NEPA.

The BIA will use the EA-IS/MND to determine if the granting of an easement to allow for construction and operation of the proposed pipeline alignment and related facilities would be consistent with BIA’s NEPA regulations and tribal trust land regulations/policies on protecting the human environment (40 CFR 1508.14). A list of all federal, state, and local agencies with authority over the proposed action is provided in Section 2.8, Discretionary Actions and Approvals.

2.7 Resources to Be Analyzed

Prior to development of this EA-IS/MND, an Initial Study was conducted in accordance with CEQA (Public Resources Code 21000-21177) and CEQA Guidelines (California Administrative Code [CAC] Title 14, Division 6, Sections 15000-15387), as revised, to determine whether the proposed action would have a significant effect on the environment. The Initial Study Checklist (included as Appendix A to this EA-IS/MND) found that the proposed project could result in a less than significant impact with mitigation in the following eleven resource areas:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Traffic

The Initial Study found that the proposed project would result in no impact, or a less than significant impact, for the following six resource areas:

- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

This EA-IS/MND will focus on the eleven resource areas that were identified in the Initial Study as having a less than significant impact with mitigation and include all required contents of MNDs including analysis of the proposed project, alternatives to the proposed project and cumulative impacts, and the identification of mitigation measures (CEQA Guidelines Sections 15120-15132). This document has also been prepared consistent with CEQ's NEPA requirements for EAs (40 CFR 1508.9) and includes the statement of need for the project; range of reasonable alternatives (including the No Project Alternative); the environmental impacts, including Socioeconomic and Environmental Justice impacts, and alternatives to the proposed project; and a listing of agencies and persons consulted.

2.8 Discretionary Actions and Approvals

In addition to the BIA (NEPA Lead Agency) and Escondido (CEQA Lead Agency), several other public and semipublic agencies would have discretionary approval over the proposed project and are, therefore, considered to be "Cooperating Agencies" as defined by NEPA (40 CFR 1501.6) or "Responsible Agencies," as identified in CEQA Guidelines (Section 15096). It is anticipated that the proposed project would require permits/approvals from the following governmental agencies and jurisdictions. Actions on tribal lands are subject only to tribal and federal permits and approvals. Therefore, state and local permits and approvals do not apply to activities on tribal lands.

Federal Permits/Approvals

The following federal permits/approvals are anticipated for the proposed project:

- Secretary of the Interior adoption of the EA, to determine if a Finding of No Significant Impact (FONSI) would be appropriate or if an Environmental Impact Statement should be prepared consistent with NEPA
- Secretary of the Interior approval of easements across tribal and other Interior Department lands for the construction, operation, and maintenance of the Escondido Canal and appurtenant facilities
- SLRIWA and the individual Bands, signatories to the Settlement Agreement
- State Historic Preservation Office consultation under Section 106 of the National Historic Preservation Act, if cultural resources may be affected by the proposed project
- U.S. Fish and Wildlife Service (USFWS) consultation under the Endangered Species Act, if endangered species may be affected by the proposed project
- Issuance of a U.S. Army Corps of Engineers permit under Section 404 of the Clean Water Act, if the proposed project would result in impacts to wetlands or other waters of the U.S.
- U.S. Environmental Protection Agency issuance of any Section 401 Water Quality Certification for activities on tribal trust lands
- USEPA issuance of a National Pollution Discharge Elimination System (NPDES) permit on tribal trust lands

State Permits/Approvals

The following state permits/approvals are anticipated for the proposed project:

- California Department of Fish and Wildlife 1602 Streambed Alteration Agreement for any activity that would substantially modify a river, stream, or lake or otherwise substantially adversely affect an existing fish and wildlife resource in the project area outside the reservation land.
- State Water Resources Control Board issuance of a NPDES Construction General Permit to regulate discharge of storm water during construction. The NPDES Construction General Permit requires notification of construction activities, implementation of best management practices, and development of a Storm Water Pollution Prevention Plan (SWPPP) for submittal to and approval from the SWRCB. The San Diego Regional Water Quality Control Board will issue a 401 Water Quality Certification on behalf of the SWRCB.

Local Agency Permits/Approvals

Depending on the jurisdiction where an action is located, Escondido, VID, or the County of San Diego would have discretionary authority to grant the following approvals:

- Approval of the IS/MND and Notice of Determination document from Escondido and VID
- Approval of construction documents
- Issuance and approval of the contract bid for construction
- Authorization to use bond proceeds for the proposed action/expenditure of public funds
- Any other necessary development or financing actions
- Vacation, relocation, and dedication of easements
- Approval to construct the pipeline within the jurisdiction's ROW
- Traffic Control Permit

This page intentionally left blank.

3.0 Proposed Project and Alternatives

This chapter describes the San Pasqual Undergrounding Project (proposed project) as well as alternatives to the proposed project that have been considered by Escondido and the BIA as lead agencies under CEQA and NEPA, respectively. The purpose of the alternatives analysis is to allow the BIA and Escondido decision-makers to make informed decisions concerning the environmental consequences of the proposed project, as well as the alternatives. Two alternatives in addition to the proposed project are investigated in detail in this document:

- Off-Reservation Desilting Basin Alternative
- No Project Alternative

A description of each of these alternatives is provided after the On-Reservation Desilting Basin description. An analysis of the potential environmental impacts of the proposed project is provided in Chapters 4 (Environmental Analysis) and 5 (Cumulative Effects), and an analysis of the potential environmental impacts of the three alternatives is provided in Chapter 6.

3.1 On-Reservation Desilting Basin (Proposed Project)

As project applicants, Escondido and VID are proposing to construct and operate an approximately 2.5-mile-long water pipeline to align with the Settlement Agreement, as discussed in Chapter 2, Purpose and Need for the Proposed Project.

3.1.1 Proposed Pipeline Alignment

The proposed pipeline would be a total of approximately 2.5 miles long and would run generally from north to south within the existing Escondido Canal ROW and along existing roads, primarily North Canal Road, South Canal Road, North Lake Wohlford Road, and Paradise Mountain Road, to the extent feasible. The proposed pipeline would begin at the proposed new desilting basin northeast of North Canal Road (Segment 2) and continue in a southwesterly direction and connect to the existing underground pipeline at a location south of Paradise Mountain Road (Segment 1). The proposed pipeline would include a 100-foot construction corridor (50 feet on each side of pipeline alignment) for its entire 2.5-mile length. The 100-foot-wide construction corridor may be reduced in some areas, as needed, to avoid impacting sensitive biological resources, such as drainages, wetlands, oaks, active nests, and cultural resource sites.

Construction of the proposed project would include:

- Installation of approximately 1.6 miles of 60-inch diameter underground pipeline outside the existing ROW for the Escondido Canal (Segment 1);

- Decommissioning of approximately 0.4 mile of the Escondido Canal and replacement with 60-inch diameter pipe (Segment 2);
- Construction of a 1,350 square foot desilting basin and associated access road at the northern/upstream end of Segment 2 on the San Pasqual Reservation; and
- Decommissioning and reclamation of approximately 2.5 miles of the Escondido Canal that is currently routed through the San Pasqual Reservation.

These details of the proposed project are shown on Figure 3-1.

3.1.2 Pipeline Easements/Land Acquisition

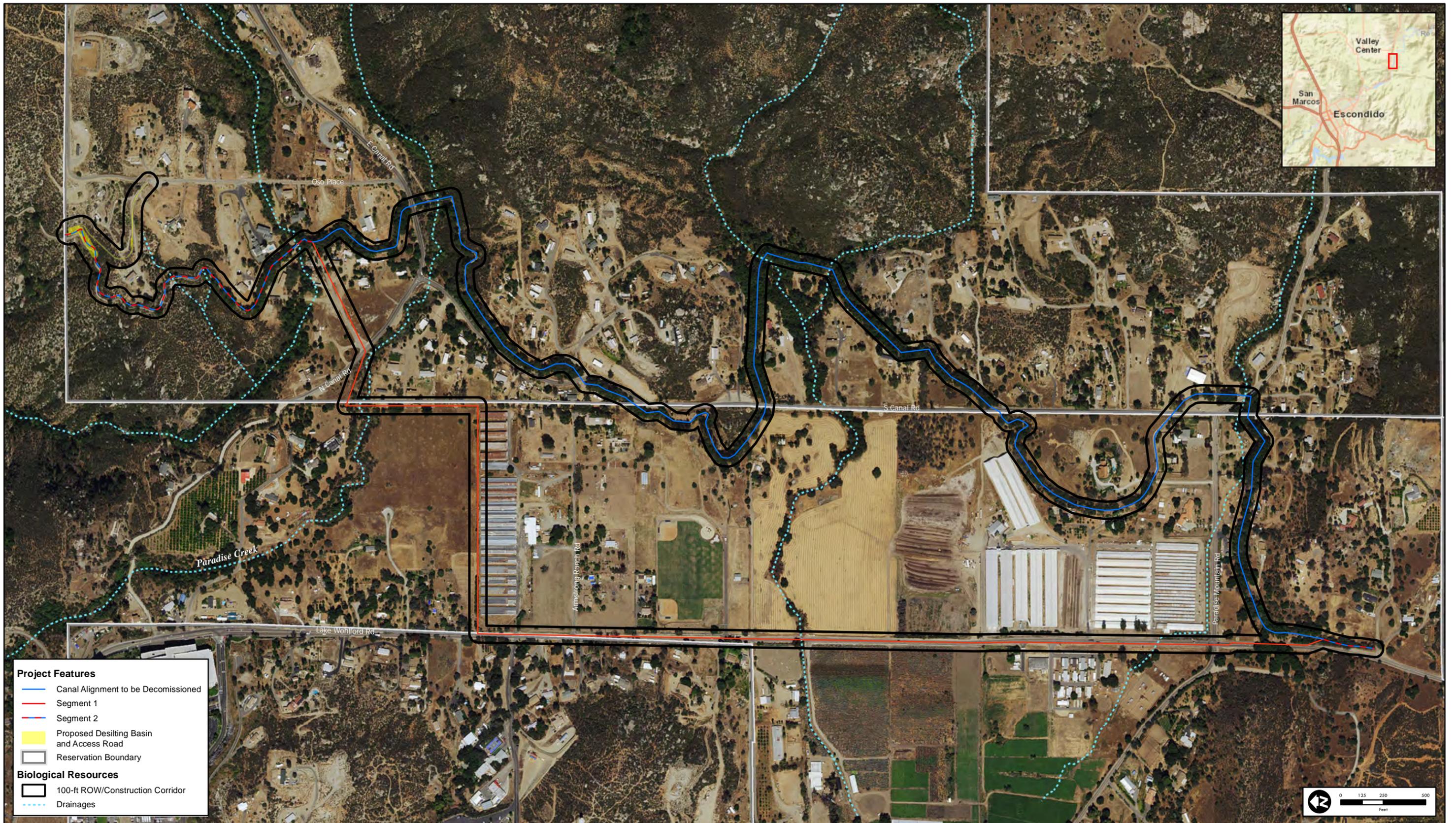
Construction and operation of the proposed pipeline and support facilities would require the City and VID to acquire permanent easements on federal and private lands for the project. Because the proposed pipeline alignment would cross tribal trust lands on the San Pasqual Reservation, Escondido and VID would negotiate the terms of the easement with the BIA and San Pasqual Band. As discussed above, the temporary construction corridor would be 100-feet-wide along the majority of the 2.5-mile pipeline alignment; however, this corridor may be reduced in certain areas to avoid impacting structures and sensitive biological and cultural resources. New permanent easement granted by the BIA would be 30-feet-wide along the portion of the new pipeline alignment that crosses the San Pasqual Reservation.

3.1.3 Proposed Pipeline and Desilting Basin Dimensions, Structure, and Operation

The portion of the canal to be replaced by the construction and operation of pipeline Segment 1 would be demolished and the cement lining crushed and used as backfill to bring the canal back up to grade after construction. Following removal of this portion of the canal, the disturbed land would be reclaimed through grading and restoration. Additionally, the fence along the abandoned portions of the canal would be removed unless requested otherwise by the underlying property owner. Further, if the canal is fenced on both sides, then the underlying property owner may want one fence removed for access.

All construction, maintenance, and operation activities associated with the proposed project will take place within an established 100-foot wide ROW (Figure 3-1). An existing access road parallels the proposed Segment 1 pipeline, but Segment 2 of the pipeline will be paralleled by an 8-foot-wide access road surfaced with screened backfill from excavation. The access road to the desilting basin will be 12-foot-wide with vehicle turnouts at 300-400 foot intervals and surfaced with aggregate. Two flumes that are currently part of the Escondido Canal alignment will be replaced with truss bridges (B&V 2016).

The Segment 1 pipeline alignment will include a 1,035-foot long by 5-foot wide portion (5,175 square foot total footprint) within the San Pasqual Reservation boundary and a 2,100-foot long by 5-foot wide portion (10,500 square foot total footprint) off the San Pasqual Reservation within private easements. These two portions of the pipeline alignment would be located within 30-foot wide easements, which would also account for the total width of ground disturbance during construction. Additionally, the Segment 1 pipeline would continue off the Reservation within the Lake Wohlford Road ROW for another 5,050 feet within a 25-foot wide public easement. All trenching necessary for the proposed underground pipeline would be approximately 6.5 feet wide by 6 feet deep for the Segment 2 pipeline, and approximately 9 feet wide by 8 feet deep for the Segment 1 pipeline. As part of the proposed action, work taking place in a public road easement would be included in a Traffic Control Plan to minimize traffic delays during construction activities.



Project Features

- Canal Alignment to be Decommissioned
- Segment 1
- Segment 2
- Proposed Desilting Basin and Access Road
- Reservation Boundary

Biological Resources

- 100-ft ROW/Construction Corridor
- - - Drainages



Figure 3-1
Details of the Proposed Action

100049195 2016 San Pasqual Undergrounding Project

Sources: Esri, Atkins

7/21/2016 BELA7036 \SUSSDA1101\data\Clients\Escondido\100049195 VID SPUP ENV EA MND\GIS\data\Figure3-1_Details_of_Proposed_Action.mxd

This page intentionally left blank.

A 60-inch pipeline diameter was determined to be the most feasible option based upon a target flow rate of 55 cubic feet per second (cfs). Pipeline material used in the proposed project could be steel pipe American Water Works Association (AWWA) C-200, reinforced concrete non-cylinder pipe AWWA C-302 or high-density polyethylene (HDPE) profile-wall pipe American Society for Testing and Material (ASTM) F-894. Final design will determine which is used based upon the criteria of availability and cost (B&V 2016). A cross section of the conceptual Segment 2 pipeline is depicted in Figure 3-2.

The proposed desilting basin would be inspected and maintained annually. An annual total of 2,429 tons of accumulated sediment (150 truckloads) is projected to be removed during the operation phase of the proposed project. The structure of the basin would include telescoping weirs and portable pump access for dewatering (B&V 2016). Functional features of the desilting basin would include the following:

- Two 15 feet wide by 45 feet long basins with a combined settling area of 1,350 square feet
- Four sluice gates that allow one basin to be taken out of service for cleaning while the other remains operational
- A walkway between the two basins to provide access for a portable pump to be used to drain one of the basins
- Two telescoping valves to allow for the basins to be manually drained
- Sloped ramps on both sides of the basin to provide access to equipment such as front end loaders and bobcats that will be used for sediment removal and loading to dump trucks
- Fencing around the perimeter of the basin site
- Trash racks to prevent floating debris from entering the pipeline
- Solar powered water level detectors with Supervisory Control And Data Acquisition (SCADA) interface to monitor water surface elevations near the trash rack that will alarm at a preset level
- The facility will be benched into the hillside in such a way so as to not create or require any nominal fill (B&V 2016)

Figures 3-3, 3-4 and 3-5 show the proposed conceptual design of the desilting basin. The project footprint, including both temporary and permanent impacts, within the proposed ROW is 11.95 acres. The permanent impacted area of each of the project components is provided in Table 3-1.

Project Component	Disturbed Area (Acres)	Area to be Revegetated Temporary (Acres)	Total Permanent Impacted Area (Acres)
Desilting Basin/Access Road	0.91	0.43	0.48
Segment 2 Pipeline/Access Road	1.07	0.56	0.51
Segment 1 Pipeline	-	-	-
▪ On Reservation	0.71	0.21	0.50
▪ Off Reservation (Private Easements)	1.45	0.72	0.73
▪ Off Reservation (Public Easements) – within an existing public road	2.90 (already disturbed)	0	0
Canal Alignment to be Decommissioned	4.91	4.91	0
Total	11.95	6.83	2.22

Source: B&V 2016

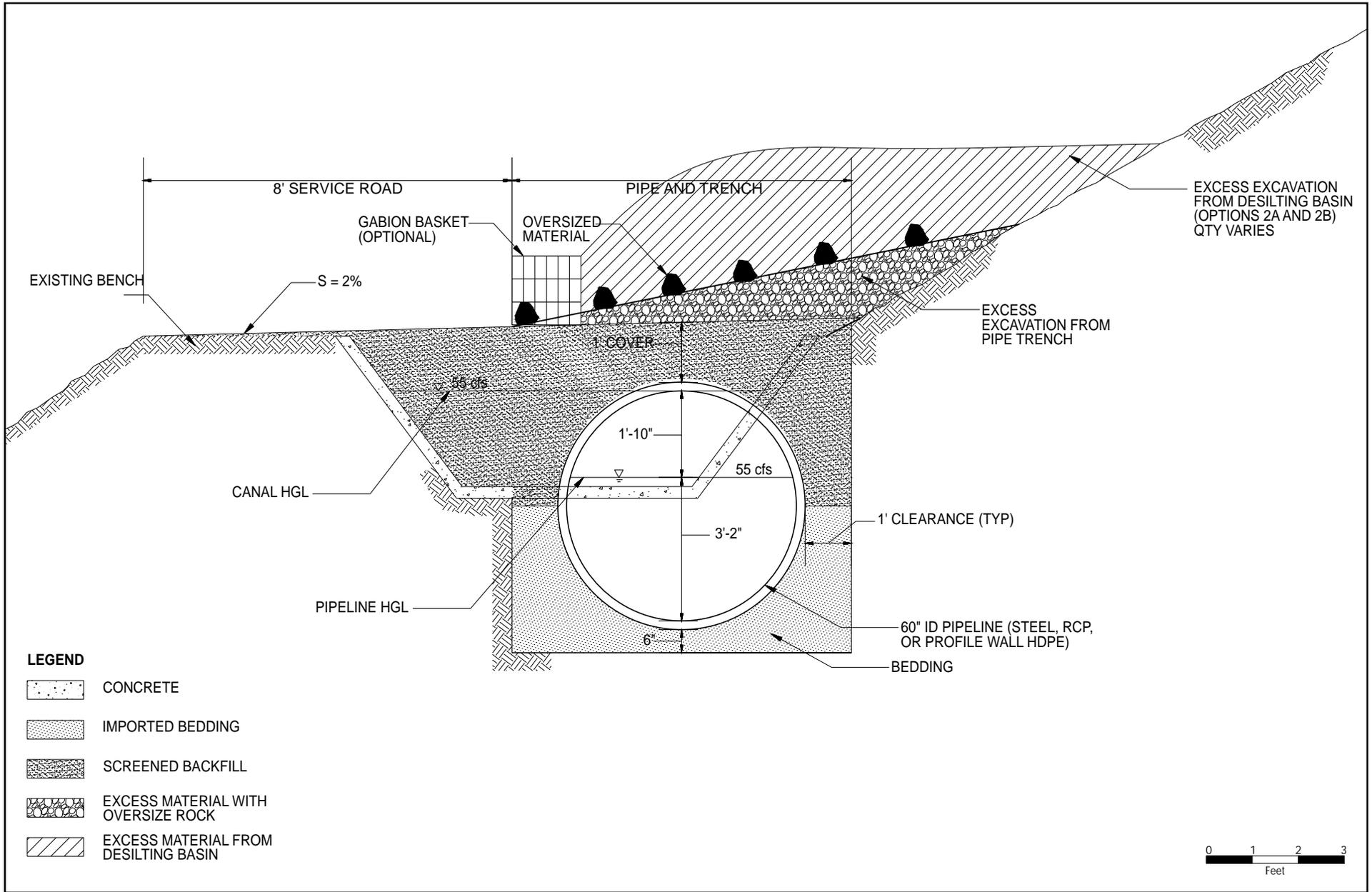


Figure 3-2
Pipeline/Service Road Cross Section

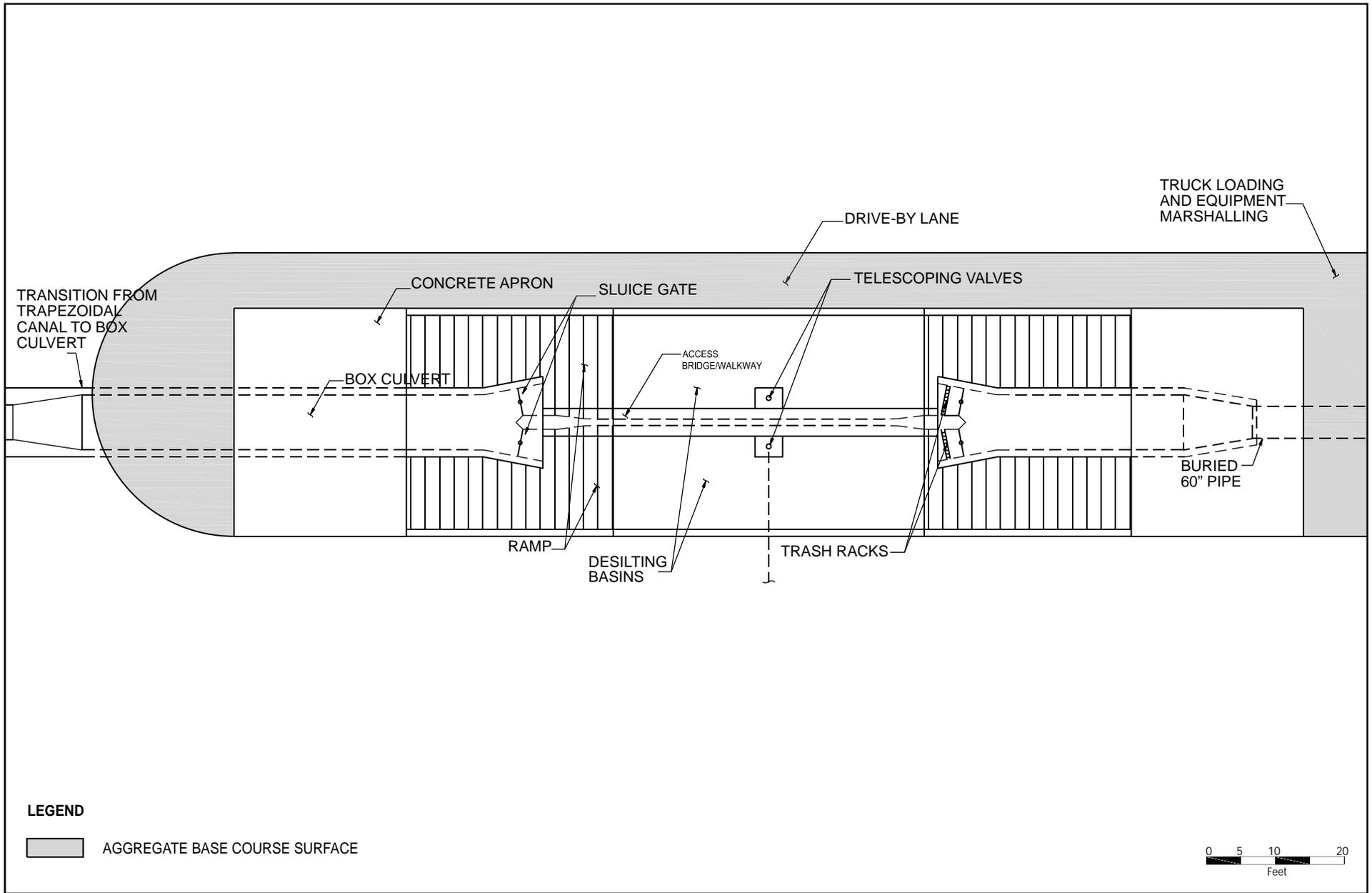
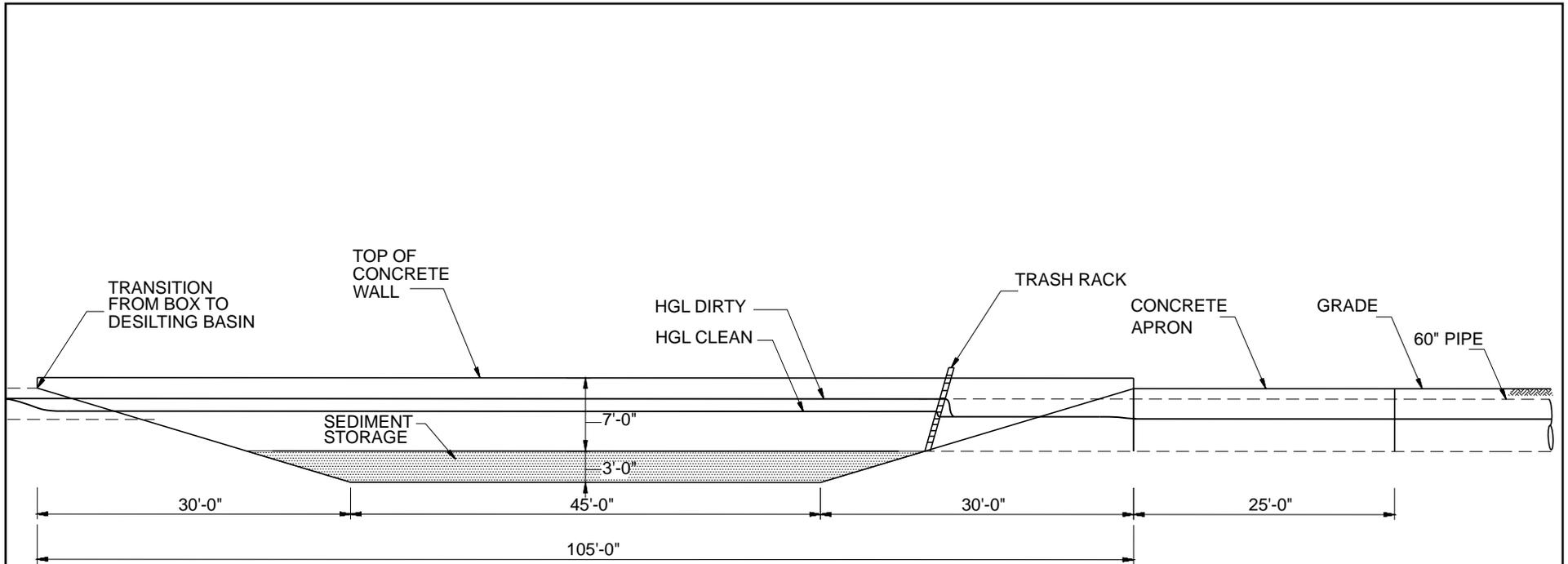
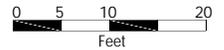


Figure 3-3
Desilting Basin Plan View





Note: Water levels in this figure represent depths at 55 cfs.

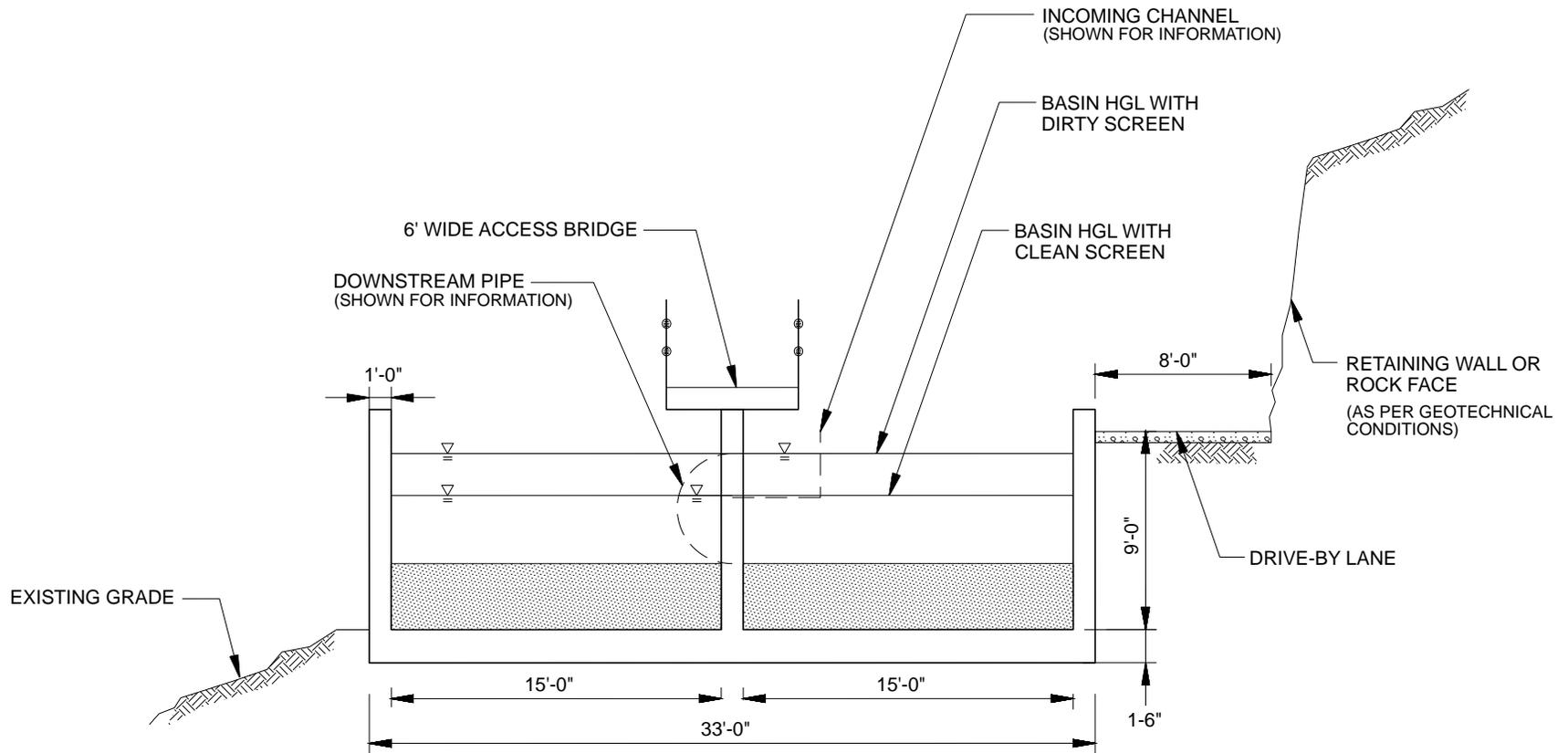


ATKINS

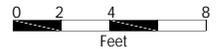
Figure 3-4
Desilting Basin Longitudinal Section

100049195 2016 San Pasqual Undergrounding Project

Source: Black & Veatch 2016



Note: Water levels in this figure represent depths at 55 cfs.



In order to provide the San Pasqual Band access to Local Water from the proposed project, Escondido and VID would install, at their expense, four stub sections of pipeline capped with blind flanges during construction. The location of the four stub sections would be determined by the San Pasqual Band in consultation with Escondido and VID. In addition, the San Pasqual Band would otherwise be provided access to Local Water from the Escondido Canal and the proposed project pipeline.

3.1.4 Revegetation of Disturbed Areas

Construction impacts to vegetation would occur from development of the proposed project. The proposed project includes the revegetation of areas disturbed during construction of the pipeline alignment, see Table 3-1 above. Prior to excavation of the pipeline trench, all vegetation within the 100-foot construction corridor would be scraped and stockpiled. After excavation and pipeline installation, the pipeline trench would be backfilled and covered with native soil. The disturbed area would then be revegetated with the vegetation that was salvaged in order to restore the area. In addition, the disturbed areas would be reseeded with a native seed mix.

3.1.5 Construction Methods, Equipment, and Timing

Construction of the proposed project will involve such activities as excavation, grading, soil compaction and slope restoration, screening of backfill, and hauling of backfill and aggregate. Any excess material and oversize rock generated from Segment 2 pipeline construction will be drifted along the inboard side, over the top of the pipeline, eliminating the need for off-site disposal and further protecting both the pipe and the cut slope (B&V 2016). Staging areas for construction would be located in existing developed areas adjacent to the alignment or within the 100-foot construction corridor.

Table 3-2 shows the construction equipment anticipated to be utilized. It should be noted that separate construction crews are scheduled to be working on the pipeline and desilting basin simultaneously. One crew will work on installing 10,203 feet of pipe for Segments 1 and 2 and restoring 10,600 feet of the decommissioned Segment 1, while the second crew will build the access road and desilting basin. During the construction phase of the proposed project, it is estimated that the temporary workforce will be comprised of 32 workers total. Construction of Segments 1 and 2 and canal restoration is expected to take approximately 353 working days, based upon an eight hour per day, five day per week schedule. Construction of the desilting basin and access road is expected to take approximately 228 working days (B&V 2016). The pipeline construction portion of the proposed project can be completed at a rate of approximately 60 feet per day (B&V 2016a). The proposed project timeline from start of construction to operation phase is shown in Table 3-3.

Table 3-2 Proposed Project Construction Equipment Type		
	Number of Units Used During Construction	Duration of Use (Working Construction Days)
Pipeline Construction and Canal Restoration		
Large Excavator	1	223
Bulldozer	1	223
Wheel Loader	1	223
Sheepsfoot Roller	1	223
Off-Road Dump Truck	1	86
Dump Truck	2	190
Water Truck	1	223

Table 3-2 Proposed Project Construction Equipment Type

	Number of Units Used During Construction	Duration of Use (Working Construction Days)
Desilting Basin and Access Road		
Large Excavator	1	141
Bulldozer	1	141
Wheel Loader	1	141
Sheepsfoot Roller	1	141
Off-Road Dump Truck	1	141
Water Truck	1	141

Source: B&V 2016a

Table 3-3 Proposed Action Timeline

Project Milestone	Year
Signed FONSI for EA-IS/MND	2016
San Luis Rey Indian Water Rights Settlement Agreement Becomes Effective	2017*
Project Design and Bidding	2017-2018
Private ROW Acquisition	2017-2018
Project Construction	2018-2021
Project In Service	2020-2021

*As defined by the terms of the Agreement.

3.1.6 Pipeline Leaks or Rupture

Since the proposed underground pipeline will be carrying water under low pressure conditions, the potential for a pipeline rupture would be relatively low. Escondido Canal maintenance crew will conduct periodic monitoring of the pipeline for possible leaks. Once it has been determined that a leak has been detected, the maintenance crew will initiate the following actions:

- Mobilize a response team to minimize damage in the vicinity of the leak; if warranted;
- Open automatic release gates at appropriate places along the Escondido Canal to initiate the dewatering of the canal;
- Suspend releases from Lake Henshaw and diversions into the canal at the Diversion Dam, as appropriate; and
- Mobilize a pipeline repair crew to repair the damage.

3.2 Off-Reservation Desilting Basin Alternative

Similar to the proposed project, the pipeline diameter for this alternative would be 60 inches and the alignment would also include a 100-foot construction corridor (50 feet on each side of pipeline alignment) for its entire length. The main difference between this alternative and the proposed project is that the pipeline under this alternative would be 342 feet longer to accommodate a desilting basin north of the San Pasqual Reservation boundary, but largely within the ROW of the existing Escondido Canal.

3.2.1 Proposed Pipeline Alignment

The alignment for this alternative would be identical to the proposed project with the pipeline continuing along the same alignment as shown on Figure 3-1. However, the pipeline alignment and adjacent pipeline service road under this alternative would be extended 342 feet at the northern end of Segment 2 to connect to the off-reservation desilting basin, which would be located approximately 72 feet north of the San Pasqual Reservation boundary (Figure 3-6).

3.2.2 Proposed Pipeline and Desilting Basin Dimensions, Structure, and Operation

The length of the pipeline, as indicated above, differs by 342 feet when compared to the proposed project. The desilting basin in this alternative is identical to the proposed project in dimension, structure, and function.

3.2.3 Construction Methods, Equipment, and Timing

Construction of this alternative would involve the same methods and equipment as the proposed project. The work hours, total temporary workforce, duration of construction, and timing of project milestones under this alternative also would not differ.

3.3 No Project Alternative

The No Project Alternative must be evaluated in this EA-IS/MND as required under Section 1502.14 of the regulations for implementing NEPA. This alternative represents the environmental baseline for the proposed project. Under the No Project Alternative, the proposed action (ROW approval) would not occur, and the proposed project infrastructure (pipeline, desilting basin, and access roads) would not be constructed. The existing alignment of the Escondido Canal would remain in place and no additional Supplemental Water or Local Water would be provided to the Bands by Escondido and VID, which would not align with the Settlement Agreement. None of the potential environmental impacts resulting from implementation of the proposed project would occur.

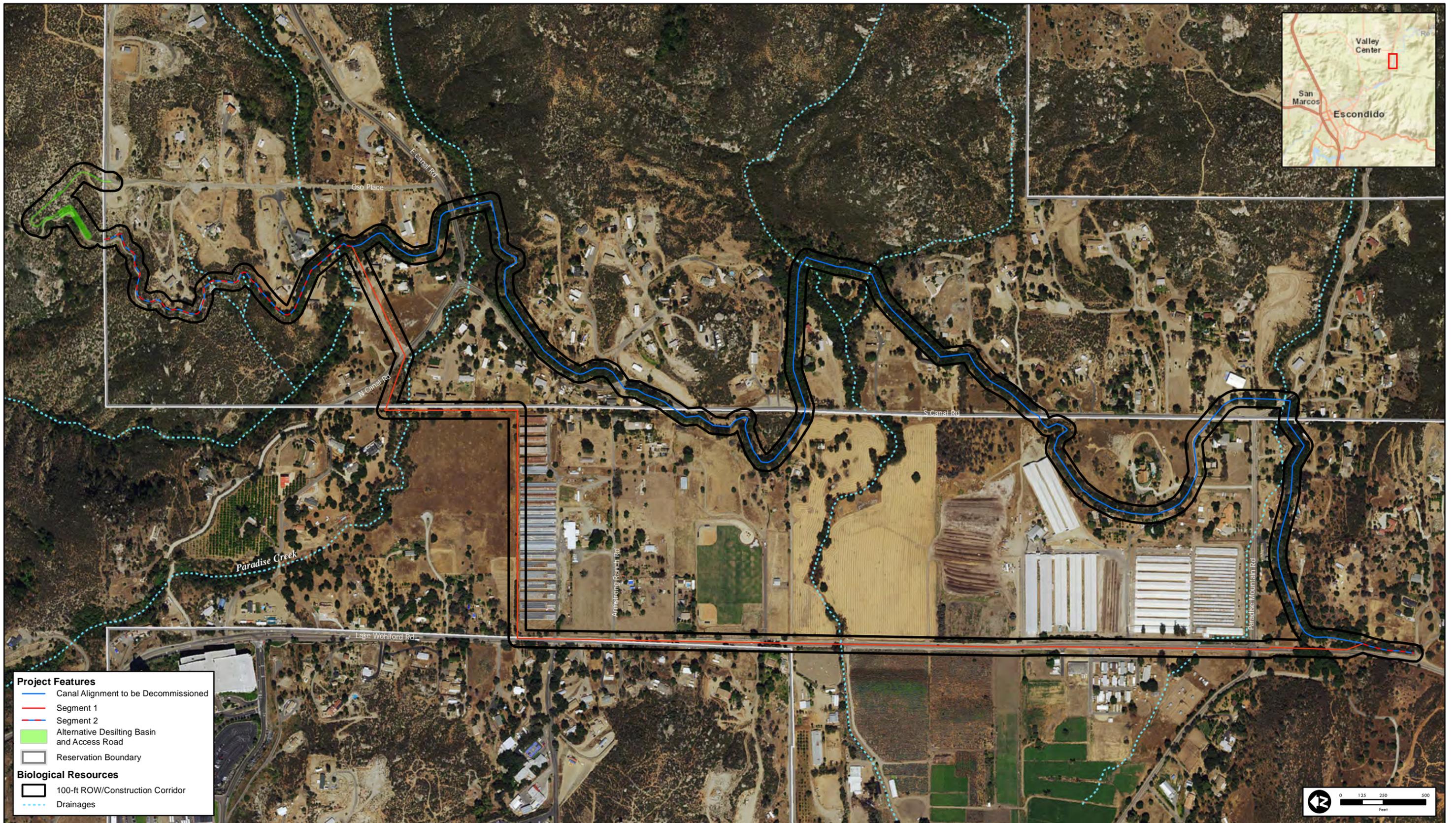


Figure 3-6
Off-Reservation Desilting Basin Alternative

100049195 2016 San Pasqual Undergrounding Project

This page intentionally left blank.

4.0 Environmental Analysis

The following environmental analysis provides information relative to eleven environmental topics that pertain to the proposed project. Each resource section describes the existing conditions or environmental setting; regulatory policies or setting; impact significance criteria used to determine whether an impact would be significant; impact analysis; significance of the impacts, and mitigation that would be implemented to avoid potentially significant impacts.

The following resources briefly discussed below were not considered in detail in this EA-IS/MND, because it is not likely that they would be affected by the proposed project:

- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

Land Use and Planning

The proposed project involves a realignment and undergrounding of a portion of the existing Escondido Canal ROW. The use facilities under the proposed project would serve the same purpose of water conveyance for Escondido and VID. Implementation of the proposed project would not change surrounding land use patterns or physically divide an established community in a way that would require amendment of the Valley Center Community Plan or County of San Diego General Plan. Finally, the proposed project would not conflict with the County of San Diego North County Multiple Species Conservation Plan (MSCP) or any other habitat or natural community conservation plans. Therefore, land use and planning are not evaluated further in this document.

Mineral Resources

The proposed project footprint does not contain areas of known mineral resources that are of value to the San Diego County region or the state. Additionally, there would be no loss of a mineral recovery site delineated by the Valley Center Community Plan or the San Diego County General Plan associated with implementation of the project. Therefore, mineral resources are not evaluated further in this document.

Population and Housing

Direct growth inducement would not occur under the proposed project because the building of new residential developments or businesses would not be involved. Infrastructure modification would occur under the proposed project; however, there would be no new infrastructure involved that would indirectly influence population growth. Further, the proposed project would not displace existing housing or any local residents during construction or operation. Therefore, population and housing is not evaluated further in this document.

Public Services

The proposed project would not result in impacts to fire protection, police protection, schools, parks, or other public facilities. Therefore, public services are not evaluated further in this document.

Recreation

The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur. Additionally, the proposed project does not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment. Therefore, recreation impacts not evaluated further in this document.

Utilities and Service Systems

The proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB); would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities; would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities; would have sufficient water supplies available to serve the proposed project from existing entitlements and resources; would not result in a determination by the wastewater treatment provider which serves the project area that it has adequate capacity to serve the projected demands in addition to the provider's existing commitments; would be served by a landfill with sufficient permitted capacity to accommodate waste disposal needs; and would comply with federal, state, and local statutes and regulations related to solid waste.

The following resource areas are addressed in this chapter:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Traffic

4.1 Aesthetics (Visual Resources)

This section evaluates the potential impacts of the proposed project on aesthetics and the visual resources of the environment. This evaluation includes an assessment of the direct, indirect, short-term, and long-term impacts of the proposed project on scenic vistas, scenic resources, and the existing visual character and quality of the project area and surroundings. The evaluation is based on observations in the field, review of topographic maps of the area, and review of applicable land use policies relating to visual quality.

4.1.1 Environmental Setting

The proposed project is located in the Valley Center Community of the San Diego County, California. The proposed pipeline alignment would begin at a connection with the existing Escondido Canal at a location northeast of North Canal Road and continue in a southwesterly direction within existing roadways to the extent feasible. The proposed alignment would be located along and around North Canal Road, South Canal Road, and North Lake Wohlford Road. The connection to the existing underground pipeline would be at a location south of Paradise Mountain Road. According to the Valley Center Community Plan (County 2011), scenic resources in the vicinity of the project area include Chaparral Ridge, Lancaster Mountain, Keys Creek, Burnt Mountain, and Valley Center Ridge.

4.1.1.1 Existing Landform and Site Features

The project area itself is characterized by steep, rugged topography, including hills with prominent boulders and weathered rock outcrops located to the north east. High relief landforms, ridges and canyons contribute to the natural site features of the project area. Floodplains associated with agricultural lands make up the landform along the south of the proposed pipeline alignment. The wider context of the project area consists of semi-rural residences, agricultural farm land and associated farm infrastructure, tribal lands and undeveloped open space, as well as natural resources, such as drainages, wetlands, oaks, and cultural resource sites. Elevations along the proposed pipeline alignment range from a high of approximately 1,700 feet above mean sea level (AMSL) at the northern and southern reaches of the alignment to a low of approximately 1,620 feet AMSL at the low point of the alignment in Lake Wohlford Road.

4.1.1.2 Existing Aesthetic Character

Daytime visibility in the project area is good and clear views are available throughout. Views are limited by changes in topography and weather conditions rather than air quality. Fog in the area can reduce visibility. On clear days, views to the Pacific Ocean are available from the higher elevations. Existing land uses within the project area consist predominately of agricultural uses (poultry farms) with rural residences scattered throughout the valley, San Pasqual Reservation Indian tribal lands, drainages, and undeveloped land on the hillsides. A significant portion of the proposed pipeline alignment follows existing roads, such as North Canal Road, South Canal Road, and Lake Wohlford Road and is adjacent to rural residences and the San Pasqual recreational field. The alignment would also cross agricultural lands south of Sun Energy Road. Hydrological features in much of the project area have been modified for agricultural uses. Existing water features mainly consist of canals, ditches, and tree lined creeks. The Valley View Casino and Hotel is located northwest of the proposed pipeline alignment on the San Pasqual Reservation, near the intersection of North Lake Wohlford Road and Nyemii Pass Place Road. Lake Wohlford is located approximately 1.5 miles south of the proposed pipeline alignment and stores

the water obtained from the San Luis Rey River via the Escondido Canal and also stores water from natural runoff in the Escondido Creek watershed above Wohlford Dam.

4.1.1.3 Views of the Proposed Project

The visual setting for the proposed project is described in terms of key viewsheds. The visual quality of a viewshed is based on the aesthetic character of the area and includes the following physical characteristics:

- slope or mass of the landform
- distinct vegetation communities
- appearance of water
- variety in landscape character
- unique geologic features
- important historic landmarks or resources

Viewsheds with a high visual quality include physical characteristics such as natural landforms with high vertical relief, and a variety of vegetative types with different forms, colors, textures, and patterns. These viewsheds are typically located at higher elevations and capture certain slope aspects that provide unobstructed direct or panoramic views of the natural landscape. Viewsheds with moderate visual quality have interesting, but not dominant or exceptional, landforms and natural features. The perceptual quality would include a varied but unbalanced composition, and the natural landform becomes a secondary or intermittent resource in the viewshed. Viewsheds with low visual quality have few or no interesting landforms, few vegetation types, the absence of water, and few color variations. In these cases, the landscape has been transformed such that only vestiges of the natural terrain remain or are visible.

The visual sensitivity of a viewshed is based on the ability of a particular area to absorb changes in the character or quality. A viewshed with a high sensitivity level would include dominant forms of shape or structure, curvilinear line, and dominant color and texture, and would be naturally intact. Highly sensitive areas are those where the proposed improvements would be very visible and produce a contrasting visual impact. Viewsheds with low sensitivity to change typically have a lower visual quality, and the addition of elements would not create any significant impacts on the overall appearance of the area. Typically, viewsheds in urbanized areas are more able to absorb changes due to variation and contrast in bulk, scale, orientation, and color that already exist in the environment; development components of a proposed project will often add incrementally to the background viewshed and blend in, but not drastically change it. Viewsheds that are composed mainly of natural landforms and features, however, are less able to absorb any changes, because the conversion of undeveloped areas to development typically creates a distinct, noticeable alteration in topography and color compared to the surrounding natural area, resulting in the natural environment looking less intact and the change more visually apparent. Existing visual conditions for principal visible components in the key viewsheds surrounding the project area are described below.

Visual sensitivity can be described as viewer awareness of visual changes in the environment and is based on viewers' activities from public areas near a particular site, in this case, the proposed pipeline alignment. Sensitivity is based on the overall visual character and visibility of the existing site. To define the visual quality of the project area, important views that include the proposed pipeline alignment have been identified as key vantage points (KVP). These KVPs are typically public viewing areas, and include road viewsheds, public viewpoints and views from drainages.

Key Vantage Points

In order to depict representative existing views and the aesthetic character of the site, four KVP locations that best define the visual character along the proposed pipeline alignment were used within San Diego County and San Pasqual Reservation lands (Figure 4.1-1). These representative KVPs are made up of foreground (0 to 500 meters), midground (500 to 2,000 meters), and background (greater than 2,000 meters) views from several locations. Each KVP location is discussed below with a narrative description of the view.

KVP 1: North Lake Wohlford Road and Maemar Drive

KVP 1 consists of a typical viewshed of the southernmost point of the proposed pipeline alignment. The existing character of this area is a tree lined roadside to the east and a mixture of tree and scrub graded slopes to the west. In addition, there are low-density rural agricultural uses with scattered one-story homes on large lots to the east. Background views from this location consist of open sky with treetops and North Lake Wohlford Road on the northern horizon. Existing native vegetation, roadside trees, and North Lake Wohlford Road are visible in the midground and foreground respectively.

KVP 2: North Lake Wohlford Road, Woods Valley Road and Paradise Mountain Road Intersection

KVP 2 represents a typical viewshed at this intersection. The existing character in this area is made up of rural agricultural uses and includes a poultry farm with scattered one-story homes on large lots to the east. Background views from this location consist of open sky, low elevation natural hillsides, and existing agricultural operations (pasture). Existing native vegetation and associated farm/residential buildings make up the midground view. The foreground view consists of the intersection at Lake Wohlford Road and Paradise Mountain Road and shoulder area which contains disturbed bare ground and weedy vegetation. In addition, distribution powerlines (wooden, "T"-pole distribution lines) make up the mid to foreground viewshed.

KVP 3: Lake Wohlford Road and Kumeyaay Way

KVP 3 represents a typical viewshed at this location. The existing character in this area is rural agricultural uses made up of farm buildings to the east with scattered one-story homes on large lots to the east and west, respectively. Background views from this location consist of open sky, natural hillsides to the northwest and tree/shrub lined road. Existing native vegetation and associated farm/residential buildings make up the midground view. The foreground view consists of a Lake Wohlford Road and shoulder area which contains disturbed bare ground and grassy vegetation. In addition wooden, "T"-pole distribution lines make up the mid to foreground viewshed.

KVP 4: Tokama Road, North Canal Road and Paradise Creek drainage

KVP 4 located at the proposed intersection of the pipeline and North Canal Road. The existing character in this area is predominately natural, undeveloped land with rolling hills and mountains. Background views from this location consist of open sky and natural, rolling hills with isolated residential homes with large lots to the east and west, respectively. Existing native vegetation associated with the Paradise Creek drainage, as well as disturbed and bare ground lots and the shoulder associated with Tokama Road make up the midground on the west and east, respectively. The foreground view consists of the existing North Canal Road and adjacent dirt track to the north.

4.1.2 Regulatory Setting

The following discussion identifies laws, regulations, and policies relevant to visual resources that would apply to proposed projects on lands within the San Diego County. Proposed projects that take place on tribal lands are subject only to federal regulations and tribal laws. State and local regulations do not apply to actions on tribal lands.

4.1.2.1 State

California Scenic Highway Law

The California Scenic Highway Law of 1963 created the California Scenic Highways Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of adjacent lands. The State Scenic Highway System includes a list of highways that are either officially designated as scenic highways by Caltrans or eligible for designation. There are no officially designated state scenic highways within the project area as identified by the California Scenic Highway Mapping System (Caltrans 2016). SR-76, which is eligible for listing as a state scenic highway but is located approximately 5 miles north of the project area. Lake Wohlford Road, from Guejito Road north to Valley Center Road, is listed as a third priority County Scenic Highway (County 2011) and is located adjacent to the proposed pipeline alignment. Lilac Road and Valley Center Road (S6) is also a third priority County Scenic Highway and is located approximately 1 mile north of the proposed pipeline alignment.

4.1.2.2 Local

County of San Diego General Plan

The County of San Diego General Plan identifies long-range goals and policies for the comprehensive development of land within its jurisdiction. The County General Plan includes the following specific planning elements: Land Use, Mobility, Conservation and Open Space, Housing, Safety, and Noise. The County of San Diego General Plan has multiple elements that are relevant to the aesthetic aspect of the proposed project. These include the Land Use Element and the Conservation and Open Space Element, which are summarized below.

Land Use Element

The Land Use Element and associated Community Plan (described below) identify areas where urban development is planned to occur in unincorporated areas of San Diego County. These areas include where existing or planned infrastructure and services can support growth and locations within or adjacent to existing communities. This allows the County to maximize existing infrastructure, provide for efficient service delivery, and strengthen town center areas while preserving the rural landscape that helps define the unique character of the county.

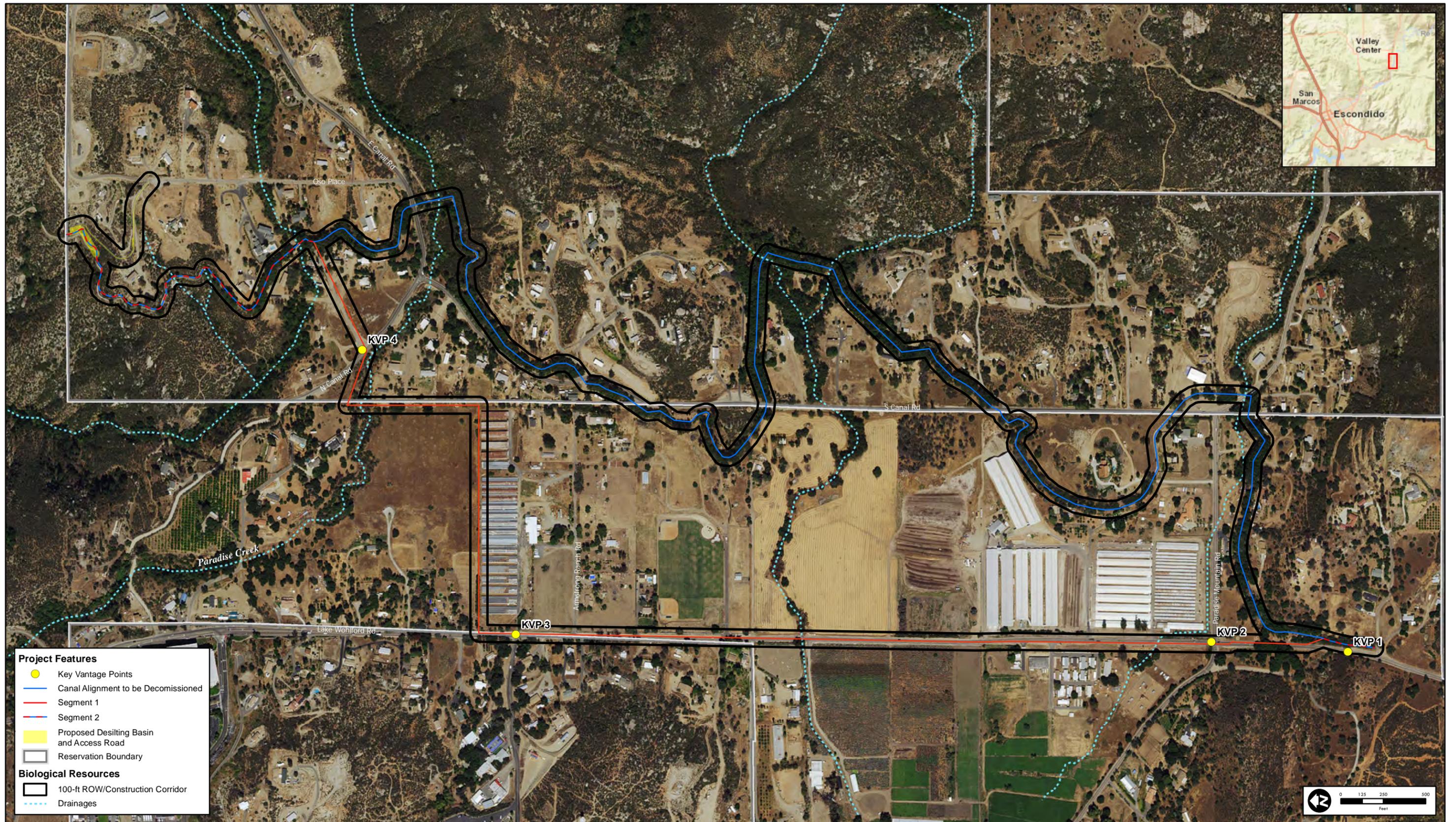


Figure 4.1-1
Key Vantage Point Locations

100049195 2016 San Pasqual Undergrounding Project

This page intentionally left blank.

Land use goals in the County General Plan that are relevant to preserving the visual quality and aesthetics within Valley Center are as follows:

- Goal LU-2: Maintenance of the County’s Rural Character. Conservation and enhancement of the unincorporated County’s varied communities, rural setting, and character;
- Goal LU-6: Development—Environmental Balance. A built environment in balance with the natural environment, scarce resources, natural hazards, and the unique local character of individual communities; and
- Goal LU-10: Function of Semi-Rural and Rural Lands. Semi-Rural and Rural Lands that buffer communities, protect natural resources, foster agriculture, and accommodate unique rural communities.

The San Diego County General Plan/Valley Center Community Plan designations along the alignment vary, and range from general agricultural use to tribal lands, and Semi-rural residential uses. As described above in Section 4.1.1, existing land uses within the project area consist mostly of agricultural uses with low-density rural residences scattered throughout the valley.

Conservation and Open Space Element

The County Open Space and Conservation Element states its primary focus is to provide direction to future growth and development in the San Diego County with respect to the conservation, management, and utilization of natural and cultural resources, the protection and preservation of open space, and the provision of park and recreation resources.

Open Space and Conservation goals in the County General Plan that are relevant to preserving the visual quality and aesthetics within Valley Center are as follows:

- Goal COS-6: Sustainable Agricultural Industry. A viable and long-term agricultural industry and sustainable agricultural land uses in the San Diego County that serve as a beneficial resource and contributor to the County’s rural character and open space network;
- Goal COS-11: Preservation of Scenic Resources. Preservation of scenic resources, including vistas of important natural and unique features, where visual impacts of development are minimized;
- Goal COS-12: Preservation of Ridgelines and Hillside. Ridgelines and steep hillsides that are preserved for their character and scenic value; and
- Goal COS-13: Dark Skies. Preserved dark skies that contribute to rural character and are necessary for the local observatories.

Valley Center Community Plan (County of San Diego)

The Valley Center Community Plan only includes policies regarding visual impacts as they relate to Community Character and Land Use and are summarized below.

- Community Character Policy 2: Maintain the existing rural character of Valley Center in future developments by prohibiting monotonous tract developments. Require site design that is consistent with the rural community character.
- Land Use Policy 1: Require that discretionary permits preserve environmentally significant and/or sensitive resources such as undisturbed steep slopes, canyons, floodplains, ridge tops and unique scenic views in order to reinforce the rural character of the area through sensitive site design and, where appropriate, with open space easements.

- Land Use Policy 3: Prohibit ridgeline residential development unless it can be shown through a viewshed analysis that there would be only minimal impact to adjacent properties.
- Land Use Policy 4: Require new residential development to adhere to site design standards which are consistent with the character and scale of a rural community. To include a built environment that is integrated into the natural setting and topography; Grading that follows natural contours and does not disturb the natural terrain; Structure design and siting that allows preservation of the site's natural assets; and, Retention of natural vegetation, agricultural groves, rock outcroppings, riparian habitats and drainage areas.
- Land Use Policy 6: Buffer residential areas from incompatible activities which create heavy traffic, noise, odors, dust, and unsightly views through the use of landscaping and preservation of open space.

San Diego County Light Pollution Code

The County has adopted Light Pollution Code (LPC), Sections 59.101-59.115 of the Code of Regulatory Ordinances, "to minimize light pollution for the enjoyment and use of property and the night environment by the citizens of San Diego County and to protect the Palomar and Mount Laguna observatories from the effects of light pollution that have a detrimental effect on astronomical research by restricting the permitted use of outdoor light fixtures on private property" (Section 59.101). The LPC regulates applicants for any permit required by the County for work involving outdoor light fixtures, unless exempt. The LPC designates all areas within a 15-mile radius of each observatory as Zone A, with all other areas designated as Zone B. Zone A has more stringent lighting restrictions due to its proximity to the observatories, including limits on decorative lighting. The project area is located in Zone A for the Palomar Observatory, but is not located within Zone A for the Mount Laguna Observatory.

4.1.3 Thresholds of Significance

Thresholds used to evaluate potential aesthetic impacts are based on applicable criteria in the State CEQA Guidelines (California Code of Regulations [CCR] Sections 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant aesthetic impact would occur if the proposed project would:

1. Result in a substantial adverse impact on a scenic area or vista
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic area or highway
3. Substantially degrade the existing visual character or quality of the site and its surroundings

The Initial Study Checklist determined that the proposed project would not (1) "create a new source of substantial light or glare which would adversely affect day or nighttime views in the area." Therefore, these thresholds are not discussed further in this EA-IS/MND (see Appendix A).

4.1.4 Impact Analysis

Construction of the proposed pipeline and support facilities would result in temporary visual changes in the landscape related to the presence of construction equipment, materials, and work crews. The resulting pipeline would be buried and adjacent to or within existing road ROWs; thus, visual changes would not be noticeable by, or affect a substantial portion of the local population. The limited population affected by views of the temporary construction and resulting gravel service access are not

considered sensitive viewers. Construction-related activities would be visible to vehicles traveling along roads paralleling the pipeline and to residences in proximity of the project.

4.1.4.1 Issues 1 and 2 – Affect a Scenic Vista and Visual Character/Quality

Would the proposed project have a substantial adverse impact on a scenic vista?

Would the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?

Impacts

Temporary visual impacts would occur during construction of the proposed project components due to ground-disturbing activities, stockpiling, and the presence of construction equipment. However, such impacts would be short-term and limited to the immediate vicinity of the active construction site. Following construction, the proposed project pipeline would be underground and would not be visible; however, the proposed project would also include a desilting basin and access roads. Potential visual impacts associated with aboveground facilities would vary depending on the size of the facility, setting and visibility of the project site, degree of landform alteration required, and existing vegetation. The Segment 2 pipeline service road will be 8 feet wide and surfaced with screened backfill from excavation, while the access road to the desilting basin will be 12 feet wide and surfaced with aggregate. The proposed project may result in adverse impacts on a scenic vista if aboveground facilities are constructed in undeveloped areas and/or at higher elevations such as on hillsides, hilltops, and ridges within the public viewshed. The proposed project has the potential to impact existing natural and agricultural settings of the area from construction of the proposed pipeline and supporting facilities (i.e., desilting basin and access roads) as seen from neighboring properties and public ROWs. Direct, indirect, and disproportionate impacts would be less than significant with implementation of the following mitigation measures, Aes-1 and Aes-2.

Mitigation Measures

Aes-1 Visually Compatible Landscaping. The following landscaping measures shall be implemented for each proposed component project:

- a. For pipelines and access roads installed in naturally vegetated areas, the short-term disturbance footprints associated with construction for the pipeline corridor and associated construction staging areas shall be hydroseeded, following backfilling and recontouring, using a non-irrigated native plant mix consistent with original site conditions and surrounding vegetation.
- b. For aboveground structures in naturally vegetated settings, any disturbed unpaved areas following construction that are not designated for vehicular or pedestrian access shall be revegetated (hydroseeding and/or plantings) using native plant materials consistent with original site conditions and surrounding vegetation. A temporary irrigation system shall be installed and maintained by the project proponent, or watering trucks shall be used at a frequency to be determined by a qualified biologist or landscape architect, to maintain successful plant growth. Temporary irrigation shall be discontinued upon determination by the qualified biologist or landscape architect that the landscaping has permanently established, without the need for supplemental watering.

- c. For aboveground structures in more urban settings, any disturbed unpaved areas following construction that are not designated for vehicular or pedestrian access shall be landscaped using native plant materials consistent with original site conditions and/or surrounding ornamental vegetation in order to return the disturbed area to its existing visual character.
- d. The landscaping plan for aboveground structures associated with the desilting basin shall include the planting of large trees and/or shrubs, where appropriate, to provide adequate screening of the proposed basin and its structures.

Aes-2 **Visually Compatible Design.** The following design measures shall be implemented for each proposed project component that includes aboveground facilities (including access roads):

- a. Aboveground facilities and access roads shall use appropriate building materials and color palettes that are visually consistent with the surrounding natural vegetation and/or built environment.
- b. Aboveground facilities and access roads shall use low-reflective, low-glare paint and materials, unless required for safety or by law.
- c. Access roads shall be designed to minimize grading, slope ratios, and the blockage of existing views when possible. Access roads shall not contain features such as asphalt coating, lighting fixtures, signage, guard rails, walls, fences, curbing, pavement marking, or other service structures or appurtenances, unless required for safety or by law.

4.1.4.2 Issue 3 – Substantially Damage Scenic Resources

Would the proposed project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Impacts

There are no officially designated State Scenic Highways within the project area as identified by the California Scenic Highway Mapping System (Caltrans 2016). SR-76, which is eligible for listing as a state scenic highway, is located approximately 5 miles north of the project area. Due to distance and intervening topography, the proposed project would not be visible from SR-76. Lake Wohlford Road, from Guejito Road north to Valley Center Road, Lilac Road, and Valley Center Road (S6) are listed as third priority County Scenic Highways and are located adjacent to the proposed pipeline alignment. As discussed above under Section 4.1.4.1 (Issue 1), temporary visual impacts would occur during construction of the proposed project due to ground-disturbing activities, stockpiling, and the presence of construction equipment. However, such impacts would be short-term and limited to the immediate vicinity of the active construction site. Following construction, potential visual impacts associated with potential aboveground facilities would vary depending on the size of the facility, setting and visibility of the project site, degree of landform alteration required, and existing vegetation. The proposed project would not result in visual degradation of Chaparral Ridge, Lancaster Mountain, Keys Creek, Burnt Mountain, or Valley Center Ridge. Overall, construction of the proposed project would not have a substantial adverse impact on scenic resources within a state scenic highway.

Mitigation Measures

Impacts on scenic resources within a County Scenic Highway from the proposed project would be less than significant with implementation of mitigation measures Aes-1 and Aes-2.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

Agricultural Resources in the project area are limited to a small percentage of the overall acreage of the construction corridor. Forestry Resources are not found within the project area, as this habitat type is absent. Classifications of the lands, including agricultural lands, are described below.

4.2.1.1 Regional Agricultural and Forestry Resources

Principal agricultural uses in the project area include cattle grazing, nurseries, orchards, citrus groves, and avocado groves. Although rare, some poultry and dairy farming is found in Valley Center (County 2011). A chicken ranch is located along North Lake Wohlford Road near the proposed pipeline alignment, as well as other agricultural properties.

The California Department of Forestry and Fire Protection's (Cal Fire) Fire and Resource Assessment Program assesses the amount and extent of California's forests and rangelands, analyzes their conditions, and identifies alternative management and policy guidelines. According to the Management Landscape map for California (Cal Fire 2010), the project area is designated as urban, sparsely populated, and residential, and does not contain any forest land or timberland.

4.2.1.2 Farmland Classifications

The California Department of Conservation (CDOC) administers the Farmland Mapping and Monitoring Program (FMMP). The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources. The goal of the FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is categorized as Prime Farmland. According to the San Diego County Important Farmland 2008 map (CDOC 2010), the majority of the project area is designated as Other Land not suitable for agriculture, although some areas designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance are also located within the project area (Figure 4.2-1).

4.2.1.3 Site-Specific Agricultural Resources

As mentioned in Section 4.2.1.2 above, only a small portion of land in the project area is suitable for agricultural activities. The study area for biological resources included a 100-foot buffer of all the proposed project components (pipeline, desilting basin, access/service roads, and existing canal). There are 54.88 acres of vegetation within the biological resources study area. Of the 54.88 acres, 1.25 acres are currently considered agricultural lands.

Soil type is an important factor in determining the quality of agricultural lands. Eight soil units as mapped by the U.S. Department of Agriculture (USDA) occur within the project area and are described below (USDA 2013).

Cieneba very rocky coarse sandy loam, 30 to 75 percent slopes

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 4 to 20 inches. The natural drainage class is somewhat excessively drained and water movement in the most restrictive layer is high. Available water storage is very low (0.8 inch) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

Fallbrook sandy loam, 5 to 9 percent slopes, eroded

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 4 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is very high (13.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

Fallbrook sandy loam, 9 to 15 percent slopes, eroded

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 4 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is very high (13.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

Fallbrook-Vista sandy loams, 9 to 15 percent slopes

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 40 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is high (11.1 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

Fallbrook-Vista sandy loams, 15 to 30 percent slopes

This soil type is found on hillsides and has a parent material of Residuum weathered from granite and granodiorite. Depth to restrictive layer is 40 to 60 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high. Available water storage is very high (13.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

Placentia sandy loam, 2 to 9 percent slopes

This soil type is found on hillsides and has a parent material of alluvium derived from granodiorite. Depth to restrictive layer is more than 80 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately low to moderately high (0.06 to 0.60 inch per hour (in/hr)). Available water storage is high (9.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

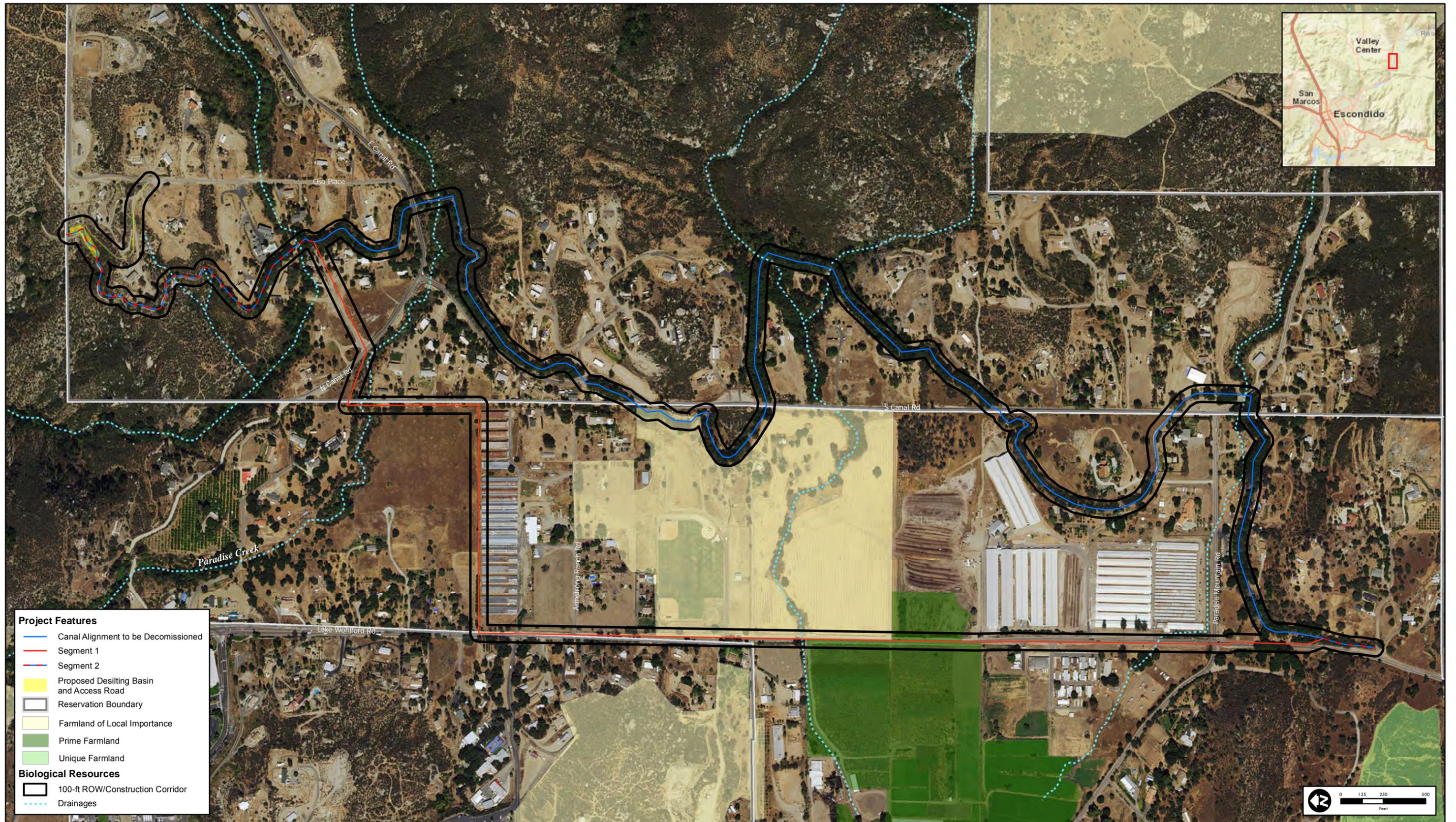


Figure 4.2-1
Agricultural Land Near the Project Area

100049195 2016 San Pasqual Undergrounding Project

Sources: Esri, Atkins

8/1/2016 bel7036 \SUSDDA1101\data\Clients\Escondido\100049195 VID SPUP ENV EA MND\GIS\data\Figure4.2-1_AgriculturalLandNearTheProposedActionArea.mxd

This page intentionally left blank.

Ramona sandy loam, 9 to 15 percent slopes, eroded

This soil type is found on alluvial fans at the base of or toe of slope, and has a parent material of alluvium derived from granite. Depth to restrictive layer is more than 80 inches. The natural drainage class is well drained and water movement in the most restrictive layer is moderately high (0.20 to 0.57 in/hr). Available water storage is very high (16.2 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

Visalia sandy loam, 2 to 5 percent slopes

This soil type is found on alluvial fans at the base of or toe of slope, and has a parent material of alluvium derived from granite. Depth to restrictive layer is more than 80 inches. The natural drainage class is well drained and water movement in the most restrictive layer is high (1.98 to 5.95 in/hr). Available water storage is high (11.9 inches) and depth to water table is more than 80 inches. This soil is never flooded, or ponded, and does not meet hydric criteria (USDA 2013).

4.2.2 Regulatory Setting

4.2.2.1 Federal

Farmland Protection Policy Act

The USDA administers the Farmland Protection Policy Act of 1981. The Act is intended to minimize the extent to which federal programs contribute to the unnecessary conversion of farmland to non-agricultural uses. The act also requires these programs to be compatible with state, local, and private efforts to protect farmland.

4.2.2.2 State

California Civil Code Section 3482.5 (The Right to Farm Act)

The Right to Farm Act is designed to protect commercial agricultural operations from nuisance complaints that may arise when an agricultural operation is conducting business in a “manner consistent with proper and accepted customs.” The code specifies that established operations that have been in business for three or more years that were not nuisances at the time they began shall not be considered a nuisance as a result of a new land use.

California Land Conservation Act (Williamson Act)

The Williamson Act of 1965 was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program requires a 10-year contract between the County and the land owner. While in contract, the land is taxed on the basis of its agricultural use rather than its market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement. The goal of the Williamson Act is to protect agriculture and open space.

California Farmland Conservancy Program

Implemented by the CDOC, the California Farmland Conservancy Program (CFCP) is a voluntary program that seeks to encourage the long-term, private stewardship of agricultural lands through the use of agricultural conservation easements. The CFCP, formerly known as the Agricultural Land Stewardship

Program, was created in 1996, and provides grant funding for projects that use and support agricultural conservation easements for the protection of agricultural lands.

Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 established procedures for local government changes of organization, including city incorporates, annexations to a city or special district, and city and special district consolidations. This act requires that development or use of land for other than open-space shall be guided away from existing prime agricultural lands in open-space use toward areas containing non-prime agricultural lands, unless that action would not promote that planned, orderly, efficient development of an area.

Open Space Subvention Act

The Open Space Subvention Act (OSSA) was enacted on January 1, 1972, to provide for the partial replacement of local property tax revenue foregone as a result of participation in the Williamson Act and other enforceable open space restriction programs (Government Code Section 16140 et seq.). Participating local governments receive annual payment on the basis of the quantity (number of acres), quality (soil type and agricultural productivity), and, for Farmland Security Zone contracts, location (proximity to a city) of land enrolled under eligible enforceable open space restrictions. A Farmland Security Zone is an area created within an Agricultural Preserve by a board of supervisors upon request by a landowner or group of landowners.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP), established in 1982, produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status, with the best quality land called Prime Farmland. Maps are updated every two years, with current land use information gathered from aerial photographs, a computer mapping system, public review, and field reconnaissance. The minimum mapping unit is 10 acres. The CDOC Prime Farmlands, Farmlands of Statewide Importance, and Unique Farmlands are referenced in the CEQA Guidelines, Appendix G, as resources to consider in an evaluation of agricultural impacts.

Farm and Ranch Lands Protection Program

The Farm and Ranch Lands Protection Program (FRPP) is a voluntary program that helps farmers and ranchers keep their land in agriculture. The program provides matching funds to state, tribal or local governments and non-governmental organizations with existing farm and ranch land protection programs to purchase conservation easements. FRPP is reauthorized in the Farm Security and Rural Investment Act of 2002. The USDA Natural Resources Conservation Service (USDA 2008) manages the program.

California Land Evaluation Site Assessment Model

The USDA NRCS developed Land Evaluation Site Assessment Model (LESA) to assist state and local officials to make sound decisions about land use. Combined with forest measures and rangeland parameters, LESA can provide a technical framework to numerically rank land parcels through local resource evaluation. In determining whether impacts to agricultural resources are significant environmental impacts, the CEQA Guidelines reference the California Agricultural LESA Model prepared by the DOC, as an optional methodology that may be used to assess the relative value of agriculture and farmland. The California Agricultural LESA Model evaluates soil resource quality, project size, water

resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, the factors are rated, weighted, and combined, resulting in a single numeric score. The project score then becomes the basis for making a determination of a project's potential significance. The DOC encourages local agencies to develop local agricultural models to account for the variability of local agricultural resources and conditions. An alternative approach, referred to as the Local Agricultural Resource Assessment (LARA) model, has been developed to assess the relative value of agricultural resources in San Diego County.

4.2.3 Thresholds of Significance

Thresholds used to evaluate potential agriculture and forestry resources impacts are based on applicable criteria in the State CEQA Guidelines (CCR Sections 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant agriculture and forestry resources impact would occur if the proposed project would:

1. 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;
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract; or
3. 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.

The Initial Study Checklist, provided in Appendix A, found that the proposed project would not (1) conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)) and would not (2) result in the loss of forest land to non-forest use.

4.2.4 Impact Analysis

4.2.4.1 Issues 1 and 2 – Convert Farmland to Non-agricultural Use; Conflict with Existing Zoning for Agricultural Use

Would the proposed project 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?

Would the proposed project conflict with existing zoning for agricultural use, or a Williamson Act contract?

Impacts

Of the 54.88 acres of vegetation occurring within the biological study area for the proposed project, 1.25 acres are currently considered agricultural lands (Figure 4.2-1). The proposed pipeline alignment would be located on the edges of areas classified as Farmland of Local Importance and Prime Farmland. Construction activities would occur near, but not within, a small area classified as Unique Farmland. A small area of farmland would be converted to non-agricultural use along the proposed pipeline alignment. The parcels of land that are currently classified as Farmland of Local Importance and Prime

Farmland within the project area are each approximately 40 acres in size, and less than 2 percent of each of these acres would be converted to non-agricultural lands upon construction of the proposed project. Thus, because the affected areas of farmland are less than 2 percent of the total acreage for each of these two parcels, there would be less than significant impacts to farmland due to proposed project activities.

Construction of the proposed project would not conflict with any existing Williamson Act Contracts but would conflict with local zoning for agricultural use. However, of the 54.88 acres of vegetation occurring within the biological study area for the proposed project, only a small percentage (less than 2 percent of each of the parcels or approximately 1.25 acres) would be converted to non-agricultural use. Therefore, the impact to local zoning for agricultural uses would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.2.4.2 Issue 3 – Existing Environment Result in Conversion

Would the proposed project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use or conversion of forest land to non-forest use?

Impacts

No other changes to the existing environment are expected to occur from construction of the proposed project that would result in the conversion of farmland to non-agricultural use; therefore, no impacts are anticipated.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.3 Air Quality

This section evaluates the potential impacts of the proposed project on air quality within the San Diego Air Basin (SDAB). The evaluation includes an assessment of the direct, indirect, construction-related, and long-term impacts of the proposed project. The information provided in this section is based in part on the Air Quality and Greenhouse Gas Emissions Technical Memorandum prepared by Atkins (2016), which is included as Appendix B to this EA-IS/MND.

4.3.1 Environmental Setting

4.3.1.1 Local Climate Conditions

The proposed project is located within the SDAB, which is comprised of the entirety in San Diego County, and is characterized by warm, dry summers and mild winters. Much of the year, the climate results from combined impacts of sea breeze, distance from the sea, and topographic relief that influences landward movement of marine air from the Pacific Ocean. The composite effect of the diverse topography is a climate in the project area that varies between the moderate coastal climate, with generally stable temperatures, and the inland climate subject to greater temperature fluctuations. The mean annual air temperature in Escondido is approximately 62 degrees Fahrenheit (°F) with a mean minimum of about 37°F in January and mean maximum of about 88°F in August. Changes in topography often cause changes in temperature over short distances. Interior valleys at low elevations regularly experience maximum temperatures of more than 100°F. Rainfall is concentrated in the six-month period from November to April with infrequent precipitation during the summer. Mean annual precipitation ranges from 14.5 inches per year at Lake Wohlford to 27.1 inches per year at Lake Henshaw. Precipitation generally increases with rising elevation and is greatest on the western sides of the mountain ranges. Snowfall is infrequent, light, and does not persist.

4.3.1.2 Existing Air Quality

Criteria Air Pollutants

Presented below is a description of each of the criteria air pollutants and their known health effects. This section only provides descriptions for criteria air pollutants with the potential to be emitted by the proposed project.

Carbon Monoxide is an odorless, colorless, and toxic gas. Exposure can result in headaches, dizziness, disorientation, nausea, fatigue, or death. The major sources of carbon monoxide in the SDAB are on-road vehicles, aircraft, and off-road vehicles and equipment.

Sulfur Dioxide is a colorless, pungent gas. Long-term exposure to high levels of sulfur dioxide can cause irritation of existing cardiovascular disease, respiratory illness, and changes in the defenses of the lungs. When people with asthma are exposed to high levels of sulfur dioxide for short periods of time during moderate activity, effects may include wheezing, chest tightness, or shortness of breath.

Particulate Matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Course particulate matter (PM₁₀) includes that portion of the particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter (PM_{2.5}) has an aerodynamic diameter of 2.5 microns or less. Particulate discharge into the atmosphere results primarily from

industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Nitrogen Oxides is a general term pertaining to compounds, including nitric oxide, nitrogen dioxide, and other oxides of nitrogen. Nitrogen oxides are produced from burning fuels, including gasoline, diesel, and coal. Nitrogen oxides react with VOCs to form smog. Nitrogen oxides are also major components of acid rain. Nitrogen oxides acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Ozone is formed when ozone precursor pollutants, such as VOCs and nitrogen oxides react with sunlight. Along with ozone, VOC emissions are also transformed into organic aerosols in the atmosphere, which contribute to higher PM₁₀ levels and lower visibility. Higher concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, kidneys, and central nervous system (CEPA 2016).

Lead is also a criteria pollutant. However, the proposed project does not include any components that would result in emissions of lead, such as industrial processes; therefore, lead is not discussed further in this analysis.

The closest ambient air quality monitoring station to the proposed project is the Escondido monitoring station, which measures ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), fine particulate matter (PM_{2.5}), and respirable particulate matter (PM₁₀). The nearest monitoring station that measures sulfur dioxide (SO₂) is the Otay Mesa monitoring station along the southern edge of the county. Because the proposed project is located in an undeveloped area of the County, while the Escondido and Otay Mesa stations are located in more urban areas, background data from these monitoring stations is likely to provide a conservative estimate of background concentrations of pollutants. Ambient concentrations of criteria pollutants measured at these monitoring stations during the period from 2013 to 2015 (the most recent three year period that data is available) are presented in Table 4.3-1.

Table 4.3-1 Ambient Background Concentrations

Pollutant ⁽¹⁾	Monitoring Station	2013	2014	2015
Nitrogen Dioxide (NO₂)				
Peak 1-hour concentration (ppm)	Escondido	61	63	48
Days above state 1-hour standard (0.18 ppm)		0	0	0
Ozone (O₃)				
Maximum 1-hour concentration (ppm)	Escondido	0.084	0.099	0.079
Days above 1-hour state standard (>0.09 ppm)		0	1	0
Maximum 8-hour concentration (ppm)		0.075	0.080	0.071
Days above 8-hour state or federal standard (>0.070 ppm)		4	8	3
Respirable Particulate Matter (PM₁₀)				
Peak 24-hour concentration (µg/m ³)	Escondido	80.0	43.0	30.0
Days above state standard (>50 µg/m ³)		1	0	0
Days above federal standard (>150 µg/m ³)		0	0	0
Fine Particulate Matter (PM_{2.5})				
Peak 24-hour concentration (µg/m ³)	Escondido	56.3	77.5	29.4
Days above federal standard (>35 µg/m ³)		1	1	0

⁽¹⁾ Source for standards: CARB 2016a

PPM = parts per million, µg/m³ = micrograms per cubic meter

Source: CARB 2016b

4.3.2 Regulatory Setting

4.3.2.1 Federal

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish National Ambient Air Quality Standards (NAAQS) with states retaining the option to adopt more stringent standards or to include other specific pollutants. The USEPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans (SIPs), and provides research and guidance for air pollution programs. There NAAQS are the following, also known as “criteria pollutants,” which were identified from provisions of the Clean Air Act of 1970: ozone, particulate matter (PM₁₀ and PM_{2.5}), nitrogen dioxide, carbon monoxide, lead, and sulfur dioxide.

General Conformity

The General Conformity Rule of the Federal CAA (42 USC 7401) implements Section 176(c) of the CAA, and establishes minimum thresholds for ozone, carbon monoxide, and other regulated pollutants for nonattainment and maintenance areas. The precursors of ozone include reactive organic gases that are also known as volatile organic compounds (VOCs) and nitrogen oxides (NOx). The regulations apply to a proposed federal action that would cause emissions of criteria air pollutants or ozone precursors above a de minimis level to occur in locations designated as nonattainment or maintenance areas for the emitted pollutants. The purpose of the General Conformity Rule is to:

- Ensure that federal activities do not cause or contribute to new violations of the national ambient air quality standards;
- Ensure that actions do not cause additional or worsen existing violation of, or contribute to new violations of, the national ambient air quality standards; and
- Ensure that attainment of the national ambient air quality standards is not delayed.

A federal agency must make a determination that a federal action conforms to the applicable implementation plan before the action is taken. A conformity determination is required for each pollutant where a total of direct emissions (such as generator emissions) and indirect emissions (such as mobile vehicle emissions) in a nonattainment or maintenance area caused by a federal action is greater than the de minimis thresholds. The SDAB is in nonattainment or maintenance for ozone and carbon monoxide. As such, the proposed action is subject to the General Conformity Rule.

4.3.2.2 State

The California Air Resources Board (CARB) regulates air quality throughout the state, excluding Tribal trust lands. CARB administers the California Ambient Air Quality Standards (CAAQS). The CAAQS are for the ten air pollutants designated in the California Clean Air Act. The ten state air pollutants are the six criteria pollutants listed above as well visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. A comparison of the local ambient air concentrations to the CAAQS and NAAQS is provided in Table 4.3-1.

The data indicate that the area is in compliance with both CAAQS and NAAQS for carbon monoxide, NO₂, and SO₂. Exceedances of the ozone standards and PM_{2.5} standards have been recorded at the Escondido monitoring station in 2009, 2010, and 2011, and the PM₁₀ standard in 2009. Areas that meet the ambient air quality standards are classified as “attainment” areas while areas that do not meet these standards are classified as “non-attainment” areas. The SDAB is currently designated as a nonattainment

area for the state standards for PM₁₀, PM_{2.5}, 1-Hour and 8-Hour ozone, and the Federal 8-Hour Standard for ozone as shown in Table 4.3-2.

Table 4.3-2 San Diego Air Basin Attainment Status		
Pollutant	State Status	Federal Status
Carbon Monoxide (CO)	Attainment	Maintenance (Moderate)
Nitrogen Dioxide (NO ₂)	Attainment	Attainment/Unclassified
Ozone (O ₃) (1-hour)	Non-attainment	No Federal standard
Ozone (O ₃) (8-hour)	Non-attainment	Non-attainment (Marginal)
Lead (Pb)	Attainment	Attainment/Unclassified
Sulfur Dioxide (SO ₂)	Attainment	Attainment/Unclassified
Respirable Particulate Matter (PM ₁₀)	Non-attainment	Attainment/Unclassified
Fine Particulate Matter (PM _{2.5})	Non-attainment	Attainment/Unclassified
Nitrogen Dioxide (NO ₂)	Attainment	Attainment/Unclassified
Ozone (O ₃) (1-hour)	Attainment	Attainment/Unclassified

Sources: SDAPCD 2009, CARB 2013

4.3.2.3 Regional and Local

Local air districts have the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. In San Diego County, the San Diego Air Pollution Control District (SDAPCD) is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies.

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing the air quality plans for attainment and maintenance of the ambient air quality standards in the SDAB. Both the SIP and San Diego County Regional Air Quality Strategy (RAQS) outline the plans and control measures designed to attain the NAAQS for O₃.

Mobile-Source Emissions

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the county, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile-source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the general plans of the cities and county. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plans and SANDAG's growth projections, then the project may be in conflict with the RAQS and SIP, and have a potentially significant impact on air quality.

Objectionable Odors

Section 6318 of the San Diego County Zoning Ordinance requires all commercial and industrial uses "be operated as not to emit matter causing unpleasant odors which is perceptible by the average person at or beyond any lot line of the lot containing said uses." Section 6318 further provides specific dilution

standards that must be met “at or beyond any lot line of the lot containing the uses.” SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact, if it would affect a considerable number of off-site receptors.

Dust Control

In accordance with Section 87.428 of the San Diego County Grading Ordinance, all clearing, grading and construction activities must consider any of the following dust control measures to prevent dust nuisance to persons or to public or private property: watering, application of surfactants, shrouding (i.e., wrapping with a barrier), control of vehicle speeds, temporary paving of access areas, or other operational or technological measures to reduce dispersion of dust.

4.3.3 Thresholds of Significance

Thresholds used to evaluate potential air quality impacts are based on applicable criteria in the State CEQA Guidelines (CCR 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant air quality impact would occur if the proposed project would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standards or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment for under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

4.3.4 Impact Analysis

4.3.4.1 Issue 1 – Conflict with Implementation of the Applicable Air Quality Plan

Would the proposed project conflict with or obstruct implementation of the applicable Air Quality Plan?

Impacts

The most current air quality planning document for the SDAPCD and thus the applicable air quality plan to the proposed project is the 2009 RAQS (SDAPCD 2009). This plan was prepared by the SDAPCD for the CARB as part of the SIP, to demonstrate how the SDAB would either maintain or strive to attain the NAAQS. The California SIP would also apply to the proposed project. California SIP documents are prepared by CARB to demonstrate how the entire state of California will maintain or attain the NAAQS.

Consistency with the RAQS is determined by two standards. The first standard is whether the proposed project would exceed assumptions contained in the RAQS. The second standard is whether the proposed project would increase the frequency or severity of violations of existing air quality standards,

contribute to new violations, or delay the timely attainment of air quality standards or interim reductions as specified in the RAQS.

The CARB relies on information from SANDAG, including projected growth, mobile, and all other area source emissions, in order to predict future emissions and develop appropriate strategies for the reduction of emissions through regulatory controls. The CARB mobile source emissions projections and the SANDAG growth projections are based on population, vehicle use trends, and land use plans developed by the cities and the county. As such, projects that propose development consistent with the growth anticipated by SANDAG would be consistent with the RAQS and the SIP.

The proposed project includes construction of a proposed underground pipeline and support facilities and the decommissioning of a portion of the Escondido Canal. Neither direct nor indirect growth (population or jobs) is anticipated as a result of implementation of the proposed project. Therefore, the proposed project would not exceed the assumptions contained in the RAQS or SIP. Additionally, as described further in the Section 4.3.4.2 and Section 4.3.4.3, construction and operation of the proposed project would not result in a substantial increase in criteria pollutant emissions. Therefore, the proposed project would not conflict with or obstruct implementation of the RAQS or the SIP. Direct and indirect short-term and long-term impacts would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.3.4.2 Issue 2 – Violate Air Quality Standards

Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Impacts

The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related projects. However, the SDAPCD does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (SDAPCD 1998). If these incremental levels are exceeded, an AQIA must be performed. Although these trigger levels do not generally apply to general land development projects, for comparative purposes, these levels may be used to evaluate the increased emissions from such projects. For CEQA purposes, the screening level thresholds can be used to demonstrate that a project's total emissions would not result in a significant impact to regional air quality. Because the AQIA screening thresholds do not include VOC or PM_{2.5}, the screening level for VOC and PM_{2.5} used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than SDAPCD. These thresholds, listed in Table 4.3-3, are used in this analysis to determine whether the proposed project has the potential to violate regional air quality standards or result in a cumulatively considerable increase of criteria pollutants for which the proposed project area is designated nonattainment. The thresholds are applicable to both construction and operational emissions unless otherwise noted.

Table 4.3-3 Air Pollutant Thresholds

Pollutant	Pounds Per Hour	Pounds Per Day	Tons Per Year
Carbon monoxide (CO)	100	550	100
Nitrogen Oxides (NO _x)	25	250	40
Respirable Particulate Matter (PM ₁₀)	--	100	15
Fine Particulate Matter (PM _{2.5})	--	55 ⁽¹⁾	10.0 ⁽²⁾
Oxides of Sulfur (SO _x)	25	250	40
Lead (Pb)	--	3.2	0.6
Volatile Organic Compounds (VOC)	--	75 ^(1,3)	13.7 ⁽⁴⁾

⁽¹⁾ Based on threshold from SCAQMD.

⁽²⁾ Converted from PM_{2.5} Pounds per Day threshold

⁽³⁾ There are separate thresholds for construction and operation: 75 lbs/day for Construction and 55 lbs/day for Operation

⁽⁴⁾ Converted from VOC Pounds per Day threshold: 13.7 lbs/day for Construction and 10.0 lbs/day for Operation

Sources: SDAPCD 1998, SCAQMD 2015

Construction Impacts

Construction activities from the proposed project would result in temporary increases in air pollutant emissions. These emissions would be generated primarily from construction equipment exhaust, earth disturbance, construction worker vehicle trips, and heavy duty truck trips. Air pollutant emissions were estimated using the construction data provided in the San Pasqual Undergrounding Feasibility Project (B&V 2016), the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Model (Version 7.1.5.1), and the emission factors included in the CalEEMod model (Version 2013.2.2) (SCAQMD 2013), which take into account the hours of operation, load factor, and the emission factors for each piece of equipment. The emissions modeling is based on construction equipment parameters and schedule information that was available at the time of analysis; it is understood that the parameters utilized in the emissions analysis is substantially representative what would occur with project implementation. Construction emissions can vary from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. In addition, construction equipment lists and estimated use is also refined as a project nears the start of construction. As shown in the following analysis, all emissions output is substantially lower than applicable thresholds. Therefore, normal and minor variances in equipment type and use would not change the findings of this air quality assessment.

The criteria air pollutant emissions from construction of the proposed project are summarized in Table 4.3-4. As shown in Table 4.3-4, construction emissions would not exceed the significance thresholds during any individual construction phase. All construction emissions are below the recommended federal and regional significance thresholds. Therefore, the proposed project would not result in a significant regional air quality impacts during the construction phases.

Operation Impacts

Once constructed, the proposed project would not include any new stationary sources of criteria pollutants. However, the proposed project would generate new vehicular trips to, from, and along access roads to facilitate maintenance. New vehicular trips would emit criteria pollutants; however, these trips would be few and infrequent, resulting in minimal emissions. As such, operational emissions would be below the significance thresholds as well as the applicable General Conformity de minimis thresholds.

Table 4.3-4 Estimated Construction Maximum Air Pollutant Emissions

Construction Activity	Maximum Daily Emissions (pounds/day)					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Access Road	8.0	84.0	44.0	-	6.6	4.2
Pipeline	2.3	24.0	19.4	0.0	4.2	2.7
Desilting Basin	2.2	23.3	18.6	0.0	4.1	2.7
Total Maximum Daily Emission	12.5	131.3	82.0	0.0	14.9	9.6
SDAPCD Threshold	75	250	550	250	100	55
Impact?	No	No	No	No	No	No

Source: SCAQMD 2013. See Appendix B for model output.

Construction and operation emissions would be below the thresholds of significance; therefore, the proposed project would result in less than significant impacts to air quality.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.3.4.3 Issue 3 – Result in a Cumulatively Considerable Net Increase of Criteria Pollutants

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

Impacts

The geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. San Diego County is presently designated as being a nonattainment area for the federal ozone standard; specifically, the county is classified as a marginal nonattainment area for the federal 2008 8-hr ozone standard. The county is also a nonattainment area for the CAAQS for ozone, PM₁₀, and PM_{2.5}. Consequently, the pollutants of concern are PM₁₀, PM_{2.5}, and ozone precursors (VOC and NO_x). If a proposed project exceeds the regional thresholds for PM₁₀, or PM_{2.5}, then it would contribute to a cumulatively considerable impact for those pollutants. If a project exceeds the regional threshold for VOC and NO_x, then it follows that the project would contribute to a cumulatively considerable impact for ozone.

The General Conformity Rule specifies de minimis thresholds, which are based on the severity of an area's nonattainment with the NAAQS. If a project is less than the de minimis thresholds, additional analysis is not required. The SDAB is in marginal nonattainment for ozone and moderate maintenance for carbon monoxide. As such, the proposed project is subject to the General Conformity Rule and the applicable de minimis thresholds for carbon monoxide, VOC, and NO_x are provided in Table 4.3-5.

Table 4.3-5 Applicable De Minimis Thresholds

Criteria Pollutant	Tons Per Year
Ozone (NO_x)	
Marginal and moderate nonattainment inside an ozone transport region	100
Ozone (VOC)	
Marginal and moderate nonattainment inside an ozone transport region	50
Carbon Monoxide (CO)	
All nonattainment & maintenance	100

Source: 40 CFR Ch. I (7-1-05 Edition) § 93.15

Construction Impacts

As shown in Table 4.3-4, the proposed project’s construction-generated emissions would not exceed the applicable SDAPCD’s regional thresholds of significance. As shown in the prior section, the proposed project’s operational emissions would also not exceed the SDAPCD’s regional thresholds of significance. Therefore, construction and operation of the proposed project would not result in a significant cumulative criteria pollutant impact.

As detailed in Table 4.3-6, the proposed project would generate less than the de minimis threshold for general conformity. Therefore, additional analysis is not required. For the purposes of this analysis, all emissions were assumed to occur within the 2017 calendar year.

Table 4.3-6 Applicable De Minimis Thresholds

Construction Activity	Annual Emissions (tons)		
	VOC	NO _x	CO
Access Road	0.1	1.0	0.6
Pipeline	0.2	2.3	1.9
Desilting Basin	0.2	2.3	1.8
Total Annual Emissions	0.5	5.6	4.6
De Minimis Threshold	50	100	100
Exceed Threshold?	No	No	No

Source: SDAQMD 2013. See Appendix B for model output.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.3.4.4 Issue 4 – Expose Sensitive Receptors

Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

Impacts

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or

convalescent facilities. Commercial and industrial facilities are not included in the definition because employees do not typically remain on site for 24 hours. However, when assessing the impact of pollutants with 1-hour or 8-hour standards (such as nitrogen dioxide and carbon monoxide), commercial and/or industrial facilities would be considered sensitive receptors for those purposes.

Sensitive receptors near the proposed project include residences, the closest approximately 32 feet from the proposed pipeline alignment.

The two primary air pollutants of concern regarding health effects to sensitive receptors for land development projects are carbon monoxide and diesel-fired particulates (i.e., particulate matter generated by diesel engine combustion). Carbon monoxide emissions are primarily associated with mobile sources (i.e., vehicles). Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create carbon monoxide “hotspots” or pockets where the carbon monoxide concentration exceeds the NAAQS and/or CAAQS. Carbon monoxide hotspots typically only occur at signalized intersections that operate at or below LOS E with peak-hour traffic exceeding 3,000 trips (County 2007). Vehicular traffic associated with the construction and operational phases of the proposed project would be minimal and would not result in localized elevations in carbon monoxide. Since carbon monoxide hotspots would not occur, the proposed project would not expose sensitive receptors to substantial concentrations of carbon monoxide.

Diesel-fired particulates are the primary toxic air contaminant of concern for typical land development projects that do not propose stationary sources of emissions regulated by the SDAPCD (SDAPCD 2009). Emissions of diesel particulate matter associated with the proposed project would result primarily from diesel equipment operating during construction; however, particulate matter (PM₁₀ and PM_{2.5}) emissions would not exceed the significance thresholds during construction. In addition, PM₁₀ concentrations decrease approximately 95 percent by 1,200 feet and PM_{2.5} concentration decreases approximately 95 percent by 1,300 feet. Since particulate matter emissions would be below the significance thresholds and would further disperse or settle out as distance from the project site increases, the proposed project would not expose sensitive receptors to substantial concentrations of diesel particulate matter.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.3.4.5 Issue 5 – Create Objectionable Odors

Would the proposed project create objectionable odors affecting a substantial number of people?

Impacts

As mentioned above, Section 6318 of the San Diego County Zoning Ordinance requires all commercial and industrial uses “be operated as not to emit matter causing unpleasant odors which is perceptible by the average person at or beyond any lot line of the lot containing said uses.” Section 6318 further provides specific dilution standards that must be met “at or beyond any lot line of the lot containing the uses.” SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact, if it would affect a considerable number of off-site receptors.

Odors can cause a variety of responses. The impact of an odor results from interacting factors such as frequency (how often), intensity (strength), duration (in time), offensiveness (unpleasantness), location, and sensory perception.

Odor is typically a warning system that prevents animals and humans from consuming spoiled food or toxic materials. Odor-related symptoms reported in a number of studies include nervousness, headache, sleeplessness, fatigue, dizziness, nausea, loss of appetite, stomach ache, sinus congestion, eye irritation, nose irritation, runny nose, sore throat, cough, and asthma exacerbation.

According to the Air Quality and Land Use Handbook (CARB 2005), the most common sources of odor complaints received by local air districts include the following land uses: sewage treatment plants, landfills, recycling facilities, waste transfer stations, petroleum refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations. The proposed project would not include any of the odor generating land uses identified by the CARB's Handbook. However, construction of the proposed project could temporarily create minor amounts of odors associated with diesel equipment exhaust. Diesel equipment would not be operated continuously throughout the day and exhaust odors would dissipate rapidly. Thus, potential receptors would be limited to pedestrians passing by and residents adjacent to the active construction site, and their exposure to exhaust odors would be short-term. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

This page intentionally left blank.

4.4 Biological Resources

4.4.1 Environmental Setting

Biological resources in the project area have been described in detail in the following reports: General Biology Report, Wetland Report, Rare Plant Report, Coastal California Gnatcatcher (CAGN) Report, and Least Bell's Vireo (LBVI) Report. These reports are included as Appendices C through G in this EA-IS/MND. For the purposes of the EA-IS/MND, a summary of the information on biological resources will be provided in each section below, and the biological reports will be referenced for further information.

The project area, excluding the San Pasqual Reservation, lies within the boundaries of the Draft North County MSCP Plan (County 2009); however, the North County MSCP Plan has not been finalized and adopted. A California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) records search was conducted for the study area to provide a general list of species-status species and sensitive natural communities that are present in the project area. The study area consists of the proposed pipeline alignment, two desilting basins and access roads, the existing Escondido Canal within the San Pasqual Reservation, and a 50 foot buffer on each side of the project components or a 100-foot construction corridor (collectively referred to as the survey area). Based on the CNDDDB records search results (CDFW 2016) and field observations, 37 special status plants, 36 special status wildlife, and seven sensitive vegetation communities have been reported in the survey area. This list is representative of what has specifically been reported to the CNDDDB and/or observed by Atkins biologists, and does not necessarily include all special status species and sensitive natural communities that may actually occur. The CNDDDB records search results are provided in Section 4.4.1.4 and Appendices C and E (General Biology Report and Rare Plant Report), respectively.

4.4.1.1 Summary of Surveys Conducted

Examination of the study area for the purposes of determining the current environmental setting included review of literature documenting previous environmental conditions, aerial imagery, maps, databases, and other relevant resources, and directed field surveys. Field surveys were conducted in the study area by an Atkins qualified biologist from February to July, 2016. The tentative locations of the proposed project components were identified in the feasibility studies prepared for the proposed project; however, the locations/alignments may be revised prior to final design and thus may require additional surveys at that time if outside the surveyed 100-foot construction corridor.

The surveys included a general inventory of existing conditions and focused surveys. Focused surveys included the following: vegetation community mapping, a wetland delineation, CAGN protocol surveys, LBVI protocol surveys, and rare plant surveys.

4.4.1.2 Flora and Fauna

This study area location corresponds to the South Coast Subregion of the California Floristic Province (Baldwin et al 2012). Flora in and around the study area are found within a variety of woodland habitat types, riparian habitat, shrublands and chaparral. Vegetation communities, including sensitive areas and species, are described in the following sections and in Appendices D and E.

Fauna in the study area generally includes numerous species of small mammals, birds, very few amphibians, and several reptiles. During general biological surveys conducted in 2016, one amphibian,

four reptiles, 54 birds, and six mammal species were observed or otherwise detected by call or sign in the survey area (Table 2 of Appendix C).

Additional information on wildlife observed during surveys is included in the general biology, CAGN, and LBVI reports (Appendices C, F, and G) and in the Sensitive Resources section below. Information on the potential occurrence of sensitive wildlife and vegetation is included in all of the biological technical reports (Appendices B through G).

4.4.1.3 Vegetation Communities

The study area consists of the following seven sensitive vegetation communities: coast live oak woodland, Engelmann oak woodland, eucalyptus woodland, southern willow scrub, coastal sage scrub (Diegan), southern mixed chaparral, and non-native grassland. The study area also includes the following four disturbed/developed areas: agricultural, ornamental, disturbed, and developed (Oberbauer et al. 2008). Vegetation mapping within the study area, descriptions of the vegetation communities, and a full plant list are included in the Rare Plant Report (Appendix E). Acreages of vegetation are included in Table 4.4-1.

Table 4.4-1 Vegetation Acreages within the Study Area					
Vegetation Communities	Acreage				Total Study Area
	100-foot wide Pipeline Construction Corridor	Desilting A	Desilting B	Canal	
Woodlands					
Coast Live Oak Woodland	2.66	-	-	17.74	20.40
Engelmann Oak Woodland	0.27	-	-	-	0.27
Eucalyptus Woodland	0.41	-	-	0.33	0.74
Subtotal	3.34	0	0	18.07	21.41
Riparian					
Southern Willow Scrub	0.22	-	-	0.16	0.38
Shrublands					
Coastal Sage Scrub (Diegan)	0.23	0.40	-	0.40	1.03
Southern Mixed Chaparral	3.31	0.69	2.80	0.87	7.67
Subtotal	3.54	1.09	2.80	1.27	8.70
Grasslands					
Non-native Grassland	2.73	-	-	1.90	4.63
Disturbed/Developed					
Agriculture	1.25	-	-	-	1.25
Ornamental	1.18	-	-	-	1.18
Disturbed	4.67	0.34	-	1.60	6.61
Developed	7.71	0.62	0.34	2.05	10.72
Subtotal	14.81	0.96	0.34	3.65	19.76
Total	24.65	2.05	3.13	25.05	54.88

4.4.1.4 Sensitive Resources

Sensitive biological resources generally include the following: (1) vegetation communities or habitat types that are unique, of relatively limited distribution, or of particular value to wildlife; and (2) species and other resources that have been given special recognition by federal or state agencies, and/or are included in the Draft North County MSCP due to limited, declining, or threatened populations or extent of occurrence. Undeveloped portions of the study area may provide suitable or occupied habitat for the special status plant and wildlife species listed in Table 4.4-2 and Table 4.4-3. All of the vegetation

communities identified within the study area are considered sensitive habitats except for agricultural, ornamental, disturbed, and developed land.

Sensitive vegetation communities and species are described in the Rare Plant Report (Appendix E). Sensitive animal species are described in the General Biology Report (Appendix C).

Thirteen small surface water features totaling 0.05 acre were mapped within the study area. These surface water features would likely fall under the regulatory jurisdiction of the USACE, RWQCB, and/or CDFW.

Table 4.4-2 Special Status Plant Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State CRPR County List	General Habitat Description	Occurrence
Blochman's dudleya <i>Dudleya blochmaniae</i> ssp. <i>Blochmaniae</i>	CRPR: 1B.1 List A	Rocky, often clay or serpentinite habitat. Coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland. Elevation 16 – 1,476 feet. Perennial herb, blooms April–June.	Low Potential
Brewer's calandrinia <i>Calandrinia breweri</i>	CRPR: 4.2 List D	Chaparral, coastal scrub, sandy or loamy, disturbed sites and burns. Elevation 33 - 4,003 feet. Annual herb, blooms January-June.	Low Potential
California adolphia <i>Adolphia californica</i>	CRPR: 2B.1 List B	Clay soils, chaparral, coastal scrub, and valley and foothill grassland. Elevation 148 – 2,428 feet. Perennial deciduous shrub, blooms December–May.	Low to Moderate Potential
Chaparral beargrass <i>Nolina cismontana</i>	CRPR: 1B.2 List A	Chaparral (gabbro or sandstone habitat), coastal scrub. Elevation 459 – 4,183 feet. Perennial herb, blooms March–July.	Low Potential
Chaparral rein orchid <i>Piperia cooperi</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, valley and foothill grassland. Elevation 49 - 5,200 feet. Perennial herb, blooms March-June.	Low Potential
Cleveland's bush monkey flower <i>Mimulus clevelandii</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, lower montane coniferous forest, and gabbroic, often in disturbed areas. Elevation 1,476-6,562 feet. Perennial rhizomatous herb, blooms April-July.	Low Potential
Delicate clarkia <i>Clarkia delicata</i>	CRPR: 1B.2 List A	Gabbroic soils, chaparral, and cismontane woodland. Elevation 771 – 3,280 feet. Annual herb, blooms April–June.	Moderate Potential
Engelmann oak <i>Quercus engelmannii</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. Elevation 164 – 4,265 feet. Perennial deciduous tree, blooms March-June.	Occurs
Felt-leaved monardella <i>Monardella hypoleuca</i> ssp. <i>llanata</i>	CRPR: 1B.2 List A	Chaparral and cismontane woodland. Elevation 984 – 5,167 feet. Perennial rhizomatous herb, blooms June–August.	Moderate Potential
Fish's milkwort <i>Polygala cornuta</i> var. <i>fishiae</i>	CRPR: 4.3 List D	Chaparral, cismontane woodland, riparian woodland. Elevation 328-3,281 feet. Perennial deciduous shrub, blooms May-August.	Moderate Potential
Gander's ragwort <i>Pakera</i> (=Senecio) <i>ganderi</i>	CRPR: 1B.2 List A	Chaparral (burns, gabbroic outcrops). Elevation 1,312 – 3,937 feet. Perennial herb, blooms April-June.	Low Potential
Heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>	CRPR: 1B.2 List A	Closed-cone coniferous forest, chaparral, cismontane woodland. Elevation 1,706-4,495 feet. Perennial shrub, blooms April-July.	Low Potential
Narrow-petaled rein orchid <i>Piperia leptopetala</i>	CRPR: 4.3 List D	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. Elevation 1,247-7,300 feet. Perennial herb, blooms May-July.	Low Potential
Nevin's barberry <i>Berberis nevinii</i> <i>Mahonia nevinii</i>	FE / CE CRPR: 1B.1 List A	Chaparral, cismontane woodland, coastal scrub, riparian scrub. Elevation 230-2,707. Perennial evergreen shrub, blooms February-June.	Moderate Potential

Table 4.4-2 Special Status Plant Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State CRPR County List	General Habitat Description	Occurrence
Ocellated Humboldt lily <i>Lilium humboldtii</i> var. <i>ocellatum</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Elevation 98-5,906 feet. Perennial bulbiferous herb, blooms March-August.	Moderate Potential
Orcutt's brodiaea <i>Brodiaea orcuttii</i>	CRPR: 1B.1 List A	Mesic, clay, sometimes serpentinite, closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 98 – 5,551 feet. Perennial bulbiferous herb, blooms April–May.	Low Potential
Palmer's grapplinghook <i>Harpagonella palmeri</i>	CRPR: 4.2 List D	Clay habitat, chaparral, coastal scrub, and valley and foothill grassland. Elevation 66 – 3,133 feet. Annual herb, blooms March–May.	Moderate Potential
Parry's tetracoccus <i>Tetracoccus dioicus</i>	CRPR: 1B.2 List A	Chaparral and coastal scrub. Elevation 541 – 3,281 feet. Perennial deciduous shrub, blooms April–May.	Low Potential
Penisular spineflower <i>Chorizanthe leptotheca</i>	CRPR: 4.2 List D	Chaparral, coastal scrub, yellow pine forest, and alluvial-fans. Elevation 984 – 6,232 feet. Annual herb, blooms May-August.	Occurs
Rainbow manzanita <i>Arctostaphylos rainbowensis</i>	CRPR:1B.1 List A	Chaparral. Elevation 673 – 2,198 feet. Perennial evergreen shrub, blooms December-March.	Low Potential
Ramona horkelia <i>Horkelia truncata</i>	CRPR: 1B.3 List A	Clay and gabbroic habitat. Elevation 1,312 – 4,265 feet. Perennial herb, blooms May–June.	Low Potential
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	CRPR: 4.3 List A	Chaparral and coastal scrub. Elevation 3 – 2,904 feet. Annual herb, blooms January–July.	Moderate Potential
Rush-like bristleweed <i>Xanthisma junceum</i>	CRPR: 4.3 List D	Chaparral and coastal scrub. Elevation 790 - 3,280 feet. Perennial herb, blooms May-January.	Moderate Potential
San Diego ambrosia <i>Ambrosia pumila</i>	FE CRPR: 1B.1 List A	Sandy loam or clay, often in disturbed areas, sometimes alkaline chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 66 – 1,362 feet. Perennial rhizomatous herb, blooms April–October.	Low Potential
San Diego bur sage <i>Ambrosia chenopodiifolia</i>	CRPR: 2B.1 List B	Coastal scrub. Elevation 180 – 508 feet. Perennial shrub, blooms April–June.	Low Potential
San Diego gum plant <i>Grindelia hirstula</i> var. <i>hallii</i>	CRPR: 1B.2 List A	Chaparral, lower montane coniferous forest, meadows and seeps, and valley and foothill grassland. Elevation 607-5,275 feet. Perennial herb, blooms May–October.	Moderate Potential
San Diego milk-vetch <i>Astragalus oocarpus</i>	CRPR: 1B.2 List A	Chaparral, cismontane woodland. Elevation 1,000 – 4,900 feet. Perennial herb, blooms May-August.	Moderate Potential
San Diego sagewort <i>Artemisia palmeri</i>	CRPR: 4.2 List D	Sandy, mesic soils, chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland. Elevation 49 – 3,002 feet. Perennial deciduous shrub, blooms February–September.	Moderate Potential
San Diego thorn-mint <i>Acanthomintha ilicifolia</i>	FT / CE CRPR: 1B.1 List A	Clay soils, openings in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 33 – 3,150 feet. Annual herb, blooms April–June.	Low Potential
San Miguel savory <i>Satureja chandleri</i>	CRPR: 1B.2 List A	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Elevation 394 - 3,527 feet. Perennial shrub, blooms March-July.	Low Potential
Singlewhorl burrobrush <i>Ambrosia monogyra</i>	CRPR: 2B.2	Sandy soils. Elevation 33-1,640 feet. Perennial shrub, blooms August–November.	Low Potential
Smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	CRPR: 1B.1 List A	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grasslands. Elevation 0 - 2,100 feet. Annual herb, blooms April-September.	Low Potential

Table 4.4-2 Special Status Plant Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State CRPR County List	General Habitat Description	Occurrence
Southern tarplant <i>Centromadia parryi</i> ssp. <i>australis</i>	CRPR: 1B.1 List A	Marshes and swamps, valley and foothill grasslands, vernal pools. Elevation 0 - 1,575 feet. Annual herb, blooms May-November.	Low Potential
Spreading navarretia <i>Navarretia fossalis</i>	FT CRPR: 1B.1 List A	Chenopod scrub, marshes and swamps, playas, and vernal pools. Elevation 98 – 2,149 feet. Annual herb, blooms April–June.	Low Potential
Summer holly <i>Comarostaphylis diversifolia</i> ssp. <i>Diversifolia</i>	CRPR: 1B.2 List A	Chaparral and cismontane woodland. Elevation 98 – 2,592 feet. Perennial evergreen shrub, blooms April–June.	Moderate Potential
Variegated dudleya <i>Dudleya variegata</i>	CRPR: 1B.2 List A	Clay habitat, chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 10 – 1,903 feet. Perennial herb, blooms April–June.	Low Potential
Western dichondra <i>Dichondra occidentalis</i>	CRPR: 4.2 List D	Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 164-1,640 feet. Perennial rhizomatous herb, blooms January-July.	Moderate Potential

⁽¹⁾ **Federal Status (listed under the Endangered Species Act)** – FE = Federally Endangered; FT = Federally Threatened; FC = Candidate for federal listing; FD = Delisted
State Status (listed under California Endangered Species Act) – CE = State Endangered; CT = State Threatened; CR = listed as Rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.
CRPR (California Rare Plant Ranks, formerly known as CNPS lists) – 1A = Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere; 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; 2A = Plants Presumed Extirpated in California, But Common Elsewhere; 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; 3 = Plants in need of more information; 4 = Plants of limited distribution. **x.1** = Seriously threatened in California (>80% of occurrences threatened or high degree and immediacy of threat). **x.2** = Moderately threatened in California (20-80% of occurrences threatened or moderate degree and immediacy of threat). **x.3** = Not very endangered in California (<20% of occurrences threatened or low degree and immediacy of threat or no current threats known)
County of San Diego Status – Lists A and B = Plant species 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 that must be met. **Lists C and D** = plant 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.

Sources: CDFW 2016, County 2010, SANDAG 2016a, USFWS 2016

Table 4.4-3 Sensitive Animal Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State County of San Diego	General Habitat Description	Occurrence
Invertebrates			
Harbison’s dun skipper <i>Euphys vestris harbisoni</i>	--/-- County Group 1	Riparian habitats and chaparral with narrow canyons or drainages, where perennial sources of water provide adequate habitat for larval foodplant, San Diego sedge (<i>Carex spissa</i>).	Low Potential
Monarch butterfly <i>Danaus plexippus</i>	FS/-- County Group 2	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), nectar and water sources nearby. Larval host plants consist of milkweeds (<i>Asclepias</i> sp.).	Moderate Potential
Amphibians			
Arroyo toad <i>Anaxyrus californicus</i>	FE/SSC County Group 1	Breeds in slow-moving streams within open-canopy riparian habitats. May be found in upland scrub habitats adjacent to these areas.	Low Potential
Western spadefoot toad <i>Spea hammondi</i>	BLMS/SSC County Group 2	Occurs in coastal sage scrub, chaparral, and grassland. Important habitat components include temporary pools for breeding, which do not occur on site.	Moderate Potential

Table 4.4-3 Sensitive Animal Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State County of San Diego	General Habitat Description	Occurrence
Reptiles			
Belding's orange-throated ⁽²⁾ whiptail <i>Aspidoscelis hyperythrus beldingi</i>	FS/WL County Group 2	Occurs in coastal sage scrub and chaparral, particularly washes and other sandy areas with patches of brush and rocks for cover.	Occurs
Blainsville's horned lizard <i>Phrynosoma coronatum blainvillei</i>	BLMS/SSC County Group 2	Frequents a variety of habitats from sage scrub and chaparral to coniferous and broadleaf woodlands. Habitat requirements include open areas for sunning, bushes for cover, fine loose soil for rapid burial, and native ant species such as harvester ants (<i>Pogonomyrmex</i> sp.).	Moderate Potential
Coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	--/SSC County Group 2	Brushy or shrubby vegetation in coastal southern California.	Low Potential
Coastal rosy boa <i>Charina trivirgata roseofusca</i>	--/-- County Group 2	Occurs among rocky outcrops in coastal sage scrub, chaparral, and desert scrub.	Low Potential
Coastal western whiptail <i>Aspidoscelis tigris stejnegeri</i>	--/SSC County Group 2	Open coastal sage scrub, chaparral, and woodlands, frequently along edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of invertebrate prey, particularly termites.	Low Potential
Red diamond rattlesnake <i>Crotalus ruber</i>	FS/SSC County Group 2	Found in chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.	Low Potential
San Diego banded Gecko <i>Coleonyx variegatus abbotti</i>	--/SSC County Group 1	Chaparral and coastal sage scrub in areas with rock Outcrops.	Low Potential
San Diego ring necked snake <i>Diadophis punctatus similis</i>	FS/-- County Group 2	Generally occurs in moist habitats such as oak woodlands and canyon bottoms, but is also sometimes encountered in grassland, chaparral, and coastal sage scrub.	Moderate Potential
Silvery legless lizard <i>Anniella pulchra</i>	--/SSC County Group 2	Requires loose soil for burrowing (sand, loam, or leaf mold), moisture, warmth, and plant cover.	Moderate Potential
South coast garter snake <i>Thamnophis sirtalis</i> ssp. <i>novum</i>	--/SSC County Group 2	Found in North County watersheds. Prefers riparian areas with willows and mule fat.	Moderate Potential
Two-striped garter snake <i>Thamnophis hammondi</i>	BLMS/SSC County Group 1	Found in or near permanent fresh water and often along streams with rocky beds and riparian growth.	Moderate Potential
Birds			
Bell's sage sparrow <i>Artemisiospiza belli</i>	BCC/WL County Group 1	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.	Moderate Potential
Coastal California gnatcatcher <i>Polioptila californica</i>	FT/SSC County Group 1	Low, coastal sage scrub in arid washes, on mesas, and on slopes.	Low Potential
Cooper's hawk ⁽²⁾ <i>Accipiter cooperii</i>	Nesting: --/WL County Group 1	Tends to inhabit lowland riparian areas and oak woodlands in proximity to suitable foraging areas, such as scrublands or fields.	Occurs
Golden eagle ⁽³⁾ <i>Aquila chrysaetos</i>	Nesting and wintering: BCC; BLMS/SSC; WL; County Group 1	Forages in grassy and open, shrubby habitats. Nests most often on cliffs, less often in trees. Tends to require places of solitude and is usually found at a distance from human habitation.	Occurs
Grasshopper sparrow <i>Ammodramus savannarum</i>	Nesting: --/SSC County Group 1	Grassland, preferably ungrazed or not mowed.	Low Potential
Least Bell's vireo <i>Vireo bellii pusillus</i>	Nesting: FE/SE County Group 1	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	Low Potential
Loggerhead shrike <i>Lanius ludovicianus</i>	BCC/SSC County Group 1	Grassland, open sage scrub, chaparral, and desert scrub.	Moderate Potential

Table 4.4-3 Sensitive Animal Species Known or with Potential to Occur in the Study Area

Species	Status ⁽¹⁾ Federal/State County of San Diego	General Habitat Description	Occurrence
Red-shouldered hawk ⁽²⁾ <i>Buteo lineatus</i>	--/-- County Group 1	Riparian woodland, oak woodland, orchards, eucalyptus groves, or other areas with tall trees.	Occurs
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	WL County Group 1	Found in coastal sage scrub and sparse mixed chaparral.	Moderate Potential
Tri-colored blackbird <i>Agelaius tricolor</i>	Nesting: BCC; BLMS/SSC County Group 1	Marsh habitat near grasslands, pastures, and agricultural fields.	Low Potential
Turkey vulture ⁽²⁾ <i>Cathartes aura</i>	--/-- County Group 1	Foraging habitat includes most open habitats with breeding occurring in crevices among boulders.	Occurs
Western bluebird ⁽²⁾ <i>Sialia mexicana</i>	--/-- County Group 2	Montane coniferous and oak woodlands.	Occurs
White-tailed kite <i>Elanus leucurus</i>	Fully Protected County Group 1	Riparian woodlands and oak or sycamore groves adjacent to grassland.	Moderate Potential
Yellow warbler <i>Setophaga petechia</i>	Nesting: BCC/SSC County Group 2	Breed in shrubby thickets and woods, particularly along watercourses and in wetlands. Common trees include willows, alders, and cottonwoods across N. America and up to about 9,000 feet in the West.	Moderate Potential
Yellow-breasted chat <i>Icteria virens</i>	--/SSC County Group 1	Mature riparian woodland.	Low Potential
Mammals			
Dulzura (California) pocket mouse <i>Chaetodipus californicus femoralis</i>	--/SSC County Group 2	Primarily associated with mature chaparral. Species, however, has been trapped in mule fat scrub and is known to occur in coastal sage scrub.	Moderate Potential
Mountain lion <i>Felis concolor</i>	--/-- County Group 2	Generally semi-arid, mountainous terrain, subtropical and tropical forests, and swamps.	Moderate Potential
Pallid bat <i>Antrozous pallidus pacificus</i>	BLMS/SSC County Group 2	Roosts in caves, mines, bridges, crevices, abandoned buildings, and trees.	Moderate Potential
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	--/SSC County Group 2	Occurs primarily in open habitats, including open coastal sage scrub, chaparral, grasslands, croplands, and disturbed areas (if at least some shrub cover is present).	Moderate Potential
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	FE/ST County Group 1	Sparsely vegetated habitats of sagebrush or annual grasses.	Low Potential
Western Red Bat <i>Lasiurus blossevillii</i>	--/SSC County Group 2	Usually found among dense foliage, in forests and wooded areas. Sometimes hibernates in tree hollows or woodpecker holes.	Moderate Potential

⁽¹⁾ **Federal Status** – FE = Federally Endangered; FT = Federally Threatened; FC = Candidate for federal listing; FD = Delisted; FPE = Federally proposed for listing as Endangered; FPT = Federally proposed for listing as Threatened; FPD = Federally proposed for delisting; FS = Federally Sensitive; BLMS = Sensitive (Bureau of Land Management); BCC = Bird of Conservation Concern (USFWS)
State Status – SE = State Endangered; ST = State Threatened; SCE = State candidate for listing as Endangered; SCT = State candidate for listing as Threatened; SCD = State candidate for delisting; SFP = State Fully Protected; SSC = State Species of Special Concern; WL = State Watch List
County of San Diego Status – **County Group 1** = animal species 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 that must be met. **County 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.

⁽²⁾ Observed by Atkins biologists during 2016 surveys

⁽³⁾ A golden eagle was observed during a prior survey (B&V 2010)

Sources: CDFW 2016, County 2010, SANDAG 2016, USFWS 2016

According to the Draft North County MSCP Plan (County 2009), biological linkages and core areas that function as wildlife corridors and nursery sites occur throughout the study area. This is due to the large open spaces and preserve lands located in the study area, such as Hellhole Canyon Preserve and the areas around Lake Wohlford.

4.4.2 Regulatory Setting

4.4.2.1 Federal

Applicable federal regulations include the federal Endangered Species Act (federal ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act, and Clean Water Act (CWA).

Federal Endangered Species Act

The U.S. Congress passed the federal ESA in 1973 to provide a means for conserving the ecosystems that endangered and threatened species require in order to prevent species extinctions. The federal ESA has four major components: (1) Section 4, which provides for listing species and designating critical habitat; (2) Section 7, which requires federal agencies, in consultation with the USFWS, to ensure that their actions are not likely to jeopardize the continued existence of species or result in the modification or destruction of critical habitat; (3) Section 9, which prohibits against “taking” listed species; and (4) Section 10, which provides for permitting incidental take of listed species.

Under the federal ESA, the term “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” “Critical habitat” is defined as “the specific areas within the geographic area occupied by a species on which are found those physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species.”

Migratory Bird Treaty Act

The MBTA of 1918 (16 U.S. Code 703-711) implements an international treaty for the conservation and management of bird species that may migrate through more than one country. Enforced in the U.S. by the USFWS, the MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a “take” and is potentially punishable by fines and/or imprisonment. In 1972, the MBTA was amended to include protection for migratory birds of prey (raptors). Generally, applicants who obtain a federal ESA Section 10(a) permit simultaneously receive a three-year MBTA permit for federal ESA-listed migratory birds.

Bald and Golden Eagle Protection Act

Enacted in 1940, the Bald and Golden Eagle Protection Act prohibits the take, transport, sale, barter, trade, import, export, and possession of bald eagles, making it illegal for anyone to collect bald eagles and eagle parts, nests, or eggs without authorization from the Secretary of the Interior. The Act was amended in 1962 to extend the prohibitions to the golden eagle.

Federal Water Pollution Control Act (Clean Water Act of 1972)

The Water Pollution Control Act, passed by Congress in 1948, authorized the Surgeon General of the Public Health Service to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. The Act

was later amended to become the Federal Water Pollution Control Act Amendments of 1972, commonly known as the CWA. The CWA was designed to restore and maintain the chemical, physical, and biological integrity of the waters of the U.S. and gave the EPA the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The EPA has delegated responsibility for implementation of portions of the CWA in California to the State Water Resources Control Board (SWRCB) and the RWQCB, including water quality control planning and control programs.

The CWA also prohibits the discharge of any pollutants from a point source into navigable waters, except as allowed by permits issued under certain sections of the CWA. Specifically, Section 404 authorizes the U.S. Army Corps of Engineers (USACE) to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other “waters of the U.S.” Under the CWA and its implementing regulations, “waters of the U.S.” are broadly defined as rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands. Further, Section 401 allows states to certify or deny federal permits or licenses that might result in a discharge to state waters, including wetlands. Section 401 certifications are issued by the RWQCB for activities requiring a federal permit or license that may result in the discharge of pollutants into waters of the U.S.

4.4.2.2 State

State regulations include the California Fish and Game Code (CFG Code), California Endangered Species Act (CESA), Lake and Streambed Alteration Program, the Porter-Cologne Water Quality Control Act, California Oak Woodland Conservation Act, California Native Plant Protection Act, California Environmental Quality Act, and the Natural Community Conservation Planning (NCCP) Act of 1991.

California Fish and Game Code

The CFG Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the State. It includes the CESA (Sections 2050-2115) and Streambed Alteration Agreement regulations (Sections 1600-1616), which are both discussed in more detail below, as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife. The CFG Code also includes protection of birds (3500 *et seq.*) and the California Native Plant Protection Act (NPPA) of 1977 (Sections 1900-1913), which directed CDFW to carry out the Legislature's intent to “preserve, protect and enhance rare and endangered plants in this State.”

California Endangered Species Act

The CESA is similar in many ways to the federal ESA. CESA is administered by the CDFW. CESA provides a process for CDFW to list species as threatened or endangered in response to a citizen petition or by its own initiative (CFG Code Section 2070 *et seq.*). Section 2080 of the CESA prohibits the take of species listed as threatened or endangered pursuant to the Act. Section 2081 allows CDFW to authorize take prohibited under Section 2080 provided that: (1) the taking is incidental to an otherwise lawful activity; (2) the taking will be minimized and fully mitigated; (3) the applicant ensures adequate funding for minimization and mitigation; and (4) the authorization will not jeopardize the continued existence of the listed species.

Lake and Streambed Alteration Program

Section 1602 of the CFG Code requires any person, state, or local governmental agency to provide advance written notification to CDFW prior to initiating any activity that would: (1) divert or obstruct the natural flow of, or substantially change or remove material from the bed, channel, or bank of any river, stream, or lake; or (2) result in the disposal or deposition of debris, waste, or other material into any river, stream,

or lake. The state definition of “lakes, rivers, and streams” includes all rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for statewide coordination of water quality regulations. The Act established the California SWRCB as the statewide authority and nine separate RWQCBs to oversee smaller regional areas within the state. The Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and ground waters); and directs the RWQCBs to develop regional Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Basin Plan for the San Diego Region is designed to preserve and enhance the quality of water resources in the San Diego region for the benefit of present and future generations. The purpose of the plan is to designate beneficial uses of the Region’s surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives.

California Native Plant Protection Act

The California NPPA requires state agencies to design and implement programs to conserve endangered and rare native plants. Part of the NPPA prohibits take of listed plants from the wild, and requires notification of CDFW at least 10 days in advance before any change in land use may occur so that CDFW may salvage plants that would otherwise be destroyed. Project planners are required to consult with CDFW during planning to comply with the provisions of this act.

Natural Community Conservation Planning Act of 1991

The NCCP Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land uses. CDFW is the principal state agency implementing the NCCP Program. Section 2800 *et seq.* of the CFG Code addresses NCCPs and a 2835 permit is issued by CDFW for all NCCPs. The Act established a process to allow for comprehensive, regional multi-species planning in a manner that satisfies the requirements of the state and federal ESAs (through a companion regional Habitat Conservation Plan). The NCCP program has provided the framework for innovative efforts by the state, local governments, and private interests to plan for the protection of regional biodiversity and the ecosystems upon which it depend. NCCPs seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed.

4.4.3 Thresholds of Significance

Thresholds used to evaluate potential impacts to biological resources from construction of the proposed project are based on applicable criteria in the State CEQA Guidelines (CCR 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant impact to biological resources would occur if the proposed project would:

1. Have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
2. Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

3. Have a substantial adverse impact on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. 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.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.4 Impact Analysis

4.4.4.1 Methodology

As described in Section 4.4.1, biological resources were assessed by on-site surveys within the study area on several dates and extensive database searches to determine the potential sensitive species and habitats present in the study and surrounding areas. The impact analysis is based on the current available knowledge of the study area. Several mitigation measures, described in detail below, include further surveys to be conducted before project activities commence to reduce impacts to sensitive species or habitats.

4.4.4.2 Issue 1 – Sensitive Species

Would the proposed project have a substantial adverse impact, 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 regulation, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impacts

Based on the 2016 surveys, two special-status plant species and seven special-status wildlife species were documented in or adjacent to the study area. Lists of other special-status animal and plant species with the potential to occur in the study area are presented in Section 4.4.1.4.

No state or federally listed species were observed during 2016 surveys. Protocol surveys conducted for CAGN and LBVI are good for one year through May 2017 and June 2017, respectively. Additional special-status species may be documented prior to or during construction. A qualified biologist would be on site to conduct pre-construction surveys and biological monitoring. If construction occurs after May 2017 for CAGN and June 2017 for LBVI, additional surveys for these species will need to be conducted.

Proposed project components could occur on and/or in the immediate vicinity of an undeveloped area that may support special-status plant and wildlife species, and thus could result in potentially significant direct and/or indirect impacts to special status-species and their habitats. Direct impacts may include the direct take, removal, or displacement of special-status species and their habitats through activities such as clearing, grubbing, grading, excavation, and other land disturbance activities. Removal of habitat could result in displacement of special-status wildlife and less habitat available within a species' range to carry out vital life history requirements such as breeding, foraging, dispersal, migration, aestivation (i.e., underground dormancy or torpor during the summer) and predator evasion. Special-status species could

be inadvertently killed, trapped, trampled, or otherwise harmed by construction activities. These potential direct impacts would be considered significant.

In addition, proposed project components could occur on or in the immediate vicinity of areas that contain trees, shrubs, and man-made structures (e.g., buildings) that provide suitable nesting habitat for a variety of bird species, including raptors, protected under the Migratory Bird Treaty Act (MBTA) and CFG Code. Construction activities could result in the removal or trimming of trees and shrubs during the general bird nesting season (February 1 through August 31) or raptor nesting season (January 15 through July 31). Direct impacts could occur as a result of removal of vegetation supporting an active nest. These potential direct impacts would be considered significant and in violation of the MBTA and CFG Code.

Potential short-term, construction-related indirect impacts resulting from construction of the proposed project may occur adjacent to special-status species and their habitats. Potential indirect impacts to special status-species and their habitats could include those resulting from stormwater runoff from construction sites and fugitive dust. However, in compliance with the NPDES Construction General Permit, proposed project components would implement best management practices during construction, which would prevent significant indirect impacts associated with stormwater runoff from construction sites. In addition, compliance with San Diego Air Pollution Control District Rule 55 for Fugitive Dust Control would prevent significant indirect impacts associated with fugitive dust.

Potential indirect impacts to sensitive species and their habitats could also include those resulting from inadvertent intrusions and noise. Construction activities could result in inadvertent intrusions of construction equipment and workers from construction zones adjacent to sensitive habitats that may support sensitive species. In addition, construction activities could result in temporary increases in noise levels that could adversely affect special-status birds and raptors, including listed species that use adjacent habitats for nesting and foraging. These potential indirect impacts would be considered significant.

Implementation of the mitigation measures described below would reduce potential direct and indirect impacts to special-status species and their habitats from the proposed project to a less than significant level.

Mitigation Measures

The following mitigation measures would be implemented to greatly reduce impacts to sensitive species:

- Bio-1 Project-Level Biological Resource Surveys.** During the design phase and prior to the construction of the proposed project, the project proponent shall retain a qualified biologist to conduct and/or update project-level biological resources surveys and prepare biological resources technical reports.
- a. If the rare plant surveys or focused protocol-level surveys determine the presence of federally or state-listed endangered or threatened species and occupied habitat on site, then, in compliance with the federal ESA and the CESA, the project proponent shall consult and obtain all applicable regulatory permits and authorizations from the USFWS and CDFW, and the conditions of the regulatory permits and authorizations shall be implemented accordingly and/or the underlying project would be modified to avoid direct “take” of the species and/or minimize adverse impacts to the species and occupied habitat.
 - b. For construction activities after the month of May 2017 a CAGN protocol-level presence/absence survey shall be conducted in suitable sage scrub habitat within 500 feet of the project impact area. Prior to conducting surveys, the required notice of intent to conduct surveys shall be filed with the USFWS, and surveys must be conducted by a qualified biologist who

holds the appropriate Section 10(a)(1)(A) permit. The CAGN surveys shall follow the 1997 USFWS CAGN Presence/Absence Survey Guidelines (USFWS 1997) which includes six surveys at least one week apart if conducted during the breeding season survey period (February 15 through August 30). If surveys are conducted outside the breeding season, nine surveys at least two weeks apart shall be conducted.

Surveys shall occur between 6:00 a.m. and 12:00 p.m. and avoid periods of excessive or abnormal heat, wind, rain, fog, or other inclement weather. If surveys document absence of CAGN, no additional avoidance or minimization measures are required.

If surveys document the presence of CAGN, impacts to CAGN would be mitigated below the level of significance when occupied coastal sage scrub is fenced, direct impacts are avoided, and construction within 500 feet of occupied habitat occurs only between September 1 and February 15 to avoid indirect impacts to nesting CAGN. If avoidance is not feasible, a temporary noise barrier shall be used during construction, at the appropriate location(s), in coordination with CDFW and the USFWS. The noise barrier shall attenuate noise levels to 60 dBA or less at the edge of breeding habitat.

Construction work performed within 500 feet of habitat identified for CAGN during the period of February 15 to August 30 shall be monitored at least weekly by a qualified biologist. Monthly monitoring letter reports of construction activities and their impacts on biological resources shall be provided to USFWS and/or CDFW.

- c. For construction activities which occur after June 2017, and during the breeding season for the LBVI (March 15 through September 15), protocol-level surveys shall be conducted prior to construction in suitable riparian habitat within 500 feet of the project impact area. The LBVI surveys shall follow the 2001 USFWS LBVI Survey Guidelines (USFWS 2001) and include eight surveys at least ten days apart within the protocol survey period (April 10 through July 31). Surveys shall be conducted between dawn and 11:00 a.m. and avoid periods of excessive or abnormal heat, wind, rain, fog, or other inclement weather.

If surveys document absence of LBVI, no additional avoidance or minimization measures are required. However, if surveys document the presence of LBVI, impacts to LBVI would be mitigated below the level of significance when occupied riparian habitat is fenced, direct impacts are avoided, and construction within 500 feet of occupied habitat occurs only between September 15 and March 15 to avoid indirect impacts to nesting LBVI. If avoidance is not feasible, a temporary noise barrier shall be used during construction, at the appropriate location(s), in coordination with CDFW and the USFWS. The noise barrier shall attenuate noise levels to 60 dBA or less at the edge of the breeding habitat. Construction work performed within 500 feet of occupied LBVI habitat during the period of March 15 to September 15 shall be monitored at least weekly by a qualified biologist. Monthly monitoring letter reports of construction activities and their impacts on biological resources shall be provided to USFWS and/or CDFW.

Bio-2 Avoidance of Nesting Birds. To prevent impacts to nesting passerines (songbirds) and other non-raptors protected under the federal MBTA and CFG Code, the project proponent shall enforce the following:

- a. If construction occurs during the general nesting season (February 1 through August 31), and where any mature tree, shrub, or structure capable of supporting a bird nest occurs within 300 feet of proposed project construction activities, the project proponent shall retain a qualified biologist to conduct a pre-construction survey for nesting birds prior to clearing,

- grading and/or construction activities. The survey will be conducted within 72 hours prior to the start of construction.
- b. If any nesting birds are present on or within 300 feet of the proposed project construction activities, the following shall be required, as approved by the USFWS and/or CDFW:
 1. The project proponent shall retain a qualified biologist to flag and demarcate the location of all nesting birds and monitor construction activities. Temporary avoidance of active bird nests, including the enforcement of an avoidance buffer of 300 feet, as determined by the qualified biological monitor, shall be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Requests for buffer reductions of less than 300 feet shall be provided to the USFWS and/or CDFW. Documentation of the nesting bird surveys and any follow-up monitoring shall be provided to the USFWS and CDFW within 10 days of completing the final survey or monitoring event.

Bio-3 Avoidance of Nesting Raptors. To prevent impacts to nesting raptors protected under the federal MBTA and CFG Code, the project proponent shall enforce the following:

- a. If construction occurs during the raptor nesting season (January 15 through July 31), and where any mature tree or structure capable of supporting a raptor nest occurs within 500 feet of proposed project construction activities, the project proponent shall retain a qualified biologist to conduct a pre-construction survey for nesting raptors prior to clearing, grading and/or construction activities. The survey will be conducted within 72 hours prior to the start of construction.
- b. If any nesting raptors are present on or within 500 feet of the proposed project construction activities, the following shall be required, as approved by the USFWS and/or CDFW:
 1. The project proponent shall retain a qualified biologist to flag and demarcate the location of all nesting raptors and monitor construction activities. Temporary avoidance of active raptor nests, including the enforcement of an avoidance buffer of 500 feet will be required until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive. Documentation of the raptor surveys and any follow-up monitoring, as necessary, will be provided to the USFWS and CDFW within 10 days of completing the final survey or monitoring event.
- c. In the event that a California State fully protected species (e.g., white tailed kite) is found to be nesting on the project site, all work in the area will stop and the project proponent shall notify the CDFW and/or USFWS. No impacts will be permitted to occur to fully protected species.

Bio-4 Construction Fencing. Prior to vegetation clearing, grading, and/or construction activities for each proposed project component, the project proponent shall retain a qualified biologist to oversee and monitor installation of appropriate fencing and/or flagging to delineate the limits of construction and the approved construction staging areas for protection of sensitive resources identified through project-level surveys (conducted pursuant to mitigation measure Bio-1). Temporary fencing (with silt barriers) shall be installed at the limits of project impacts (including construction staging areas and access routes) to prevent additional sensitive habitat impacts and the spread of silt from the construction zone into adjacent habitats to be avoided. Fencing shall be installed in a manner that does not impact habitats to be avoided. For projects potentially affecting special status species and sensitive resources, and for which permits or approvals from the USFWS or CDFW require confirmation of project impacts and submittal of as-built plans, the

project proponent shall submit to the USFWS and CDFW for approval, at least 30 days prior to initiating project impacts, the final plans for initial clearing and grubbing of sensitive habitat and project construction. These plans shall also be submitted to the USACE, RWQCB, or other local agency, from which, approval or permitting is required, as applicable. The final plans shall include photographs that show the fenced limits of impact and all sensitive areas to be impacted or avoided. If work occurs beyond the fenced or demarcated limits of impact, all work shall cease until the problem has been remedied to the satisfaction of the qualified biologist, project proponent, USFWS, CDFW, USACE, and/or other agency. Upon project completion, temporary construction fencing shall be removed by the project proponent under the oversight of the qualified biologist.

- Bio-5 **Construction Staging Areas.** Prior to construction of the proposed project components where it has been demonstrated through project-level surveys (conducted pursuant to mitigation measure Bio-1) that drainages, wetlands and areas supporting sensitive habitats or species could be affected by project construction, the project proponent shall setback construction staging areas to avoid drainages, wetlands, and areas supporting sensitive habitats or species, where feasible. Fueling of equipment shall occur in designated fueling zones within the construction staging areas. All equipment used within the approved construction limits shall be maintained to minimize and control fluid and grease leaks. Provisions to contain and clean up unintentional fuel, oil, fluid and grease leaks/spills shall be included in construction documents and in place prior to construction.
- Bio-6 **Pre-Construction Meeting.** Prior to vegetation clearing, grading, and/or construction activities for each proposed project component, the project proponent shall retain a qualified biologist to attend a pre-construction meeting to inform construction crews of the sensitive species and habitats for that particular project component.
- Bio-7 **Construction-Related Noise.** Construction noise created during the general avian breeding season (January 15 to September 15) that could affect the breeding of the CAGN, migratory songbirds, and other bird species associated with adjacent undeveloped areas shall be avoided. No loud construction noise (exceeding 60 dBA hourly average, adjusted for ambient noise levels, at the nesting site) may take place within 500 feet of active nesting sites during the general breeding season (January 15 through September 15). If it is confirmed through project-level surveys (conducted pursuant to mitigation measure Bio-1) that a proposed project component could result in construction-related noise impacts to breeding birds during the general breeding season, the project proponent shall retain a qualified biologist to monitor the construction operations. The biological monitor shall be present to monitor construction activities that occur adjacent to undeveloped open space areas potentially supporting breeding birds. The biological monitor shall verify that construction noise levels do not exceed 60 dBA hourly average and shall have the ability to halt construction work, if necessary, and confer with the project proponent, USFWS, and/or CDFW to ensure the proper implementation of additional protection measures during construction. The qualified biologist shall report any violation to the USFWS and/or CDFW within 24 hours of its occurrence.
- Bio-8 **Hydroseeding of Graded Areas.** Unless otherwise required by the USFWS, USACE, RWQCB, and/or CDFW, after completion of final grading for each proposed project component located adjacent to native vegetation, construction documents shall require that all graded areas within 100 feet of native vegetation, excluding those areas where a permanent access road, path, or other permanent development is required, are hydroseeded and/or planted with native plant species similar in composition to the adjacent undisturbed vegetation communities. The project proponent shall retain a qualified biologist to monitor these activities to ensure non-native or

invasive plant species are not used in the hydroseed mix or planting palettes. The hydroseeded/planted areas shall be watered via a temporary drip irrigation system or watering truck. Irrigation shall cease after successful plant establishment and growth, to be determined by the biologist. Any irrigation runoff from hydroseeded/planted areas shall be directed away from adjacent native vegetation communities and contained and/or treated within the development footprint of individual component projects. All planting stock shall be inspected for exotic invertebrate pests (e.g., argentine ants) and any stock found to be infested with such pests shall not be allowed to be used in the hydroseeded/planted areas.

4.4.4.3 Issue 2 – Riparian Habitats and Other Sensitive Communities

Would the proposed project have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Impacts

The study area includes the following sensitive vegetation communities: coast live oak woodland, Engelmann oak woodland, eucalyptus woodland, southern willow scrub, coastal sage scrub (Diegan), southern mixed chaparral, and non-native grassland. Table 4.4-4 includes the maximum temporary vegetation impacts from pipeline construction within the entire 100-foot corridor. The actual impacts are expected to be less with a 30-foot wide permanent ROW easement. The 100-foot wide pipeline construction corridor allows for the potential to avoid sensitive biological resources, such as drainages, wetlands, oaks, active nests.

Table 4.4-4 Maximum Temporary Impacts from Pipeline Construction

Vegetation Communities	100-foot wide Construction Corridor (acres)
Woodlands	
Coast Live Oak Woodland	2.66
Engelmann Oak Woodland	0.27
Eucalyptus Woodland	0.41
Subtotal	3.34
Riparian	
Southern Willow Scrub	0.22
Shrublands	
Coastal Sage Scrub (Diegan)	0.23
Southern Mixed Chaparral	3.31
Subtotal	3.54
Grasslands	
Non-native Grassland	2.73
Disturbed/Developed	
Agriculture	1.25
Ornamental	1.18
Disturbed	4.67
Developed	7.71
Subtotal	14.81
Total	24.65

Prior to excavation of the pipeline trench, vegetation within the 100-foot wide construction corridor would be scraped and stockpiled. After excavation and pipeline installation, the pipeline trench would be backfilled and covered with native soil. The disturbed area would then be revegetated with the vegetation that was salvaged in order to restore the area. In addition, the disturbed areas would be reseeded with a native seed mix.

Table 4.4-5 presents potential temporary and permanent impacts to vegetation from the construction of the desilting basin and an access road. Permanent impacts include the desilting basin and a 12-foot wide access road. Temporary impacts include a 50-foot buffer around the basin and access road.

Table 4.4-5 Potential Temporary and Permanent Impacts from Construction of Desilting Basin and an Access Road			
Vegetation Communities	Acreage		Total Area
	Temporary Impacts	Permanent Impact	
Shrublands			
Coastal Sage Scrub (Diegan)	0.40	0	0.40
Southern Mixed Chaparral	0.66	0.22	0.88
Subtotal	1.06	0.22	1.28
Disturbed/Developed			
Disturbed	0.30	0.05	0.35
Developed	0.56	0.16	0.62
Subtotal	0.86	0.21	1.07
Total	1.92	0.43	2.35

The proposed project components are expected to occur on and/or in the immediate vicinity of an undeveloped area that may support riparian habitat and other sensitive natural communities, and thus could result in potentially significant direct and/or indirect impacts to riparian habitat and other sensitive natural communities. Direct impacts include the direct removal or disturbance of riparian habitat and other sensitive natural communities through activities such as clearing, grubbing, grading, excavation, and other land disturbance activities. Within the 100-foot wide corridor, temporary impacts from pipeline construction are anticipated to affect up to 3.34 acres of woodland, 0.22 acre of riparian habitat, 3.54 acres of shrubland, and 2.73 acres of non-native grassland. The largest area temporarily impacted by pipeline construction consists of 14.81 acres of disturbed and developed habitat (Table 4.4-4). Construction of the desilting basin and access road is anticipated to temporarily impact 0.40 and 0.66 acre of coastal sage scrub and southern mixed chaparral, respectively with 0.22 acre of southern mixed chaparral affected permanently (Table 4.4-5).

Habitat loss or disturbance as a result of construction activities could result in diminishing and degrading of open space areas, reductions or eliminations of habitat functions and values, and impacts to species, among other adverse impacts. These potential direct impacts would be considered significant.

Potential short-term, construction-related indirect impacts resulting from construction of the proposed project may occur adjacent to riparian habitat and other sensitive natural communities. Potential indirect impacts to riparian habitat and other sensitive natural communities would be the same as those for special-status species and their habitats. These potential indirect impacts would be considered significant.

Implementation of mitigation measures described below would reduce potential direct and indirect impacts to riparian habitat and other sensitive natural communities to a less than significant level.

Mitigation Measures

Mitigation measures Bio-4 (Construction Fencing), Bio-5 (Construction Staging Areas), Bio-6 (Pre-Construction Meeting), Bio-8 (Hydroseeding of Graded Areas), are described in the Sensitive Species section, above, will be implemented to reduce impacts to riparian habitats and other sensitive communities. In addition, one specific mitigation measure for sensitive habitats (Bio-9 Habitat Replacement) is described below.

Bio-9 Habitat Replacement. Unavoidable impacts to sensitive natural communities shall be mitigated by the project proponent according to the range of ratios provided below, and would be increased or decreased depending on whether the habitat supports special status species or other sensitive resources, and/or the impacts and mitigation would occur inside or outside an existing preserve area:

<u>Sensitive Natural Community</u>	<u>Mitigation Ratio</u>
Southern Willow Scrub	3:1
Coast Live Oak Woodland	2:1 – 3:1
Engelmann Oak Woodland	2:1 – 3:1
Southern Coast Live Oak Riparian Forest	3:1
Diegan Coastal Sage Scrub	1:1 – 3:1
Southern Mixed Chaparral	0.5:1 – 3:1
Non-Native Grassland	0:1 – 0.5:1
Other Wetlands	3:1

Permanent and temporary impacts to sensitive natural communities shall be mitigated in-kind by the project proponent through implementation of any one or combination of the following measures, as approved and/or amended by the USFWS, USACE, RWQCB, and/or CDFW for individual component projects, if applicable:

- a. On site as creation of new habitat within avoided and preserved areas at the project site;
- b. On site as restoration of existing habitat within temporary impact areas and/or avoided and preserved areas at the project site;
- c. On site as enhancement of existing habitat within avoided and preserved areas at the project site;
- d. Off site as purchase of habitat credits within an approved mitigation bank or combination of banks (e.g., North County Habitat Bank);
- e. Off site as habitat preservation, creation, restoration, and/or enhancement within other properties or approved mitigation programs available at the time of grading; or
- f. A combination of the above.

For on-site or off-site creation, restoration, and/or enhancement mitigation of upland sensitive natural communities (e.g., grassland, coastal sage scrub, chaparral, woodland) for each individual project component, the project proponent shall prepare an Upland Habitat Restoration Plan, Habitat Mitigation and Monitoring Plan, or similar plan, detailing the specific upland habitat creation, restoration, and/or enhancement measures to be implemented as project mitigation. The Upland Habitat Restoration Plan shall be approved by the USFWS and/or CDFW, as appropriate, prior to vegetation clearing, grading, and/or construction activities.

For on-site or off-site creation, restoration, and/or enhancement mitigation of riparian and wetland sensitive natural communities (e.g., riparian forest, riparian scrub, willow scrub, mule fat scrub, freshwater marsh) for each individual project component, the project proponent shall prepare a Riparian/Wetland Habitat Restoration Plan, Habitat Mitigation and Monitoring Plan, or similar plan, detailing the specific riparian/wetland creation, restoration, and/or enhancement measures to be implemented as project mitigation. The Riparian/Wetland Habitat Restoration Plan shall be approved by the USFWS, USACE, RWQCB, and/or CDFW, as appropriate, prior to vegetation clearing, grading, and/or construction activities.

In addition, for on-site preservation, restoration and/or enhancement mitigation required as part of the reclamation of the land occupied by the replaced canal, a specific Engelmann Oak Preservation and Canal Restoration Plan will be prepared by the project proponent. The dominant vegetation communities that make up the current canal section includes coast live oak woodland containing Engelmann oak trees and southern mixed chaparral. This plan shall detail the specific canal restoration, and/or enhancement measures to be implemented as part of project mitigation. The plan shall provide an implementation schedule including site preparation methods, an irrigation plan, non-native plant removal, planting specifications, as well as detailed maintenance and monitoring/reporting schedules, as necessary. The Engelmann Oak Preservation and Canal Restoration Plan shall require approval by the USFWS and/or CDFW, as appropriate, prior to any vegetation clearing, grading, and/or construction activities.

Any upland or riparian/wetland habitat impacts that occur beyond the approved work limits of any project (see mitigation measure Bio-5) shall be mitigated at a ratio to be negotiated with the USFWS, USACE, RWQCB, and/or CDFW.

4.4.4.4 Issue 3 – Wetlands and Jurisdictional Waterways

Would the proposed project have a substantial adverse impact 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?

Impacts

According to the 2016 Jurisdictional Waters and Wetlands Report for the proposed project (Appendix D), thirteen small, narrow surface water features were mapped within the study area that occupy an area of 0.05 acre. These surface water features would likely fall under the regulatory jurisdiction of the USACE, RWQCB, and/or CDFW.

The proposed project components could occur on and/or in the immediate vicinity of jurisdictional waters, and thus could result in potentially significant direct and/or indirect impacts to jurisdictional waters or wetlands. Therefore, activities associated with construction of the proposed project could be subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFW. Direct impacts include those that pertain to the direct fill, dredge, or discharge into jurisdictional waters and wetlands through activities such as clearing, grubbing, grading, and other land disturbance activities; construction access and staging; and removal and replacement of existing facilities. These potential direct impacts would be considered significant.

Potential short-term, construction-related indirect impacts resulting from construction of the proposed project may occur adjacent to jurisdictional waters and wetlands. Potential indirect impacts to jurisdictional waters and wetlands would be the same as those for special status species and their habitats. These indirect impacts would be considered significant.

Mitigation Measures

Mitigation measures implemented for all sensitive habitats, described in the Riparian Habitats and Other Sensitive Communities section above, will also be implemented for wetlands and jurisdictional waterways. In addition, one mitigation measure (Bio-10 Jurisdictional Delineation) is described below and will be implemented specifically for wetlands and jurisdictional waterways.

Bio-10 Jurisdictional Delineation. Where it has been confirmed through jurisdictional delineation that jurisdictional waters or wetlands would be impacted by the proposed project, the project proponent shall obtain the required federal and state permits from the USACE, RWQCB, and/or CDFW, pursuant to Sections 404 and 401 of the CWA, and Section 1600 et seq. of the CFG Code, respectively. In compliance with permit requirements, the project proponent shall mitigate the loss of jurisdictional waters or wetlands through implementation of the in-kind habitat replacement identified in mitigation measure Bio-9, unless otherwise conditioned by the USACE, RWQCB, and/or CDFW in the federal and state permits.

4.4.4.5 Issue 4 – Interfere with the Movement of Fish or Wildlife Species

Would the proposed project 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?

Impacts

A wildlife movement corridor is defined as a patch of wildlife habitat which joins two or more larger areas of wildlife habitat. The proposed pipeline alignment is not considered to be located within a wildlife movement corridor. Further, construction of the proposed pipeline would be temporary and would not permanently impede animal movement. Additionally, the end result of the proposed project would be an underground pipeline which would not impede wildlife movement. Therefore, the proposed project would not impede wildlife movement, because the proposed project is not located in a wildlife movement corridor, proposed project construction would be temporary, and the final result of the proposed project would be an underground pipeline.

Mitigation Measures

No mitigation measures are necessary because impacts would be less than significant.

4.4.4.6 Issues 5 and 6 – Conflict with Local Policies or Ordinances and Conflict with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan

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

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

Impacts

The County's Resource Protection Ordinance (San Diego County Code of Regulatory Ordinances Sections 86.601 – 86.608) protects sensitive lands and prevents their degradation and loss by requiring a Resource

Protection Study for certain discretionary projects within areas of the unincorporated county. Resources protected under the County Resource Protection Ordinance include wetlands and sensitive habitat lands, among others. As discussed above in Sections 4.4.4.3 and 4.4.4.4, the proposed project components could result in potentially significant impacts to wetlands and sensitive habitats. However, implementation of mitigation measures Bio-1, Bio-5, Bio-6, Bio-7, Bio-9, and Bio-10 would reduce potential impacts to a less than significant level. Therefore, the proposed project would not conflict with the County Resource Protection Ordinance. No impact is anticipated; therefore, no mitigation measures are proposed.

As stated above, the project area, excluding the San Pasqual Reservation, lies within the boundaries of the Draft North County Multiple Species Conservation Program; however, the North County MSCP has not been finalized and adopted. Thus, implementation of the proposed project would not conflict with any local policies, ordinances, nor with the provisions of an approved Habitat Conservation Plan, Natural Community Conservation Plan, or other local, regional, or state habitat conservation plans.

The National Marine Fisheries Service (NMFS) has developed a final Recovery Plan for the distinct population segment of steelhead (*Oncorhynchus mykiss*) in southern California that is federally listed as an endangered species (NMFS 2012). The recovery planning area encompasses steelhead populations in coastal watersheds from the Santa Maria River (just north of Point Conception) south to the Tijuana River (at the U.S./Mexico border). Although there is no known existing steelhead population in the San Luis Rey River, the NMFS intends to encourage steelhead recovery activities in the river. However, the proposed project will not alter the flow regime within the San Luis Rey River. Thus, the proposed project would not conflict with the Southern California Steelhead Recovery Plan. No impact would occur.

Mitigation Measures

Implementation of the proposed project would have no impact; therefore, no mitigation is required.

This page intentionally left blank.

4.5 Cultural and Paleontological Resources

This section evaluates the potential direct, indirect, short-term, and long-term impacts of the proposed project on cultural and paleontological resources. The information presented below is based on the cultural resources technical report prepared by ASM Affiliates, Inc. (ASM) in 2012, as well as the recent 2016 survey and records search performed by Atkins. The Atkins cultural resources letter report and ASM's cultural resources report are included as Appendices H and I to this EA-IS/MND, respectively.

4.5.1 Environmental Setting

4.5.1.1 Definition of Resources

Cultural resources can be classified as either historic or archaeological resources. According to Public Resources Code (PRC) section 5020.1, a historic resource includes any object, building, structure, site, area, place, record, or manuscript which is historically significant, or is significant in the architecture, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. A resource is considered historically significant if the resource is at least 50 years old or older and meets one of the previously mentioned requisites. PRC section 21083.2 defines a unique archaeological resource as an artifact, object, or site that clearly lends either a cultural or scientific body of knowledge of our history. According to PRC Section 21074, a Tribal Cultural Resource is a site feature, place, cultural landscape, sacred place or object, which is of cultural value to a Tribe and is either on or eligible for the California Historic Register or a local historic register, or the lead agency, at its discretion, chooses to treat the resource as a Tribal Cultural Resource.

4.5.1.2 Prehistoric and Historic Settings

Prehistoric Period

Archaeological investigations in San Diego County and elsewhere in southern California have documented a diverse range of prehistoric human occupations, extending from the terminal Pleistocene down to the time of European contact (ASM 2012). Different regional chronologies, often with overlapping and inconsistent terminologies, have been used in coastal southern California. Three general periods can conveniently be distinguished: Pleistocene/Early Holocene, Middle Holocene, and Late Holocene. These periods are characterized by changing patterns in material culture that are thought to represent distinct regional trends in the economic and social organization of prehistoric groups.

Paleoindian (pre-5500 B.C.)

Evidence for Paleoindian occupation in coastal southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal southern California (excluding the Channel Islands) derives in La Jolla. A human burial was radiocarbon dated to 9590-9920 years before present (B.P.) (95.4 percent probability) (ASM 2012). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of ground stone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of ground stone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China

Lake near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site; a multicomponent fluted point site, and a single component Great Basin Stemmed point site (ASM 2012). At the Komodo and fluted point sites, ground stone tools were rare while finely made projectile points were common.

Turning back to coastal southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter-gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 B.P.) that submerged as much as 1.8 km of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as those along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 B.P.) that are commonly found at sites in California's high desert (ASM 2012). A different site yielded one corrected radiocarbon date of 8520-9520 B.P. (see Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 B.C. (ASM 2012). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (ASM 2012). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (ASM 2012).

Archaic (8000 B.C. – A.D. 500)

The more than 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (ASM 2012).

The Archaic pattern is relatively easy to identify (albeit hard to define) with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (ASM 2012). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted at around A.D. 500, as well as ceramics at approximately the same time (ASM 2012). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped ground stone tools (ASM 2012). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complemented only by the addition of the bow and ceramics.

Separating the Archaic from the Late Prehistoric is primarily based on environmental changes that lead to modifications of settlement (if not assemblage composition and formality). The desiccation of resource-rich bays and estuaries lead to the disappearance of large, serial occupation sites in those areas between 3500 and 2000 years ago (ASM 2012). Shellfish and plants were the dominant resources while hunting and fishing were less important. Despite the changes in the littoral with the infilling of lagoons, this adaptive strategy remained largely unchanged for several thousand years. Warren et al. (1961:25) claim that “the La Jolla Complex reached its population and cultural climax between 7,000 and 4,000 years ago when there was a plentiful supply of shellfish in the lagoons along the coast,” followed by a decline in population along the coast and tributaries. Archaeologists following this model suggest that economies intensified plant and small game exploitation to compensate for the lack of coastal resources (ASM 2012). Exceptions to this pattern are thought to be rare, limited to the San Diego Bay and Mission Bay area (e.g., Warren 1964, 1968), and the Peñasquitos Lagoon/Sorrento Valley area (ASM 2012).

Inland Middle Holocene sites have been less extensively studied, although D. L. True and his associates established an important foundation for such studies (ASM 2012). The Pauma complex had its geographical focus on the upper San Luis Rey River, with extensions to the Valley Center area, middle San Luis Rey River, upper Santa Margarita River, and Escondido-San Marcos area. Pauma complex characteristics suggested by True included (1) a high frequency of shaped manos, (2) the presence of finely worked small domed scrapers, (3) the presence of knives and points, (4) the presence of discoidals and coggled stones, (5) a predominance of grinding tools over flaked tools, (6) a predominance of deep basin metates over slab metates, (7) a predominance of cobble hammers over core hammers, (8) a low frequency of cobble tools, (9) a scarcity of cobble choppers and cobble scrapers, (10) a predominance of volcanic rock over quartzite as a source material for flaked lithics, and (11) an extreme scarcity of obsidian. The coastal La Jolla and inland Pauma complexes have been variously interpreted as separate, contemporaneous socio-cultural units and as seasonal/functional manifestations of a single society and culture.

Late Prehistoric (A.D. 500-1750)

The interval following the Archaic and prior to ethnohistoric times (A.D. 1750) is commonly referred to as the Late Prehistoric (ASM 2012). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-A.D. 1450 period is called the San Luis Rey Complex while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from A.D. 500 until ethnohistoric times (ASM 2012). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Variations in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well suited to describe the last 1,500 years of prehistory in the San Diego region.

Explanations for the origin of innovations associated with the Late Prehistoric period have varied. A. L. Kroeber (1925:578) speculated that Shoshonean (i.e., Takic) speakers migrated from the deserts to the southern coast of California at least 1,000-1,500 years ago (but on varied interpretations of the region's linguistic prehistory, ASM 2012). Some archaeologists have embraced this hypothesis and correlated it with the origins of the Late Holocene archaeological complexes (ASM 2012). Rogers (1929) initially discussed the Luiseño and Kumeyaay under the rubric of the Mission Indians, and distinguished them from earlier shell-midden and scraper-maker cultures. He later argued for continuity in occupation from the Archaic to the Late Prehistoric period in the Kumeyaay area (ASM 2012). He proposed that the Kumeyaay had appeared as the result of earlier migration of Yumans from the coast to the Colorado River (perhaps as the result of an influx of Takic speakers into northern San Diego County), Yuman adaptation to their new riverine setting and adoption of traits from adjacent populations in the Southwest, and subsequent movement back to the coast during the Late Prehistoric period. Subsequently, scholars have proposed several cultural processes to explain Late Holocene cultural developments, including an occupational hiatus, cultural continuity with the addition of new traits, and population replacement (ASM 2012).

Despite myriad attempts to explain Late Prehistoric assemblages, temporal trends in socioeconomic adaptations during the Late Prehistoric are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points, large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the ethnohistoric intensive acorn economy extends as far back as A.D. 500 (ASM 2012). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to A.D. 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately A.D. 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after A.D. 1450 (ASM 2012). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to ethnohistoric times, and that when it did occur, a major shift in social organization followed.

Ethnohistoric Period (Post A.D. 1750)

The Rincon Penstock portion of the area of potential effect (APE) lies within the traditional Luiseño (also termed Puyumkowitchum and Ataxum) lands while the five potential alignments of the underground Escondido Canal lie within a transition area between the traditional Luiseño and Ipai (also termed Diegueño and Kumeyaay) lands (ASM 2012). In 1891, the San Pasqual Band of Diegueño Mission Indians

lived in and around the San Pasqual Valley, approximately 10 miles to the south of the current reservation location when the San Pasqual Reservation was incorrectly surveyed and mapped one township to the north (San Pasqual Band of Diegueño Mission Indians of California, n.d.). Therefore, the greater area surrounding the APE was occupied and used by both the Ipai and the Luiseño before European contact.

The San Diego region became increasingly multiethnic in its cultural traditions after the arrival of a permanent Spanish settlement in A.D. 1769. Written records from the historic period also shed considerable light on prehistoric lifeways in the region. Relevant documents from the Spanish and Mexican periods are very limited. However, the ethnographic record became much richer in the early decades of the twentieth century, with the rise of academic anthropology (ASM 2012). Ethnographic information concerning the Ipai and the Luiseño is generalized, rather than referring specifically to the APE or project vicinity.

Ipai

The people living in the southern part of San Diego County at the time of Spanish contact were called the Diegueño, after the mission at San Diego (Mission San Diego de Alcalá). Many people living in the region were not affiliated specifically with the mission. The term Kumeyaay has come into common usage to identify the Yuman-speaking people who lived and live in the central and southern part of the county. Luomala (1978) used the terms Tipai and Ipai to refer to the southern and northern Kumeyaay respectively. The dividing line between the Tipai and the Ipai runs approximately from Point Loma to Cuyamaca Peak and Julian.

The area surrounding the five potential alignments of the underground Escondido Canal were associated with the Ipai during the early historic period, while prehistorically this area has been associated with both the Ipai and the Luiseño (ASM 2012). The Ipai spoke a language (or possibly a dialect) belonging to the Diegueño group, together with the closely related Kumeyaay and Tipai languages or dialects to the south, within the larger Yuman linguistic family. According to the debatable technique of glottochronology, the separation of the Diegueño languages from their closest relative, Cocopa in the Colorado River's delta, may date back about 1,000-1,200 years, and the separation from other Yuman groups represented in western Arizona and northern Baja California may have occurred around 1,500-2,000 years ago (ASM 2012). Prehistorically, this area has been associated with both the Ipai and the Luiseño

Aboriginal Ipai subsistence was largely or entirely based on harvesting natural plants and animals, rather than on growing agricultural crops. Acorns were a staple for the western groups, as were agave and mesquite for eastern groups. Numerous other plants were valued for the dietary contributions from their seeds, fruit, roots, stalks, or greens, and a still larger number of species had known medicinal uses. Game animals included deer, first and foremost, but mountain sheep and pronghorn antelope were also present, as well as bears, mountain lions, bobcats, coyotes, and other medium-sized mammals. Small mammals were probably as important in aboriginal diets as larger animals, with jackrabbits and cottontails being preeminent, but woodrats and other rodents were commonly exploited. Various birds, reptiles, and amphibians were caught and eaten; food taboos were few in number and inconsistent, to judge from the surviving ethnographic record. The only pre-contact domesticated animal was the dog. It is not clear whether marine fish and shellfish were a mainstay for some coastal groups or merely provided supplemental or emergency food sources for groups that were oriented primarily toward terrestrial resources. Interregional exchange systems are known to have linked the coast with areas to the east in particular, but exchange may have been more concerned with facilitating social and ceremonial matters than with meeting material needs (ASM 2012).

The Ipai people established a rich cultural heritage and were organized into large groups that had base camps and an extensive territory that was exploited for specific resources. Based on ethnohistoric and ethnographic information, a large number of village sites have been identified throughout San Diego County. Some of these villages were located along the coast near river mouths; the varied resources offered by the ocean and riparian areas attracted large numbers of people to these areas. However, a study by Christenson (1992) indicates that maritime resources were not as large a part of the diet as previously believed.

The Ipai were subdivided into essentially sovereign local communities or tribelets. Community membership was generally inherited in the male line. However, in practice some degree of intermixing of these patrilineal groups was certainly present during the historic period, particularly among the Ipai, and this may have reflected a considerable degree of flexibility in community membership during prehistoric times as well. Later descriptions of the settlement systems have been inconsistent, and there may have been considerable variability in practice (ASM 2012). In some areas, substantially permanent, year-round villages seem to have existed, with more remote resources beyond the daily foraging range being acquired by special task groups. In other areas, communities appear to have followed an annual circuit among seasonal settlements, or to have oscillated between summer and winter villages, often with the group splitting up into its constituent families during certain seasons. Some differences in settlement strategies may have reflected local differences in resource availability or cyclical effects of variability between times of plenty and times of stress. Rights of ownership over the land and its various resources were vested both in individual families and in the clans or communities as a whole. Leadership within communities had at least a tendency to be hereditary, but it was relatively weak; authority was more ceremonial and advisory than administrative or judicial. Headmen had assistants, and shamans exerted an important influence in community affairs, beyond their role in curing individual illness.

The Ipai had developed a varied material culture. An array of tools were made from stone, wood, bone, and shell, and these served to procure and process the region's resources. Needs for shelter and clothing were minimal, but considerable attention was devoted to personal decoration in ornaments, painting, and tattooing. The local pottery was well made, although infrequently decorated. Basketry was a craft that was particularly refined (ASM 2012).

Luiseno

Luiseno groups, speaking a language within the Takic branch and Cupan subgroup of Uto-Aztecan, occupied the northern San Diego, southern Orange, and southeastern Riverside counties through the ethnohistoric period into the twenty-first century. They are linguistically and culturally related to the Cahuilla, Cupeño, Serrano, and Gabrielino.

The Luiseno inhabited areas near the Rincon Penstock. Settlement patterns of hunter-gatherers such as the Luiseno were influenced by subsistence factors. The effective exploitation of any particular resource used for food, medicine, or manufacture was tied to the seasonal availability of primary resources. The flora and fauna exploited by Native American populations of this area of southern California were diverse. The Luiseno divided the year into eight seasons (10 months) by when certain seeds and fruit were available. The season or month was named for the environmental characteristics that manifested themselves in that season or month (ASM 2012).

Both plant and animal foods played a major part in Luiseno subsistence. The plant foods were high in fat, carbohydrates, and protein, and thus provided a high-energy diet. Some of the plants exploited for food included acorns, annual grass seeds, yucca, manzanita, sage, sunflowers, lemonade berry, chia, and various wild greens and fruits. These plants were available seasonally: elderberries are available during

July and August, chia is available mainly in June, acorns are available in the fall, and many grasses are available in the spring, summer, and fall. Storage allowed these resources to be consumed throughout the year. Most ethnohistoric accounts emphasize that acorns, gathered in the highlands, were the most important food source for the Luiseño.

Exploited animal resources included deer, antelope, bear, rabbit, jackrabbit, woodrat, mice, ground squirrels, valley and mountain quail, doves, ducks and other birds, fish, and marine shellfish. The Luiseño avoided hunting all predator animals, as well as tree squirrels and most reptiles (ASM 2012). Hunting in recent times employed a bow and arrow and was carried out individually or in groups. As in many other areas of California, deer were tracked and stalked, while smaller game, including rabbit, was caught with curved throwing sticks, nets, slings, traps, or deadfalls, or through game drives. Bones of rabbit and other small animals were dried and pounded into a powder to mix into other foods as seasoning and additional nourishment (ASM 2012).

Coastal marine animals utilized as food included sea mammals, crustaceans, fish, and mollusks. Some fish were only available seasonally, while other fish were available throughout the year. Trout and other fish, when available in inland drainages and in mountain streams, were captured with traps, nets, or poison.

Settlement of coastal southern California followed a pattern of permanent villages and temporary hunting and gathering camps. Houses were conical structures of willow frames covered with brush, with subterranean floors and central hearths. Other structures included sweathouses, ceremonial enclosures, ramadas, and acorn granaries. Domestic implements included wooden utensils, baskets, and ceramic cooking and storage vessels, and stone milling equipment.

Seasonality and scheduling of resource exploitation were critical elements of the cultural adaptive system interwoven with the settlement patterns. Storage of both plants and animals was practiced regularly among the Luiseño and was often considered a necessity. The seasonal availability of acorns, yucca, and grasses dictated long-term planning of resource exploitation. Ethnohistoric accounts emphasize the dearth of winter resources and how people were forced to depend on stored foods including acorns, dried fish, and other plant foods. Some fish species were available in the winter but they were mainly bottom-dwelling species, small sardine schools, and mackerels (ASM 2012). Some accounts indicate that coastal communities exploited local shellfish in the winter (Sparkman 1908). During times of scarce resources, the interior Luiseño traveled to the coast to obtain shellfish, fish, and even some land mammals (ASM 2012). Bean and Shipek (1978) note that most inland groups had fishing and gathering locations on the coast that they visited annually when the tides were low or when the inland resources were scarce, typically during the months of January through March.

All accounts emphasize that populations were concentrated within the highlands during the acorn harvest in October and November. Adaptations included management of resources, food storage, and migration in response to changing availabilities of resources. Fire was employed as a crop-management and path-clearing technique and for community game drives. The annual produce return from various plant resources such as grass seeds, some greens, and yucca was maintained by burning the landscape at least every third year (ASM 2012). These techniques prevailed throughout southern California.

The settlement pattern and subsistence systems of the Luiseño, like those of other California groups, were tailored to exploit the seasonal fluctuations in resources and employed movements of populations from mountain slopes and highlands to valley floors and coastal strips. The duration and location of settlement areas were dependent on the availability of plant and animal resources. The settlement pattern was characterized by aggregation and segregation of people around plant and animal resources.

Historic Period

Spanish Period

Spanish explorer Juan Rodríguez Cabrillo first discovered California in 1542, claiming it for the King of Spain. More than two centuries later, Christian missionaries and soldiers arrived both by sea and overland from Baja California and founded Mission San Diego de Alcalá in 1769, the first of 21 Spanish missions (1769-1823). Charged with converting pagan Indians to Christianity, the mission system and its soldiers would protect Spain's interest in California. Soldiers protected the mission from Presidio Hill, and the Franciscans first served the new mission by overseeing its operations and assumed control over the land as trustees for the Indians. The mission system operated under the expectation that once the Indians had been Christianized and "civilized," land would become a pueblo. In 1774, the presidio became a Royal Presidio, and the mission was relocated 10 km up the San Diego River. Some Indians had already been baptized, but others revolted in 1775 by burning the mission and killing a friar. The attack did not prompt any long-term changes to the mission system, but it heightened insecurities.

On July 20, 1769, Father Juan Crespí arrived in the San Luis Rey River valley with the Portolá expedition to Monterey. His report back to his superiors declaring it an ideal location for a mission led to the eventual founding of Mission San Luis Rey de Francia, the eighteenth California mission (ASM 2012). The mission was formally dedicated June 13, 1798. Named for King Louis IX of France, this mission became known as the "King of Missions" due to its size and success. At the time of European contact, the San Luis Rey Valley was occupied by Takic-speaking Indians, who were later named Luiseño after the mission. In 1824, Mission San Luis Rey had an Indian neophyte population of 3,000 and the extensive mission lands supported 1,500 horses, 2,800 sheep, and 22,000 cattle. Approximately 20 miles northeast the Mission San Luis Rey, Pala was founded in 1810, as an *asistencia*, or outpost, of Mission San Luis Rey. An *asistencia* is defined as a mission on a small scale that offers religious services on days of obligation but lacks a resident priest (ASM 2012).

Life moved slowly on mission lands, focusing on the pursuits of cultivation. Indians living near the mission complexes worked the land, slowly transforming it into orchards (citrus and olive), vineyards, farm crop fields, and cattle ranch land. Indians in the backcountry, however, preferred to keep their distance from the mission to resist disease and retain their way of life (ASM 2012). El Camino Real linked the otherwise-isolated missions in Alta and Baja California, and the route between Yuma and San Diego through Mountain Springs grade made San Diego more accessible, even if it crossed over difficult terrain. The San Diego Presidio and the Mission San Luis Rey grew slowly, and the earliest efforts at the mission and presidio translated into successful cultivation even with water shortages and soil problems. At the mission, work days consisted of seven hours of work with two-hour prayer sessions. Along with friars and Indians, Mexican carpenters and blacksmiths also worked at the mission.

Despite the difficulties and distance, Spanish colonists still voyaged to the new land. The first group of colonists arrived in San Diego in 1774. San Diego remained a small frontier colony. During this period, trade ships from the Canton, China, route docked in San Diego, introducing American-made goods from the New England region to the relatively isolated frontier. Before the end of the Spanish era, a dam and aqueduct had been constructed, providing a regular supply of water for the orchards and fields of Mission San Diego (ASM 2012). By 1818 Mission San Luis Rey had become the richest and most populous of Spain's missions in California (ASM 2012).

Mexican Period

After a long struggle in Mexico, the Mexican War of Independence ended in 1821, severing the Spanish hold on the Californias. The San Diego area began transitioning from a religious and military outpost to a town. The mission movement was dwindling as 17 of the oldest missions no longer had resident priests and the native population had drastically declined from the impact of Spanish occupation. By 1824, unpaid presidio soldiers of Mission San Diego de Alcalá began constructing homes at the base of Presidio Hill in present-day Old Town. The Mexican government continued to open up San Diego by retracting port restrictions, further expanding access to the port for the growing hide trade. Old Town became an important center for a decade, becoming a civilian town in 1834. By 1840, the town had fallen into disrepair and many left the old, decaying pueblo (ASM 2012).

Land grants or ranchos largely characterize the Mexican period (1821-1848). Although some land had been granted to Indians, most of the land went to military men or merchants. Granting large ranch land or ranchos remained as both a Spanish and Mexican legacy in California, but no land grants were made in San Diego during the Spanish period. Spaniards developed the idea in 1784 when the Spanish viceroy and his appointees (governors and military commanders) granted ranchos as essentially land concessions or permits for cattle grazing. The Mexican government retained those concessions for a time, but by 1828, existing and new ranchos were granted under land title. A majority of ranchos were demarcated after secularization of mission land beginning in 1833, which prompted a rush for land grants. Land granted to Mexicans between 1833 and 1846 amounted to 500 ranchos primarily granted near the coast from San Francisco to San Diego. Hand-drawn maps or *diseños* indicated the often-vague boundaries of the grants where *dons* and *doñas* constructed adobe houses on their vast lands, cultivating the land, and grazing cattle, often with the aid of *vaqueros*. Mexican Governor Pío Pico granted a great number of those ranchos prior to 1846, quickly carving up Alta California to ensure Mexican land titles survived a U.S. victory in the Mexican-American War (1846-1848) (ASM 2012). The Helix-Lambron, Pascoe, and Cielo Azul parcels lie outside but are near, Hispanic-era land grants.

American Period

After the Mexican-American War, land ownership in California became hotly contentious despite protection under the Treaty of Guadalupe Hidalgo of February 1848. Proof of rancho land ownership with the new government often meant years of effort to obtain a federal patent, and many rancheros had difficulty maneuvering through the process. Capitalizing on the uncertainty of those transitional years, Anglo settlers increasingly squatted on land that belonged to Californios and began challenging the validity of Spanish-Mexican claims through the Board of Land Commissioners (1851) (ASM 2012). Meanwhile, William Heath Davis's 1850 experiment to restart San Diego as a coastal New Town failed after a short period of time. Alonzo E. Horton's second attempt at New Town in 1867 became the successful foundation for present-day downtown San Diego (ASM 2012). An influx of Anglo squatters outside of New Town and new government taxes severely hindered Californio rancho owners, and by 1860, most did not retain their original land holdings. Unimproved farmland and substantial, often unconfirmed, ranchos characterized the largely uninhabited San Diego County (ASM 2012).

The confirmation of rancho's boundaries in the late 1860s and early 1870s drew additional settlers as land became officially conveyable. Small farming communities were quickly established throughout San Diego County, and a completed transcontinental railroad in November 1885 helped to initiate an unprecedented real estate boom for New Town that spilled over the county. Settlers poured into San Diego, lured by real estate promotions offering a salubrious climate, cheap land, and the potential to realize great profits in agriculture and real estate. Speculators formed land companies and subdivided town sites throughout the county, and settlers took up homestead claims on government land for both speculation and permanent

settlement (ASM 2012). In 1880, the California Southern Railroad was formed to construct a rail line between San Diego and San Bernardino. By 1882, 211 miles of track had been constructed from National City to Fallbrook Junction, just north of Oceanside, and inland through Temecula Canyon to Colton and San Bernardino, bringing a greater level of connection to the county.

The first two decades of the twentieth century brought continuity and change to San Diego, with a continued U.S. Navy and Army presence, and the trend of populating the burgeoning New Town continued (ASM 2012). Automobiles became increasingly popular as they became affordable, prompting San Diego County to grade roads to open up the backcountry (ASM 2012). Glenn H. Curtiss flew the first seaplane from North Island (1911), initiating a growing interest in aviation technologies in San Diego that would later be heightened by Charles Lindbergh's historic flight on the Spirit of St. Louis from Rockwell Field in San Diego to St. Louis, Missouri (1927). Balboa Park and the San Diego Zoo remained after the Panama-California Exposition in 1915, leaving San Diegans with city-defining legacies. In 1917, the U.S. Army established Camp Kearney as part of the nationwide defense campaign for World War I (ASM 2012).

Flourishing agricultural communities existed across the county with federal and state water development projects, harbor improvements, and high levels of construction curbing some of the effects of the Great Depression. Construction projects for the Navy and Army helped sustain the area. Social changes such as the construction of San Diego State College (1931), transition from coal-derived gas to natural gas, and the planning and hosting of the World's Fair (1935) also aided in sustaining the San Diego area (ASM 2012). A significant economic impact during the financial crisis was Reuben H. Fleet's decision to move Consolidated Aircraft from Buffalo, New York, to San Diego, a more suitable climate for testing planes. The company brought 800 employees and \$9 million in orders (ASM 2012).

San Diego County's greatest numerical growth period in the first half of the twentieth century was between 1940 and 1950 when the county grew to 556,808 inhabitants (ASM 2012). It is also a period characterized by more people moving to rural areas instead of the city, as the rural population increase by 170.8 percent (ASM 2012). At more than half a million people, San Diego had become a metropolis with attractive rural areas transitioning into new suburban communities.

Infrastructure improvements to both roadways and railroads in San Diego County became necessary to accommodate new residents, again primarily near defense centers (ASM 2012). In 1956, President Eisenhower authorized an interstate system with the Federal-Aid Highway Act, an act that further interconnected multiple state routes for increased interstate traffic flow. According to historian Iris Engstrand (2005:165), "the automobile affected almost every major decision regarding the direction taken by San Diego planners during the post-World War II decades." A new trend of constructing retail stores outside the city center provided suburban enclaves as more houses filled in the outskirts of the city (ASM 2012). By 1960, 1,033,011 people lived in the county and between 1950 and 1970, bedroom communities such as El Cajon, Escondido, Chula Vista, and Oceanside experienced a tremendous growth rate (between 214 and 833 percent) (ASM 2012).

4.5.1.3 Paleontological Resources

Geologically, the APE lies within the Southern California Batholith and the Peninsular Ranges. Mesozoic (245-65 million years ago [MYA]) granitic and gabbroic rock and Quaternary (1.6 MYA to present) sedimentary deposits (ASM 2012) are present within the APE. The granitic and gabbroic rocks were formed during the latter part of the Mesozoic Era, in the Cretaceous Period. The granitic and gabbroic rocks are part of the western zone of the Peninsular Ranges Batholith. The designation for the formation in the APE is mid-Cretaceous period *Klh* or Leucogranodiorite of Lake Hodges. It is "massive, coarse- and

medium-grained biotitehornblende, leucogranodiorite” (ASM 2012). Previously, Kennedy and Tan (1999) had stated that the area featured mid-Cretaceous *Kg(e)* or Escondido Creek Leucograndiorite, which they described as “fine-grained light-colored rocks ranging from leucograndiorite to leucotonalite, with minor grandiorite and tonalite.”

The soils within the APE containing the Rincon Penstock are classified as well drained Greenfield sandy loam with 9 to 15 percent slopes, well drained Visalia sandy loam with 0 to 2 percent slopes, and somewhat excessively drained Cieneba very rocky coarse sandy loam with 30 to 75 percent slopes (ASM 2012.). The soils within the APE containing the proposed pipeline alignment are classified as well drained Visalia sandy loam with 0 to 5 percent slopes, somewhat excessively drained Cieneba, very rocky coarse sandy loam with 30 to 75 percent slopes, and well drained Fallbrook sandy loam with 5 to 9 percent eroded slopes (ASM 2012).

4.5.2 Regulatory Setting

The treatment of cultural resources is governed by federal and California laws and guidelines. There are specific criteria for determining whether prehistoric and historic sites or objects are significant and/or protected by law. Federal and state significance criteria generally focus on the resource’s integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. Some resources that do not meet federal significance criteria may be considered significant under state criteria. The laws and regulations seek to mitigate impacts to significant prehistoric or historic resources. The federal and state laws and guidelines for protecting cultural resources are summarized below.

4.5.2.1 Federal

National Historic Preservation Act of 1966

The National Historic Preservation Act (NHPA) established the National Register of Historic Places (NRHP) as the official federal list of cultural resources that have been nominated by state offices for their historical significance at the local, state, or national level. Listing on the NRHP provides recognition that a property is significant to the nation, the state, or the community and assumes that federal agencies consider historic values in the planning for federal and federally assisted projects. Properties listed in the NRHP, or “determined eligible” for listing, must meet certain criteria for historical significance and possess integrity of form, location, and setting. Structures and features must usually be at least 45 years old to be considered for listing on the NRHP, barring exceptional circumstances. Criteria for listing on the NRHP, which are set forth in 36 CFR Part 63, include: significance in American history, architecture, archaeology, engineering, and culture as present in districts, sites, buildings, structures; and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; and that are:

- Associated with events that have made a significant contribution to the broad patterns of our history;
- Associated with the lives of persons significant in our past;
- Embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values, represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

Eligible properties must meet at least one of these criteria and exhibit integrity, measured by the degree to which the resource retains its historical properties and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of changes to the property. These criteria have largely been incorporated into Section 15064.5 of the CEQA Guidelines (also refer to Section 4.5.3 below).

Federal Native American Graves Protection and Repatriation Act

Passed in 1990, the federal Native American Graves Protection and Repatriation Act (NAGPRA) provides a process for museums and federal agencies to return certain Native American cultural items - human remains, funerary objects, sacred objects, or objects of cultural patrimony - to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on federal and tribal lands, and penalties for noncompliance and illegal trafficking.

Federal curation regulations are also provided in 36 CFR Part 79 which apply to collections that are excavated or removed under the authority of the Antiquities Act (16 U.S.C. 431-433), the Reservoir Salvage Act (16 U.S.C. 469-469c), Section 110 of the NHPA (16 U.S.C. 470h-2), or the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm). Such collections generally include those that are the result of a prehistoric or historic resources survey, excavation or other study conducted in connection with a federal action, assistance, license or permit.

4.5.2.2 State

California NAGPRA

The California NAGPRA, enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. California NAGPRA also provides a process for the identification and repatriation of these items to the appropriate tribes.

California Health and Safety Code Sections 7050.5, 7051, and 7054

These sections collectively address the illegality of interference with human burial remains, as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction, and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures. Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98 (refer to second paragraph below). The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendent. The Most Likely Descendent shall complete the inspection of the site within 24 hours of notification, and may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials.

California Register of Historic Resources (PRC Section 5020 et seq.)

The State Historic Preservation Office (SHPO) maintains the California Register of Historic Resources (CRHR). Properties listed, or formally designated as eligible for listing, on the NRHP are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR also includes properties designated under local ordinances or identified through local historical resource surveys.

State law seeks to protect cultural resources by requiring evaluations of the significance of prehistoric and historical resources in CEQA documents. An important historical resource is one that meets any of the criteria in Section 15064.5(a)(3) of the CEQA Guidelines, which are nearly identical to those for the NRHP, and are listed in Section 4.5.3 below. CEQA Section 15064.5(a)(4) also affords the Lead Agency the ability to determine whether a resource may be considered historical without it being listed in the CRHR. An archaeological deposit that has been extensively disturbed, or archaeological artifacts found in isolation, may not be eligible for listing on the CRHR because the lack of stratigraphic context may impair the ability of the resource to yield significant data.

Generally, a resource shall be considered by the Lead Agency to be “historically significant” if the resource meets the criteria for listing on the CRHR, cited as Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852, consisting of the following:

- (1) 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; or
- (2) It is associated with the lives of persons important to local, California, or national history; or
- (3) 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; or
- (4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

California Native American Historic Cultural Sites (PRC Section 5097 et seq.)

State law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the NAHC to resolve disputes regarding the disposition of such remains. In addition, the Native American Historic Resource Protection Act makes it a misdemeanor punishable by up to a year in jail to deface or destroy an historic or cultural site that is listed or may be eligible for listing in the CRHR.

California PRC Section 21083.2(g)

“Unique archaeological resource” means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions, and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

California PRC Section 21083.2(h)

“Non-unique archaeological resource” means an archaeological artifact, object, or site which does not meet the criteria in subdivision (g) above. A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the Lead Agency if it so elects.

Assembly Bill 52

Effective on July 1, 2015, AB 52 adds tribal cultural resources as an issue under the Cultural Resources CEQA environmental topic, which was previously limited to historic, archaeological, and paleontological resources. Tribal cultural resources are defined as either:

1. Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are included in the state register of resources or a local register of historical resources or that are determined to be eligible for inclusion in the state register; or
2. Resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

Further, recognizing that tribes may have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. Consultation as defined under AB 52 includes, but is not limited to, discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project’s impacts on the tribal cultural resources, and alternatives and mitigation measures recommended by the tribe. Parties must consult in good faith and consultation is deemed concluded when either the parties agree to measures to mitigate or avoid a significant impact on a tribal cultural resources (if such a significant impact exists) or when a party concludes that mutual agreement cannot be reached. Further, under AB 52, mitigation measures agreed upon during consultation must be recommended for inclusion in the environmental document and, if no formal agreement on the appropriate mitigation has been established, mitigation measure that avoid significant impacts that have been identified in AB 52 should be implemented.

4.5.2.3 Local

San Diego County Resource Protection Ordinance

The San Diego County Resource Protection Ordinance (RPO) requires that cultural resources be evaluated as part of the County’s discretionary environmental review process and if any resources are determined significant under the County RPO, they must be preserved. The County RPO prohibits development, trenching, grading, clearing, and grubbing, or any other activity or use that may result in damage to significant prehistoric or historic site lands, except for scientific investigations with an approved research design prepared by an archaeologist certified by the Society of Professional Archaeologists. The County RPO limits the alteration of significant prehistoric and historic site lands without prior approved research design by a certified archaeologist. Sites determined to be highly significant must be preserved. Local historic records are managed at the South Coastal Information Center (SCIC) at San Diego State University (SDSU), and at the San Diego Museum of Man.

San Diego County Zoning Ordinance

The San Diego County Zoning Ordinance provides for the designation and regulation of “special areas.” One type of special zoning area is a County Historic/Archaeological Landmark District. These resources may be assigned an “H” designator for historic areas or a specific district designator. The purpose of these provisions is to identify, preserve, and protect the historic, cultural, archaeological and/or architectural resource values of designated landmarks and districts. Zoning regulations for these resources are designed to preserve their integrity and content.

San Diego County Local Register of Historical Resources

The purpose of the San Diego County Local Register of Historical Places (adopted 2002) is to develop and maintain “an authoritative guide to be used by state agencies, private groups, and citizens to identify the County’s historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change.” Sites, places, or objects that are eligible to the NRHP or the CRHR are automatically included in the County Local Register of Historical Places.

San Diego County Historic Sites Board

The function of the San Diego County Historic Sites Board (advisory body) is to provide decision makers with input regarding archaeological and historic cultural resources. The Historic Sites Board is responsible for reviewing resources seeking participation in the Mills Act and projects with significant cultural resources.

4.5.3 Thresholds of Significance

Thresholds used to evaluate potential impacts to cultural resources from implementation of the proposed project are based on applicable criteria in the State CEQA Guidelines (CCR Sections 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant impact to cultural (historical and/or archaeological) resources would occur if the proposed project would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
3. Directly or indirectly destroy a significant tribal cultural resource.
4. Disturb any human remains, including those interred outside of formal cemeteries.
5. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The thresholds and specific evaluation methods for historic resources, archaeological resources and human remains are discussed in more detail below.

4.5.4 Impacts Analysis

Methodology

The potential impacts associated with cultural and paleontological resources are analyzed based on a records search prepared by SCIC at San Diego State University on April 5, 2016. The records search included the areas of potential impacts within a one-mile buffer zone, around the project area. A records search and cultural resource survey was completed by ASM in March 2011 (ASM 2012, see Appendix I). The APE for the ASM report included five potential alignments for the location of the underground Escondido Canal and the area affected by the Rincon Penstock replacement. The ASM records search indicated the presence of 61 previously recorded resources within the APE and a one-mile buffer zone.

The pedestrian field survey conducted by ASM in March 2011 recorded one new prehistoric archaeological site, SLR-Rincon-1 and four historical buildings (SLR-Rincon-2, SLR-Rincon-7, SLR-Rincon-9, and SLR-Rincon-10). Prehistoric archaeological site SDI-257, which had been previously recorded and found eligible for the NRHP, was relocated and site boundaries were expanded. In addition a portion of the Escondido Canal (P-37-14670) and the Rincon Penstock were recorded and evaluated for eligibility for listing on the NRHP and the CRHR. ASM recommended that the segments of the Escondido Canal and Rincon Penstock assessed by ASM not be eligible for listing on the NRHP and CRHR (ASM 2012, see Appendix I).

Since the time of ASM's 2011 pedestrian survey, additional areas of impacts have been identified, which has led Atkins' cultural resources team to conduct the most recent pedestrian survey of the current proposed project area. On July 13, 2016, Atkins archaeologists conducted an intensive pedestrian survey focusing on additional and newly identified areas of impacts that were not included in the original cultural resources field study. Following AB 52 consultation, local Native American tribes were invited to join the pedestrian survey with Atkins' archaeologists. Messages were left with Soboba and Rincon representatives, but no returned calls were received. A tribal representative from San Pasqual was expected but did not arrive. San Luis Rey tribal representative Banning Taylor was present and attended the survey.

Tables 4.5-1 and 4.5-2 include a list of cultural resources previously found and a list of previous studies conducted within the APE, as identified through the SCIC CHRIS database, respectively. The results of the cultural resources records search indicated that 60 previously recorded resources and 55 reports were concluded within the APE and one-mile buffer zone. This new records search also included lands on the San Pasqual Indian Reservation. The resources are primarily prehistoric and consist of lithic scatters, campsites, and bedrock milling stations.

Resource Evaluation Criteria

As mentioned in Section 4.5.2.2, California PRC Section 21083.2(g), a unique archaeological resource is an artifact, object, or site that demonstrates potential to be vital in answering scientific and public interests' questions, be of a particular age, and is attached to important historic events.

Table 4.5-1 Cultural Resources Recorded within 1-mile of the Proposed Project's APE

Primary No. P-37-	Trinomial No. CA-SDI-	Resource Description	Proximity to APE
P-37-000256	CA-SDI-000256	Prehistoric - Temporary camp with bedrock milling and midden soil.	Within one mile
P-37-000257	CA-SDI-000257	Prehistoric - Large temporary camp with bedrock milling features, midden soil, ceramics, debitage, groundstone and flaked stone tools.	Within one mile
P-37-000258	CA-SDI-000258	Prehistoric - Bedrock milling, groundstone fragments, pottery.	Within one mile
P-37-000277	CA-SDI-000277	Prehistoric - Campsite. No midden. Groundstone fragments, felsite and basalt debitage. Biface fragment.	Within one mile
P-37-000666	CA-SDI-000666	Prehistoric - Village/camp site. Pauma Complex or Pre-SLR I. Debitage, projectile points, drilled stone, groundstone.	Within one mile
P-37-000670	CA-SDI-000670	Prehistoric - One bedrock milling feature with one slick. Lithic scatter with 50+ quartz debitage. Midden.	Within one mile
P-37-001066	CA-SDI-001066	Prehistoric - SLR I/II village. Midden soil, bedrock milling, pestles.	Within one mile
P-37-001067	CA-SDI-001067	Multicomponent – Pauma Complex site with bedrock milling features, groundstone, flaked stone tools, debitage (including obsidian), Cottonwood point, pottery. Historic occupation of farming activities and structures, refuse deposits.	Within one mile
P-37-005489	CA-SDI-005489	Prehistoric – Bedrock milling feature, midden soil with burned bone and shell.	Within one mile
P-37-005511	CA-SDI-005511	Prehistoric – Light density felsite and andesite lithic scatter.	Within one mile
P-37-006702	CA-SDI-006702	Prehistoric – milling station with five slicks on granite outcropping.	Within one mile
P-37-006703	CA-SDI-006703	Prehistoric – five bedrock milling features and two quartz flakes.	Within one mile
P-37-006704	CA-SDI-006704	Prehistoric – milling station with 15 slicks, 8 mortars, 1 basin, and 4 felsite flakes.	Within one mile
P-37-006942	CA-SDI-006942	Undetermined – stacked rock system covering an area approximately 50x20 meters.	Within one mile
P-37-006943	CA-SDI-006943	Prehistoric – single bedrock milling feature.	Within one mile
P-37-006944	CA-SDI-006944	Prehistoric – single bedrock milling feature.	Within one mile
P-37-007965	CA-SDI-007965	Prehistoric – single bedrock milling feature with two slicks.	Within one mile
P-37-009915	CA-SDI-009915	Prehistoric – one bedrock milling feature with 16 elements, reported sweathouse locus, artifact scatter. Part of the site has been destroyed for houses.	Within one mile
P-37-009916	CA-SDI-009916	Prehistoric – bedrock mortar food processing station and occupation site. Bedrock milling features, midden soil, one rock alignment. Tizon brownware, lithic scatter, groundstone fragments. Looted.	Within one mile
P-37-011513	CA-SDI-011513	Prehistoric – bedrock milling feature with two slicks.	Within one mile
P-37-011514	CA-SDI-011514	Prehistoric – Archaic site. Groundstone, lithic scatter, stemmed base projectile point, unifacial tools. Subsurface component as well.	Within one mile
P-37-011557	CA-SDI-011557	Historic – one room structure with associated features and debris.	Within one mile
P-37-011561	CA-SDI-011561	Prehistoric – lithic quarry workshop at quartz outcropping.	Within one mile
P-37-011567	CA-SDI-011567	Prehistoric – bedrock milling station with eight elements.	Within one mile
P-37-013398	CA-SDI-013398	Prehistoric – 14 milling features with 30+ elements, one quartz flake.	Within one mile
P-37-013427	CA-SDI-013427	Prehistoric – 2 bedrock milling features, totaling 10+ elements in all.	Within one mile
P-37-013432	CA-SDI-013432	Prehistoric – one milling features with one basin and one slick.	Within one mile
P-37-013433	CA-SDI-013433	Multicomponent – one milling feature with one slick. Rock wall, two small structures and water tank (ca 1920s).	Within one mile
P-37-013434	CA-SDI-013434	Prehistoric – one milling feature with three slicks.	Within one mile
P-37-013435	CA-SDI-013435	Prehistoric – two milling features with one slick each.	Within one mile

Table 4.5-1 Cultural Resources Recorded within 1-mile of the Proposed Project's APE

Primary No. P-37-	Trinomial No. CA-SDI-	Resource Description	Proximity to APE
P-37-013436	CA-SDI-013436	Prehistoric – one milling feature with three slicks, one feature with one slick.	Within one mile
P-37-014670	-	Historic - Escondido Canal.	Within one mile
P-37-014936	-	Prehistoric – hammerstone.	Within one mile
P-37-014937	-	Prehistoric – one metavolcanic flake.	Within one mile
P-37-014938	-	Prehistoric – one metavolcanic flake.	Within one mile
P-37-014943	-	Prehistoric – one patinated unifacial scraper (likely Santiago Peak Volcanic).	Within one mile
P-37-015472	-	Prehistoric – one milky quartz interior flake and one sherd of Tizon ceramic.	Within one mile
P-37-015473	-	Prehistoric – two quartz interior flakes.	Within one mile
P-37-015474	-	Prehistoric – one quartz flake. May be utilized.	Within one mile
P-37-018318	CA-SDI-015279	Prehistoric – small temporary camp with a bedrock milling station with five elements. Midden soil, Tizon brownware sherds, FAR, debitage (quartz, Santiago Peak).	Within one mile
P-37-018319	CA-SDI-015331	Prehistoric – temporary camp with four bedrock milling features. Midden soil. 20 quartz flakes.	Within one mile
P-37-018320	CA-SDI-015341	Prehistoric – Tizon brownware pot drop (5 sherds).	Within one mile
P-37-018321	CA-SDI-015342	Prehistoric – temporary camp. Hearth feature, groundstone fragments, core, debitage (quartz and Santiago Peak).	Within one mile
P-37-018322	-	Prehistoric – one clear quartz shatter fragment.	Within one mile
P-37-018323	-	Prehistoric – one Santiago Peak Volcanic flake.	Within one mile
P-37-018324	-	Prehistoric – one interior Santiago Peak Volcanic flake. Patinated.	Within one mile
P-37-018786	-	Prehistoric – one granitic bifacial shouldered mano.	Within one mile
P-37-018787	CA-SDI-015665	Prehistoric – one bedrock milling feature with two slicks.	Within one mile
P-37-018788	CA-SDI-015666	Prehistoric – large temporary camp. 15 bedrock milling features, three artifact concentrations (Cottonwood point, groundstone fragments, quartz and volcanic flakes, one core, <i>Chione</i> , Tizon brownware, FAR)	Within one mile
P-37-018789	CA-SDI-015667	Prehistoric – temporary camp. One bedrock milling feature, two flakes, six manos, three metates, one hammerstone. Light density lithic scatter.	Within APE
P-37-018790	CA-SDI-015668	Prehistoric – lithic scatter, including one quartz biface fragment, two quartz flakes, one basalt bifacial thinning flake.	Within APE
P-37-024394	CA-SDI-016176	Prehistoric – one bedrock milling feature and several metate fragments. Possible subsurface component.	Within one mile
P-37-025522	CA-SDI-016944	Prehistoric – lithic scatter 20+ Santiago Peak Volcanic, quartz and milky quartz flakes.	Within one mile
P-37-025523	CA-SDI-016945	Historic – water conveyance system.	Within one mile
P-37-029802	-	Historic – canal/flume, stone shoring, siphon, and roads. “San Luis Rey Flume”	Within one mile
P-37-033820	-	Historic – Post-1945 cement architectural foundation pad and habitation debris. Not eligible for NRHP.	Within one mile
P-37-033821	-	Historic – post-1965 dollar coin. Associated with P-37-033820.	Within one mile
P-37-035241	CA-SDI-021773	Prehistoric – one bedrock milling feature with one slick.	Within one mile
P-37-035468	CA-SDI-021784	Prehistoric – two bedrock milling features with at least 6 elements in all.	Within one mile
P-37-035469	-	Prehistoric – one interior grey metavolcanic flake.	Within one mile

Table 4.5-2 Previous Studies Conducted within 1-mile of the Proposed Action APE

Report Number	Authors	Year	Title
SD-00055	Adams, Therese E.	1979	A Cultural Resource Survey Report for Paradise Mountain Avocado Ranch.
SD-00063	APEC, Inc.	1980	Archaeological Study for Bamber Property.
SD-00121	Banks, Thomas J.	1980	Archaeological Survey Surface Collection and Test Excavation at Site W-2586 Near Woods Valley, San Diego County. TPM 16471.
SD-00133	Berryman, Stanley R.	1975	Archaeological Investigation of: Ernest Thomas Lot Split TPM 11061.
SD-00300	Bull, Charles and Paul H. Ezell	1974	An Archaeological Survey for the Escondido Mutual Water Company Relocated Water Line.
SD-00504	Chace, Paul G.	1978	An Archaeological Survey of the Benson Property Near Valley Center County of San Diego T.P.M. #14385 (EQD No. 98-9-14).
SD-01146	Leeper, Karlene	1989	Live Oak Ranch Historical Background.
SD-01284	Napton, L. Kyle and E.A. Greathouse	1984	Cultural Resource Investigations, San Pasqual Indian Reservation, CA.
SD-01516	Van Horn, David M.	1978	Archaeological Survey Baker Lot Split, Valley Center.
SD-01566	Smith, David D. and Associates	1973	Report on the Archaeological Resources of the Paradise Mountain Estates Development Site San Diego, CA.
SD-01788	Schroth, Adella B. and Philip J. Wilke	1986	Environmental Impact Evaluation: An Archaeological Assessment of 29 Half-Acre Parcel and One 3.5 Acre Parcel of Land Located on the San Pasqual Indian Reservation, Northern San Diego County, CA.
SD-01827	Mooney, Brian Farrell, M. Steven Shackley, and Carol Serr	1989	Jon Wilkie Property
SD-02080	County of San Diego Department of Planning & Land Use	1989	Draft Supplemental Environmental Impact Report Santa Ysabel Rezone 89-001.
SD-02973	Roybal, Gerald J.	1995	Reconnaissance Survey for the San Pasqual Indian Reservation Proposed Road Surfacing and Construction.
SD-03251	Jensen, Peter and Sean Jensen	1996	Archaeological Inventory Survey: Replacement of Two Wooden Flumes along the Escondido Canal, Woods Valley at San Pasqual Indian Reservation, San Diego County, CA
SD-05020	County of San Diego	1983	Cultural Resource Assessment of Bureau of Land Management Valley Center Site 1
SD-05056	Kyle, Carolyn	2001	Cultural Resource Survey for the EHMCKE Project, County of San Diego, CA
SD-05307	Alter, Ruth and Richard D. Shultz	1996	Archaeological Testing of Cultural Resources for San Pasqual Road Improvement Project San Pasqual Indian Reservation Valley Center, CA (ARPA Permit BIA/SAO-96-01-J54[589])
SD-05426	Pigniolo, Andrew and Michael Baksh	2000	Cultural Resource Survey Report for the San Pasqual Firebreaks Project, San Pasqual Indian Reservation, CA
SD-05433	Pigniolo, Andrew	2000	Cultural Resources Survey Report for the Districts A&B Water System Rehabilitation Project, San Pasqual Indian Reservation, San Diego, CA
SD-05496	Roybal, Gerald J.	1995	Reconnaissance Survey for the San Pasqual Indian Reservation Proposed Road Surfacing and Construction
SD-05628	Alter, Ruth	2000	Results of the Historic Building Assessment for 7740-42 and 7746-48 Eads Avenue, La Jolla, CA
SD-06305	Case, Robert	2000	Cultural Resource Survey of the 82 Acre Blackwell Property (TPM-20495) Near Valley Center San Diego, CA

Table 4.5-2 Previous Studies Conducted within 1-mile of the Proposed Action APE

Report Number	Authors	Year	Title
SD-06450	Jenson, Peter	1996	Archaeological Inventory Survey: Replacement of 2 Wooden Flumes Along the Escondido Canal, Woods Valley at San Pasqual Indian Reservation
SD-06771	Napton, Kyle	1984	Cultural Resource Investigations for San Pasqual Indian Reservation, CA
SD-06972	Jenson, Peter	1995	Requesting Review & Concurrence with Findings, Archaeology Inventory Survey, Escondido Canal
SD-07418	Pigniolo, A., Dustin Kay, and Stephanie Murray	2001	Cultural Resources Survey Report for the San Pasqual Residential Firebreaks Project, San Pasqual Indian Reservation, San Diego County, CA
SD-08114	Duke, Curt	2002	Cultural Resource Assessment Cingular Wireless Facility No. SD 959-03, San Diego County, CA
SD-08155	Gail Wright	2003	Negative Cultural Resources Survey Report for TPM 20697, Log No. 02-09-017 Farrar Tentative Parcel Map APN 189-180-36-00
SD-08329	Mason, Roger D.	2002	Cultural Resources Records Search and Field Survey Report for a Verizon Telecommunications Facility: Rancho Santa Teresa, in the City of Ramona, San Diego County, CA
SD-08725	Cook, John R.	1993	Archaeological Survey Report for the Richardson Property in Valley Center, CA
SD-08726	Hatley, Jay M. and Charles S. Bull	1978	A Cultural Resource Inventory and Impact Analysis for Kelly/Bull Property
SD-08728	Patterson, Cameron C. and Marina Riley Brand	1979	Biology/Archaeology Technical Reports for Indian Hills, Ltd.
SD-08830	Kyle, Carolyn E.	2001	Cultural Resource Test For Sites CA-SDI-1066, CA-SDI-1067, CA-SDI-13398, and CA-SDI-13437. EHMCKE Project, County of San Diego, CA
SD-08831	Kyle, Carolyn E.	2001	Cultural Resource Survey for the EHMCKE Project, County of San Diego, CA
SD-08894	Kyle, Carolyn E.	2001	Cultural Resource Survey For The EHMCKE Project, County of San Diego, CA
SD-08991	McGinnis, Patrick	2004	Cultural Resources Survey Report for the San Pasqual 3.5-acre Fee-to-Trust Project, San Diego County, CA
SD-09153	McGinnis, Patrick and Michael Baksh	2004	Cultural Resources Survey Report for the San Pasqual 3.31-acre Fee-to-Trust Project San Diego County, CA
SD-09299	Kyle, Carolyn	2004	Cultural Resource Assessment for Cingular Wireless Facility SD-733-04 27434 South Canal Rd. City of Valley Center San Diego County
SD-09391	Wright, Gail	2005	Cultural Resources Survey Report for TPM 20917, Log 05-09-005 Brown's Rancho Minor Subdivision APN 189-030-38
SD-09469	Gross, Timothy and Mary Robbins-Wade	1989	Cultural Resources Survey and Significance Assessment: Ridge Ranch, Valley Center, CA
SD-09483	Gross, Timothy and Mary Robbins-Wade	1989	Cultural Resources Survey and Significance Assessment: Live Oak Ranch, Valley Center, CA
SD-11939	Hector, Susan and Linda Akyuz	2008	Management Plan for Archaeological Resources within the Hellhole Canyon Preserve, San Diego County, CA
SD-11983	McGinnis, Patrick	2008	Cultural Resources Report for the San Pasqual Reservation Water System Extension
SD-11985	Tierra Environmental Services	2005	Phase I - Environmental Site Assessment for a 3.75-acre Parcel Lake Wohlford Road Valley Center, CA
SD-12309	Cooley, Theodore	2005	Letter Report for Cultural Resource Survey for the San Pasqual Parking Lot Near Valley Center
SD-13723	Rosenberg, Seth A.	2009	ETS #8147; Cultural Resources Survey for the Replacement of Four Wood Poles (P116494, P112248, P13581, and P135582) in Valley Center, San Diego County

Table 4.5-2 Previous Studies Conducted within 1-mile of the Proposed Action APE

Report Number	Authors	Year	Title
SD-13759	Bowden-Renna, Cheryl	2011	Letter Report: ETS 21721- Cultural Resources Survey for the Replacement of Pole P414375, Valley Center, San Diego County, CA LO7011102
SD-14343	Wilson, Stacie	2013	Letter Report: ETS 25416- Cultural Resources Survey for One Pole Installation, Valley Center, San Diego County, CA LO7011102
SD-14705	HDR Engineering, Inc.	2013	Historic Properties Treatment Plan Escondido Hydroelectric Project San Diego County, CA
SD-14841	Newcomb, S. Joshua	2013	Section 106 Consultation for the Drill Test Well Development of Community Drinking Water Supply- San Pasqual Indian Reservation
SD-14928	May, Ronald V., Kiley Wallace, and Michelle D. Graham	2014	Archaeological Resources Survey Indian Health Service Project CA 13-E31 San Pasqual District B Tank Replacement Project San Diego, CA
SD-15100	Karolina A. Chmiel	2014	Letter Report: ETS 28580- Cultural Resources Survey for the C1030 Segment A Firm Project, Valley Center, San Diego County, CA LO7011101
SD-15123	Jeff Syrop	2014	Letter Report: ETS 27407- Cultural Resources Monitoring Report for the Replacement of Pole P718866, City of Escondido, San Diego County, CA LO5005243
SD-15160	Kristin Tennesen	2012	ETS 22257, Cultural Resources Survey for the New Pole P248223, Skyline Country Club Project, San Diego County, CA (HDR #180681)

4.5.4.1 Issue 1 – Historical Resources

Would the proposed project cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Impacts

In order to fully assess the possibility of historical cultural resources within the APE for the proposed project, Atkins conducted a cultural resources records search. The completion of the cultural resources records search revealed a total of six historical resource sites within the 1-mile radius of the project area. In addition to a records search, the proposed project required an intensive pedestrian survey to delineate possible historical resources within a 1-mile radius of the newly proposed project components since the 2011 field study. The recent survey included locations of the desilting basins and associated access road, as well as a previously recorded resource that spans the APE.

The records search revealed six known historical resource sites within the one-mile buffer zone around the proposed project components. The known historical resources include a 1920s water tank, historic occupation of farming activities, historic structures with debris, post-1945 historic architectural foundations and habitation debris, water conveyance system, and the historic Escondido canal. Two historic sites are located west of North Lake Wohlford Road. Another site borders the San Pasqual Indian Reservation to the north. One historic resource site is located west of the project area, away from the canal. The last historic resource is located south of the current Escondido Canal and proposed underground pipeline alignment. Although the Escondido Canal is of an age to be considered a historical resource, it has been evaluated under both Section 106 and CEQA and found to not retain enough integrity to meet the eligibility criteria and does not meet the legal definition of a ‘historical resource’. Thus, no further work for the Escondido Canal is required. All of the six known historical resources sites are located outside of the construction zone for each of the proposed project components and thus the proposed project will have no impact on them.

Historic resources are not always found on the surface. There is usually a possibility of encountering historic resources under the surface. During ground-disturbing activities associated with the proposed project, mitigation measure Cul-1 should be followed to limit the amount of damage to possible subsurface historical artifacts. The proposed archaeological monitoring will allow for archaeologists to analyze the amount and quality of artifacts, if any, and also mitigate any potential damage to the resources. Archaeological monitoring will minimize significant impacts to a level less than significant.

Mitigation Measures

- Cul-1 Archaeological Monitoring.** During the construction of the proposed project, the project proponent shall retain a qualified archaeologist and appropriate Native American monitor to perform monitoring of all ground-disturbing activities to a depth of native soils. If subsurface cultural resources are encountered during construction, mitigation measure Cul-2 shall be implemented.
- Cul-2 Procedures for Unintentional Disturbance of Cultural Resources.** If subsurface cultural resources are encountered during construction of the proposed project, or if evidence of an archaeological site or other suspected historical resource is encountered, all ground-disturbing activity shall be ceased within 100 feet of the resource. Potentially significant cultural resources could consist of, but are not limited to, stone, bone, wood, or shell artifacts and features, including structural remains, historic dumpsites, hearths, and middens. Midden features are characterized by darkened soil and could conceal material remains, including worked stone, fired clay vessels, faunal bone, hearths, storage pits, or burials; thus, special attention should always be paid to uncharacteristic soil color changes. A qualified archaeologist shall be retained by the project proponent to assess the find and determine whether the resource requires further study. Any previously undiscovered resources found during construction shall be recorded using the Department of Parks and Recreation Form 523 in accordance with all applicable regulations and evaluated for significance and eligibility for inclusion in all applicable federal, state, and local historic registers. No further grading shall occur in the area of the discovery until the project proponent approves measures to protect the resources.

4.5.4.2 Issue 2 – Archaeological Resources

Would the proposed project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impacts

The cultural resources records survey has disclosed a total of 51 prehistoric sites within a 1-mile radius of the project area. However, the proposed project could potentially directly affect two known prehistoric sites along the northeastern portion of the project area. Site CA-SDI-15667 is a prehistoric archaeological site with a total of ten flakes made of various materials, one mano fragment, and one multidirectional core. Site CA-SDI-15667 is within the APE of the Escondido Canal and the boundaries of the site have expanded in comparison to the ASM survey results completed in 2012. Although archaeological site CA-SDI-15667 is within the proposed project boundaries and could potentially be impacted by project construction, based on the site criteria, CA-SDI-15667 is not eligible for either the NRHP or CRHR and thus the proposed project will have no impact to this site.

During construction, digging and trenching activities close to a prehistoric site, have the potential to damage unknown artifacts found within the subsurface of the soil. Prehistoric site CA-SDI-15668 is

composed of lithic scatter, including one quartz biface fragment, two quartz flakes, and one basalt bifacial thinning flake. Site SDI-15668 is directly within the proposed pipeline realignment and could potentially be impacted during construction. Based on the site criteria, prehistoric site CA-SDI-15668 is not eligible for either the NRHP or CRHR and thus the proposed project have no impact to this site.

Prehistoric site CA-SDI-257 has been updated multiple times and consists of bedrock milling features, slicks and mortars, ceramic sherds and debitage. The location of prehistoric site SDI-257 is within 15-meters of the APE; in close proximity to the proposed pipeline alignment. While the APE was devised to include all equipment work zones, lay down areas and other areas of disturbance, it is possible that a subsurface component to the site exists that extends into the APE. Mitigation measure Cul-3 should be followed if inadvertent discoveries of archaeological sites are made during construction of the proposed project. Prehistoric site CA-SDI-257 is not eligible for either the NRHP or the CRHR and thus the proposed project will have no impact to this site.

Mitigation Measures

Cul-3 Avoidance of Known Archaeological Sites. None of the resources within the APE have been determined to meet the criteria for inclusion in the NRHP or the CRHR. Although unlikely there is a possibility that a subsurface component to CA-SDI-257 extends within the APE and may be impacted by the proposed project. There is also a possibility that inadvertent discoveries of archaeological sites be made during construction of the proposed project.

- a. Known cultural resources that can be avoided shall be demarcated as Environmentally Sensitive Areas (ESAs). All potentially NRHP and/or CRHR-eligible resources that would not be affected by direct impacts, but are within 50 feet of direct impact areas, shall be designated as ESAs. Protective fencing or other markers shall be erected and maintained to protect ESAs from inadvertent trespass for the duration of construction in the vicinity. An archaeologist shall monitor during ground-disturbing activities at all cultural resource ESAs.
- b. Construction Monitoring: Prior to issuance of grading permit(s), the project applicant shall retain a qualified archaeologist, in accordance with the Secretary of the Interior's Standards and Guidelines (Secretary's Standards) (36 CFR 61), and Native American observer to monitor ground-disturbing activities in culturally sensitive areas in an effort to identify any unknown resources. A qualified archaeologist shall attend preconstruction meetings, as needed, to make comments and/or suggestions concerning the monitoring program and to discuss excavation plans with the excavation contractor. The requirements for archaeological monitoring shall be noted on the construction plans. A qualified paleontologist shall be retained to monitor earth disturbances in all areas of paleontological sensitivity, per approval by lead agency. All construction activities in environmentally sensitive areas, or any other area of the project deemed sensitive for containing cultural resources, shall be monitored by a qualified archaeologist. Since significant portions of the project site contain sedimentary deposits that have the potential to contain buried cultural resources, then full-time cultural resources monitoring shall be implemented during all phases of ground-disturbing work in these areas. A cultural resource monitor shall meet the Secretary of the Interior Standards Qualifications as a professional archaeologist and, as appropriate, shall be on the lead agencies approved consultants list. The archaeological monitor(s) shall also be familiar with the project area and, therefore, be capable of anticipating the types of cultural resources that may be encountered.

- c. **Training for Contractor:** Prior to construction, all applicant, contractor, and subcontractor personnel shall receive training regarding the appropriate work practices necessary to effectively implement the mitigation measures and to comply with the applicable environmental laws and regulations (including penalties for violation under the appropriate state and federal laws), avoiding ESAs, the potential for exposing subsurface cultural resources and paleontological resources, and to recognize possible buried resources. This training shall include presentation of the procedures to be followed upon discovery or suspected discovery of archaeological materials, including Native American remains and their treatment, as well as of paleontological resources.
- d. **Discovery of Unknown Resources:** In the event that cultural resources are discovered, the archaeologist shall have the authority to divert or temporarily halt ground disturbance to allow evaluation of potentially significant cultural resources. The archaeologist shall evaluate the significance of the discovered resources based on eligibility for the NRHP, CRHR, or local registers. Preliminary determinations of NRHP eligibility shall be made by the lead agencies, in consultation with other appropriate agencies and local governments, and the SHPO.

4.5.4.3 Issue 3 – Directly or Indirectly Impact Tribal Cultural Resources

Would the proposed project directly or indirectly destroy a significant tribal cultural resource?

Impacts

In order to follow important concepts of AB 52, respecting Tribal sovereignty is met by contacting tribes that could find cultural resources significant within a proposed project area. Prior to any survey work within the project area, Atkins' cultural resources team contacted various tribes to participate in the pedestrian survey. Following AB 52 consultation, calls were made to the Rincon Band of Mission Indians, Soboba Band of Mission Indians, and San Luis Rey Band of Mission Indians to ask for their assistance in participating on the pedestrian survey of the project area. A San Luis Rey tribal representative was present and attended the survey with Atkins archaeologists.

In order to avoid significant tribal cultural resources within the project area, a tribal monitor and archaeologist must be present while ground-breaking activities are being conducted. Monitoring of construction and ground-disturbing activities will prevent damage to tribal cultural resources and archaeological resources during project construction.

Mitigation Measures

Implementation of mitigation measure Cul-3 would ensure that potential impacts to tribal cultural resources would be less than significant.

4.5.4.4 Issue 4 – Directly or Indirectly Destroy Paleontological Resources

Would the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impacts

Paleontological resources potentially occur in sedimentary geologic formations. As described in Section 4.5.1.3, Mesozoic mixed rocks mostly made of gneiss and other metamorphic rocks of granitic material can be found along with older alluvium, lake, playa, and terrace deposits within the project area (State of California, USGS 2010). According to San Diego County’s Guidelines for Determining Significance of Paleontological Resources (2009), these formations have either a “zero” or “low” potential to contain fossils, and there are no geologic units within the proposed pipeline construction corridor that are considered regionally to be of moderate or high paleontologic sensitivity.

Although there is a very small possibility of finding paleontological resources within the proposed pipeline construction corridor, impacts to paleontological resources generally occur as a result of the physical destruction of fossil remains by excavation or trenching activities that require cutting into the underlying geologic formations. Ground-disturbing activities in high or moderate sensitivity fossil-bearing geologic formations have the potential to damage or destroy paleontological resources that may be present below the ground surface. However, implementation of mitigation measure Cul-5 would ensure that excavation impacts to the paleontological resources would be less than significant.

Mitigation Measures

Cul-4 Procedures for Unintentional Disturbance of Paleontological Resources. If paleontological resources are encountered during construction of the proposed project, all ground-disturbing activity shall cease within 100 feet of the resource. A qualified paleontologist shall be retained by the project proponent to evaluate the significance of the find; to salvage, record, clean, and curate significant fossil(s); and to document the find in accordance with current professional paleontological standards. No further grading shall occur in the area of the discovery until the project proponent approves the measures to protect the resources. Any fossils recovered as a result of mitigation shall be donated to a qualified scientific institution approved by the project proponent where they would be afforded long-term preservation to allow future scientific study.

4.5.4.5 Issue 5 – Disturb Human Remains

Would the proposed project disturb any human remains, including those interred outside of formal cemeteries?

Impacts

The entire Valley Center area has evidence of historical occupation by Native Americans and the proposed underground pipeline alignment would cross through Native American tribal lands. It is possible that subsurface archaeological resources that contain human remains could occur within the proposed pipeline corridor.

However, results of the cultural resources record search and pedestrian survey did not identify any human remains or records of human remains within the project area. In the unlikely event that human remains are discovered in areas within the County of San Diego during construction of the proposed project,

California Health and Safety Code Section 7050.5 would be implemented. The California Health and Safety Code Section states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the human remains are determined to be prehistoric, the County Coroner will notify the NAHC, which will determine and notify a Most Likely Descendent. However, if human remains are discovered on tribal lands, then NAGPRA would be implemented and followed. Compliance with California Health and Safety Code Section 7050.5 and NAGPRA would ensure that impacts to human remains would be below a level of significance.

Mitigation Measures

Implementation of construction monitoring, mitigation measures, and compliance with state and federal laws will reduce the impacts to a level of less than significant.

4.6 Geology and Soils (Environmental Management)

This section describes the existing geology, soils, and seismic conditions along the proposed pipeline alignment and supporting facilities and analyzes the potential effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, and excavation and export of soils from construction of the proposed project. Potential effects of soil conditions on air and water quality as a result of construction-related activities are discussed in Section 4.3, Air Quality, and Section 4.9, Hydrology and Water Resources, respectively.

4.6.1 Environmental Setting

Geological resources consist of surface and subsurface materials and their properties. The makeup of geology could influence erosion, depletion of mineral or energy resources, seismic risk or landslide, and soil and ground water contamination resulting from proposed construction and operational activities. Geologic conditions also influence the potential for naturally occurring or human-induced hazards, which could pose risk to life or property. Principal geologic factors affecting the ability to support structural development include soil stability, structure, elasticity, shrink-swell potential, and erodibility.

4.6.1.1 Regional Geology

The project area is located in the western portion of the Peninsular Ranges geomorphic province of southern California. This geomorphic province encompasses an area that extends for approximately 790 miles, from the Transverse Ranges and the Los Angeles Basin to the tip of Baja California, and varies in width from 30 to 100 miles. The majority of this geomorphic province is characterized by northwest trending mountain ranges separated by subparallel fault zones. In general, the Peninsular Ranges are underlain by Jurassic-age metavolcanic and metasedimentary rocks and by Cretaceous-age igneous rocks of the southern California batholith. The westernmost portion of the province in the San Diego County generally consists of Tertiary and Quaternary-age sedimentary rocks.

The project area is situated in a seismically active region, as is the case throughout southern California. The nearest potentially active fault passes along the southwestern side of Lake Henshaw approximately 10 miles east of the project area, as identified on the Alquist-Priolo Earthquake Fault Zoning Map for the Mesa Grande Quadrangle (CDOC 2016). This potentially active fault is associated with the Elsinore Fault Zone, which extends from the mountainous Peninsular Ranges region between El Centro and San Diego, northwest to the Chino Hills range and Chino Hills in San Bernardino County. Other known fault zones in the region include the Rose Canyon, Newport-Inglewood, San Jacinto, and San Andreas.

Topography

The project area is characterized by steep, rugged topography, including steep slopes over 50 percent grade. Steep slopes and canyons are characteristic of the Valley Center community, as well as floodplains with rolling hills at elevations as low as 600 feet AMSL between the steeper ridges. The portion of Valley Center just west of the San Pasqual Indian Reservation and the Escondido Canal ranges in elevation from approximately 1,500 feet AMSL to 2,400 feet AMSL. The project area is located within Woods Valley, which is an elevated valley within the mountainous terrain. Topography surrounding the proposed pipeline

alignment is generally flat except for the northernmost portion of the area, with elevations ranging between approximately 1,620 feet AMSL and 1,735 feet AMSL (B&V 2016).

4.6.1.2 Soils and Geologic Formations

Soil develops from geologic material exposed at the earth's surface as the material is altered through physical, chemical, and biological processes. The nature of soil is in part a function of climate, surface slope, time of exposure at the surface, and the type of original (parent) material. Soils are typically described in terms of their permeability, slope, composition of types, and relative compatibility or constraining properties with regard to particular construction activities and types of land use.

The following eight soil types occur within the project area:

1. Cieneba very rocky coarse sandy loam (CmrG; 30 to 75 percent slopes),
2. Fallbrook-Vista Sandy loam (FvD; 9 to 15 percent slopes)
3. Fallbrook-Vista sandy loams (FvE; 15 to 30 percent slopes),
4. Fallbrook sandy loam (FaC2; 5 to 9 percent slopes; eroded),
5. Fallbrook sandy loam (FaD2; 9 to 15 percent slopes; eroded),
6. Placentia sandy loam (PeC; 2 to 9 percent slopes),
7. Ramona Sandy loam (RaD2; 9 to 15 percent slopes), and
8. Visalia sandy loam (VaB; 2 to 5 percent slopes).

The USDA recognizes the importance and vulnerability of prime farmlands throughout the nation and, therefore, encourages the wise use and conservation of these soils where possible. Federal agencies must examine the potentially adverse effects to prime or unique farmlands or farmlands of state or local importance before approving any action that would irreversibly convert farmland to non-agricultural uses.

Soils may also be designated as prime farmland or farmland of statewide importance. Prime farmland is a designation assigned by USDA defining land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these land uses. Farmland of statewide importance is land that has a combination of physical and chemical characteristics that make it good for food, feed, forage, fiber, and oilseed crops.

The types of farmland occurring within the project area and soil types listed above are discussed further in Section 4.2 of this EA-IS/MND.

4.6.2 Regulatory Setting

4.6.2.1 Federal

U.S. Geological Survey Landslide Hazard Program

In fulfillment of the requirements of Public Law 106-113, the U.S. Geological Survey (USGS) created the Landslide Hazard Program in the mid-1970s. According to USGS, the primary objective of the National Landslide Hazards Program (LHP) is to reduce long-term losses from landslide hazards by improving our understanding of the causes of ground failure and suggesting mitigation strategies (USGS 2008a). The federal government takes the lead role in funding and conducting this research, whereas the reduction of losses due to geologic hazards is primarily a State and local responsibility. In San Diego County, the Unified Disaster Council (UDC) is the governing body of the Unified San Diego County Emergency Services

Organization. The primary purpose of the UDC and the Emergency Services Organization is to provide for the coordination of plans and programs designed for the protection of life and property within the county.

4.6.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act

The California Legislature passed this Act in 1972 to help identify areas subject to severe ground shaking. This state law requires that proposed developments incorporating tracts of four or more dwelling units investigate the potential for ground rupture within Alquist-Priolo zones. These zones serve as an official notification of the probability of ground rupture during future earthquakes. Where such zones are designated, no building may be constructed on the line of the fault, and before any construction is allowed, a geologic study must be conducted to determine the locations of all active fault lines in the zone.

California Building Code

The California Building Code (CBC), adopted in 2008 and effective January 1, 2008), is based largely on the 2006 International Building Code (IBC). The CBC includes the addition of more stringent seismic provisions for hospitals, schools, and essential facilities. The CBC contains specific provisions for structures located in seismic zones. Buildings within the San Diego County conform to Seismic Design Category D and E requirements. Also, California law requires all cities and counties in Seismic Zone 4 (as defined in pre-1997 versions of the code) to identify unreinforced masonry (URM) buildings in their jurisdiction, which are not designed to withstand an earthquake. According to information received from the Seismic Safety Commission, the unincorporated county contains only 38 URM buildings. Most of the structures are located in Fallbrook and Ramona.

Seismic Hazards Mapping Act

This Act was passed by the state in 1990, to address non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. Guidelines for Evaluation and Mitigating Seismic Hazards in California (Special Publication 117) were adopted by the State Mining and Geology Board on March 13, 1997 (revised and re-adopted on September 11, 2008 as Special Publication 117a) in accordance with the Seismic Hazards Mapping Act of 1990. The publication contains the guidelines for evaluating seismic hazards other than surface fault rupture (landslides and liquefaction), and for recommending mitigation measures to minimize impacts. A lead agency may determine when the investigation required by the guidelines and the Seismic Hazards Mapping Act would occur for a project. Investigation can occur before, during, or after the CEQA process.

State Water Code Section 13282

On-site wastewater treatment systems (OWTS) discharge pollutants to groundwater, and therefore are regulated by the State Water Code. Section 13282 of the Water Code, allows the RWQCB to authorize a local public agency to issue permits for and to regulate OWTS “to ensure that systems are adequately designed, located, sized, spaced, constructed and maintained.” The San Diego RWQCB, with jurisdiction over San Diego County, authorizes the County Department of Environmental Health (DEH) to issue certain OWTS permits.

4.6.2.3 Local

County Special Studies Zones

The Alquist-Priolo Act provides that a city or county may establish more restrictive policies than those within the Alquist-Priolo Act, if desired. Special Study Zones were established in the county that include late-Quaternary faults mapped by the DMG in the county. Late-Quaternary faults (movement during the past 700,000 years) were mapped based on geomorphic evidence similar to that of Holocene faults except that tectonic features are less distinct. As indicated by the DMG, these faults may be younger, but the lack of younger overlying deposits precludes more accurate age classification. Traces of faults within “Special Study Zones” are treated by the County as active unless a fault investigation can prove otherwise. Before any construction is allowed, a geologic study must be conducted to determine if any active fault lines are located on or within the vicinity of a project site.

On-Site Wastewater System Groundwater Separation Policy

The purpose of this County DEH policy is to: (1) protect groundwater quality by ensuring proper treatment of sewage effluent prior to its entering into groundwater, (2) protect the public health from failing on-site wastewater systems caused by high groundwater; and (3) provide a methodology for the evaluation of potential building sites using on-site wastewater systems.

San Diego County Code

Chapter 6, Division 1 of Title 5 of the San Diego County Code (1990) addresses hazard risks associated with URM buildings by requiring owners to submit a structural analysis and to either make structural improvements to the buildings or demolish them. Currently, the County requires compliance with this code whenever permits are requested for a property where a URM structure is located.

Section 68.301 of the County Code is the OWTS Ordinance, which establishes the requirements for OWTS in the county. It also makes it unlawful for any person to cause, suffer or permit the disposal of sewage, human excrement or other liquid wastes, in any place or manner except through and by means of an approved plumbing and drainage system and an approved sewage disposal system installed and maintained in accordance with the provisions of Division 3, of Title 5 of the County Plumbing Code and OWTS Ordinance.

Section 68.601 of the County Code pertains to Septic Tank and Cesspool Cleaners. This code section establishes processes, fees, and requirements for the examination, cleaning, and collection of sewage from septic tanks and cesspools.

San Diego County Zoning Ordinance Fault Displacement Area Regulations

The County Zoning Ordinance Sections 5400 through 5406 implement the requirements of the Alquist-Priolo Act. The provisions of Sections 5400 through 5406 outline the allowable development, permitting requirements, and construction limitations within Fault Rupture Zones, as designated by the Alquist-Priolo Act. For non-discretionary permits (such as building permits), the Department of Planning and Land Use, Building Division requires any above-surface structure to conform to the seismic requirements of the CBC and to incorporate design recommendations contained within the soils and geologic report as required per code. The County prohibits any buildings or structures to be used for human occupancy to be constructed over or within 50 feet of the trace of known fault (Section 5406, Zoning Ordinance). The County generally requires geologic reports for development proposed in Alquist-Priolo zones (Section 5406 b., Zoning Ordinance).

Other specific zoning ordinance sections do the following:

- Prohibit construction of essential facilities and high occupancy structures in special studies zones as defined under the Alquist-Priolo Act or in special studies zones defined by the County of San Diego (Section 5404, Zoning Ordinance).
- Require a geologic report for other development proposed in special studies zones as defined under the Alquist-Priolo Act or in special studies zones defined by the County of San Diego (Section 5406, Zoning Ordinance).
- Prohibit new construction of structures to be used for hazardous waste storage and/or human or animal occupancy over or within 50-feet of the trace of an active known fault, with the exception of single family wood frame dwellings not exceeding two stories in height, built or located as part of a development of less than four dwellings and mobile homes wider than eight feet (Section 5406 c & d, Zoning Ordinance).
- Delineate special studies zones along active faults as new geologic information becomes available. These special study zones shall be administered in the same manner as those delineated by the State of California.

County of San Diego Code of Regulatory Ordinances Sections 87.401-87.430, Grading Ordinance, Design Standards and Performance Requirements

Chapter 4 of the County Grading Ordinance (which commences at Section 87.101 of the County Code) includes requirements for the maximum slope allowed for cut and fill slopes, the requirement for drainage terraces on cut or fill slopes exceeding 40 feet in height, expansive soil requirements for cuts and fills, minimum setback requirements for buildings from cut or fill slopes, and reporting requirements including a soil engineer's report and a final engineering geology report by an engineering geologist, which includes specific approval of the grading as affected by geological factors.

4.6.3 Thresholds of Significance

Thresholds used to evaluate potential impacts to geology and soils are based on applicable criteria in the State CEQA Guidelines (CCR Sections 15000-15387). Based on Appendix G of the CEQA Guidelines, a significant geology/soils impact would occur if the proposed project would:

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, or injury, or death involving: 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; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.
2. Result in substantial soil erosion or loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the proposed project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.
4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.6.4 Impact Analysis

4.6.4.1 Issue 1– Geologic Hazards

Would the proposed project expose people or structures to geologic hazards, including rupture of a known earthquake fault, strong seismic ground shaking, or seismic-related ground failure, including liquefaction and/or landslides?

Impacts

The nearest potentially active fault passes along the southwestern side of Lake Henshaw approximately 20 miles east of the city of Escondido. The project area and proposed pipeline alignment is approximately 12 miles from the Elsinore Fault as identified on the Alquist-Priolo Earthquake Fault Zoning Map for the Mesa Grande Quadrangle (CDOC 2016).

The California Department of Conservation (CDOC) has not listed the project site or surrounding areas on the most recent Alquist-Priolo Earthquake Fault Zoning Map. The Elsinore Fault has been quiet since 1885, the last recorded seismic occurrence measure 5.8 on the Mercalli scale. No major earthquakes have been recorded in the project area in over 100 years. The risk of surface rupture is not considered significant enough to restrict development within the project area. Other known fault zones in the region include the Rose Canyon, Newport-Inglewood, San Jacinto, and San Andreas, which are expected to have relatively minor effects within the project area (magnitude 4.0 to 5.0 on the Mercalli Scale).

Construction of the proposed project will involve such activities as excavation, grading, soil compaction and slope restoration, screening of backfill, and hauling of backfill and aggregate. All construction, maintenance, and operation activities associated with the proposed project will take place within an established 100-foot wide ROW (refer to Figure 3-1). Segment 2 of the pipeline will be paralleled by an 8-foot-wide access road surfaced with screened backfill from excavation. The access road to the desilting basin will be 12-foot-wide with vehicle turnouts at 300-400 foot intervals and surfaced with aggregate.

As discussed above, construction of the proposed pipeline would temporarily disturb soils to a depth sufficient to bury the proposed 60-inch pipe, but would not result in permanent changes to the area topography. In order to construct the proposed access roads, the proposed project would disturb the surface soils to a depth necessary to safely operate equipment within these areas. In addition for operation and maintenance purposes, these areas would permanently alter the existing surface and soil conditions with grading and aggregate; however, these changes would occur in only the upper portions of the soils and would not create disturbances beyond those necessary to support long-term operations and maintenance. Further, the access/service roads, water conveyance pipeline, and appurtenances would be constructed according to state and county enforced building codes and designed to meet the California Building Code Standards for seismic Zone 4, which would minimize damage that could be caused by seismic groundshaking. Therefore, impacts would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.6.4.2 Issue 2 – Soil Erosion

Would the proposed project result in substantial soil erosion or the loss of topsoil?

Impacts

The proposed pipeline alignment and lands adjacent to the construction ROW corridor contain eight soil types as presented above, Cieneba soils have very high runoff and erosion rates and are extremely well drained (KEA 2001). Typically more than 20 percent of Cieneba soils is covered with rock outcrops, and granitic rocks can be found below the surface, ranging in size from five to 15 inches. The proposed pipeline alignment begins near Oso Place at the proposed new desilting basin northeast of North Canal Road (Segment 2) and continues in a southwesterly direction to connect to the existing underground pipeline located south of Paradise Road (Segment 1). Approximately 1.6 miles of the 60-inch diameter underground pipeline will be installed outside of the existing ROW for the Escondido Canal. Installation of the proposed pipeline would be within mostly paved and/or gravel road ROWs with compacted exposed soil and areas devoid of vegetation. Proposed pipeline project construction would include open trench excavation for burying the proposed pipeline. While Cieneba soils have high erosion rates and would be prone to erosion, construction and installation of the proposed pipeline would temporarily disturb the soils in the ROWs but would not permanently alter the existing conditions along the alignment corridor. After trenching and placement of the pipeline, the pipeline would be buried with soils stored on-site adjacent to the excavation/pipeline route. The trench would be backfilled with the stored soils, and then compacted to engineering specifications. Some areas would be revegetated after backfilling. Further, VID and Escondido would be required to employ BMPs to prevent erosion as a requirement of a State General Construction National Pollutant Discharge Elimination System Permit (NPDES General Construction Permit) (see Section 4.9.2.2). Therefore, the proposed project would not result in substantial soil erosion or topsoil loss and impacts would be less than significant.

Mitigation Measures

Impacts from proposed project would be less than significant; therefore, no mitigation is required.

4.6.4.3 Issues 3 and 4 – Soil Stability; Unstable Soils; Expansive Soils

Would the proposed project be located on a geologic unit or soil that is unstable or that would become unstable as a result of the action, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse?

Would the proposed project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?

Impacts

As stated above, the lands along the proposed pipeline alignment contain eight soil types, Cieneba soils have very high runoff and erosion rates and are extremely well drained (KEA 2001). Typically more than 20 percent of Cieneba soil is covered with rock outcrops, and granitic rocks can be found below the surface, ranging in size from five to 15 inches. However, Cieneba soils with the underlying granitic rocks have low potential for liquefaction and landslides. Additionally, Cieneba soils in the project area have low clay content (less than 18 percent (USDA-NRCS) and are, thus not highly expansive. Soils susceptible to subsidence are usually loose soils where groundwater levels have decreased substantially. The proposed project is located in an area with shallow layers of topsoil and relatively low to no source of groundwater. Further, the proposed project would be constructed according to state and county enforced building

codes and designed to meet the California Building Code Standards for seismic Zones 3 and 4. These design standards would prevent effects of soil conditions on structural integrity of the proposed project. Consequently, this would be a less than significant impact.

Mitigation Measures

Impacts from proposed project would be less than significant; therefore, no mitigation is required.

4.6.4.4 Issue 5 – Soils Incapable of Supporting Use of Septic Tanks

Would the proposed project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Impacts

The proposed project would not include the installation of a septic tank or alternative wastewater disposal system and, therefore, the proposed project would have no impact.

Mitigation Measures

Construction of the proposed project would have no impact; therefore, no mitigation is required.

4.7 Greenhouse Gas Emissions

This section evaluates the potential impacts of the proposed project on GHG emissions within the SDAB. The evaluation includes an assessment of the direct, indirect, construction-related, long-term, and climate change effects of the proposed project. The information provided in this section is based in part on the Air Quality and Greenhouse Gas Emissions Technical Memorandum prepared by Atkins (2016), which is included as Appendix B to this EA-IS/MND.

4.7.1 Environmental Setting

4.7.1.1 Climate Change Background

Climate change refers to any substantial change in measures of climate (such as temperature, precipitation, or wind) lasting for decades or longer. Historically, natural factors such as volcanic eruptions, changes in the Earth's orbit, and the amount of energy released from the sun have affected the Earth's climate. Beginning late in the 18th century, human activities associated with the Industrial Revolution, specifically the burning of fossil fuels, have also changed the composition of the atmosphere by increasing the concentration of heat-trapping GHGs and therefore very likely are influencing the Earth's climate. The accumulation of GHGs in the atmosphere regulates the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

GHGs are gases that trap heat in the atmosphere, analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Individual GHGs have varying heat-trapping properties and atmospheric lifetimes. Table 4.7-1 identifies the CO₂ equivalent (CO₂e) and atmospheric lifetimes of basic GHGs. Each GHG is compared to carbon dioxide with respect to its ability to trap infrared radiation, its atmospheric lifetime, and its chemical structure. The CO₂e is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent measure. For example, methane is a GHG that is 21 times more potent than carbon dioxide; therefore, one metric ton of methane is equal to 21 metric tons CO₂e.

In an effort to evaluate and reduce the potential adverse impact of global climate change, international, state and local organizations have conducted GHG inventories to estimate their levels of GHG emissions and removals. The following summarizes the results of the county local GHG inventory.

Table 4.7-1 Carbon Dioxide Equivalents and Atmospheric Lifetimes of Basic GHGs

GHG	Formula	Carbon Dioxide Equivalent (CO ₂ e)	Atmospheric lifetime (years)
Carbon dioxide	CO ₂	1	50-200
Methane	CH ₄	28	12
Nitrous oxide	N ₂ O	265	121
Sulphur hexafluoride	SF ₆	23,500	3,200

Source: CARB 2014

As part of prior greenhouse reduction planning efforts, the County of San Diego prepared an inventory of 2005 GHG emissions in the unincorporated county. A summary of the inventory results, by category and percent contribution for the year 2005, is provided in Table 4.7-2. Table 4.7-2 shows that in 2005, a

total of 4.5 million metric tons (MMT) CO₂e was generated in the unincorporated county. The largest contributor of GHG emissions was from the on-road transportation category, which comprised 59 percent (2.6 MMT CO₂e) of the total amount. The second highest contributor was the energy category, which contributed 1.1 MMT CO₂e, or 25 percent of the total. Together the on-road transportation and electricity category comprised 84 percent of the total GHG emissions for the unincorporated county. The remaining amount was contributed by agriculture, solid waste disposal, wastewater and potable water delivery and treatment, and miscellaneous other sources.

Sector	Total Emissions (MT CO₂e)	Percent of Total Emissions
Transportation	2,636,702	59
Agriculture	190,025	4
Solid Waste	144,865	3
Wastewater	50,412	1
Potable Water	236,435	5
Other	132,490	3
Energy	1,121,650	25
Total	4,512,580	100

Source: County 2013

4.7.2 Regulatory Setting

4.7.2.1 Federal

U.S. Environmental Protection Agency

The EPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The EPA also has jurisdiction over emission sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

In 2006, twelve U.S. states and cities, in conjunction with several environmental organizations, sued to require the EPA to regulate GHGs as a pollutant pursuant to the federal CAA. On April 2, 2007, the Supreme Court found that GHGs are air pollutants covered by the CAA. The Supreme Court held that the EPA must determine whether or not GHG emissions from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare. On December 7, 2009, the EPA signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The EPA finds that the current and projected concentrations of the six key well-mixed greenhouse gases — carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride — in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The EPA finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHGs standards for vehicles. In collaboration with the

National Highway Traffic Safety Administration, the EPA finalized emission standards for light-duty vehicles (2012-2016 model years) in May 2010 and heavy-duty vehicles (2014-2018 model years) in August 2011. On August 28, 2012, EPA and NHTSA issued a joint Final Rulemaking to extend the National Program of harmonized greenhouse gas and fuel economy standards to model year 2017 through 2025 passenger vehicles.

Council on Environmental Quality

On December 18, 2014, the Council on Environmental Quality (CEQ) released a revised draft guidance memorandum for public consideration and comment on the ways in which federal agencies can improve their consideration of the effects of greenhouse gas emissions and climate change in evaluations of proposals for federal actions under NEPA (CEQ 2014).

CEQ proposes to advise federal agencies to consider, in scoping their NEPA analyses, whether analysis of the direct and indirect greenhouse gas emissions from their proposed projects may provide meaningful information to decision makers and the public. Specifically, if a proposed project would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of carbon dioxide equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000 metric tons of carbon dioxide equivalent, CEQ encourages federal agencies to consider whether the action's long-term emissions should receive similar analysis. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of greenhouse gas emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of greenhouse gases.

4.7.2.2 State

Assembly Bill 32, California Global Warming Solutions Act

In September 2006, the California State Legislature adopted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, which focuses on reducing GHG emissions in California. AB 32 makes the CARB responsible for monitoring and reducing GHG emission, and continues the existing California Climate Action Team (CCAT) to coordinate statewide efforts and promote strategies that can be undertaken by many other California agencies. Under AB 32, the CARB is required to adopt rules and regulations for quantifiable, verifiable, and enforceable emissions reduction measures that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020. The CARB has identified 427 million MT CO_{2e} as the total statewide aggregated 1990 GHG emissions level, which serves as the 2020 emissions limit (CARB 2007). The main strategies for reducing California's GHG emissions pursuant to AB 32 are outlined in the Climate Change Scoping Plan (CARB 2008). The Climate Change Scoping Plan has a range of GHG emissions reduction actions which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and a cost-of-implementation fee to fund the program. In addition, the Climate Change Scoping Plan emphasizes the need to better connect land use and transportation planning to help the state achieve its GHG emissions reduction target for 2020.

California Air Resources Board

The CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB also establishes emissions standards for motor vehicles sold in California, consumer

products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment, and sets fuel specifications to further reduce vehicular emissions.

The CARB Regional Targets Advisory Committee, which was appointed in January 2009 to help address the requirements of Senate Bill (SB) 375 (described below), was tasked with recommending a method by which each major region of California could reduce GHG emissions through more sustainable land use and transportation planning. In a report dated September 29, 2009, after approximately 13 public meetings in Sacramento, the Advisory Committee recommended that regional targets be expressed as a percent per-capita GHG emissions reduction from a 2005 base year. According to the Advisory Committee, this differs from the 1990 base year established in AB 32 (described below) due to a lack of reliable regional transportation and land use data from 1990. The Advisory Committee also recommended that the CARB use an interactive process with the regional Metropolitan Planning Organizations, such as the San Diego Association of Governments (SANDAG), to set a single statewide uniform target that could be adjusted up or down to respond to regional differences. SANDAG proposed a regional target of reducing GHG emissions to seven percent below 2005 emissions by 2020 and to 13 percent below 2005 emissions by 2035.

California Energy Code

The California Energy Code (CCR Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels which emits GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2008 Building Energy Efficiency Standards (California Energy Commission 2010) includes changes from the previous standards that were adopted to:

- Provide California with an adequate, reasonably-priced, and environmentally-sound supply of energy.
- Respond to AB 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report which finds that standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of nonresidential buildings through aggressive standards.

California Green Building Standards Code

The purpose of the California Green Building Standards Code (CCR Title 24, Part 11) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2)

energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental quality. These standards establish green building requirements for new residential and non-residential development, such as mandatory reductions in indoor water use. In addition, although the California Green Building Standards Code does not require energy efficiency beyond the Building Energy Efficiency Standards, it recommends a 15 percent increase in energy efficiency compared to Building Energy Efficiency Standards. Furthermore, non-residential projects are required to recycle at least 50 percent of construction waste. Such reductions in water, energy, and building materials use and solid waste generation would result in decreased GHG emissions.

Executive Order S-3-05

Executive Order S-3-05 (issued June 1, 2005) established the following GHG emissions reduction targets: (1) by 2010, reduce GHG emissions to 2000 levels; (2) by 2020, reduce GHG emissions to 1990 levels; and (3) by 2050, reduce GHG emissions to 80 percent below 1990 levels. The initial CCAT Report in 2006 contained recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met. The latest CCAT Report in 2010 expands on the policy-oriented 2006 Report and provides new information and scientific findings. The 2010 Report includes development of new climate and sea-level projections using new information and tools that have become available since the preparation of the previous report, and evaluation of climate change within the context of broader social changes such as land-use changes and demographic shifts (CCAT 2010). The action items in the 2010 Report focus on the preparation of the Climate Adaptation Strategy, as required by Executive Order S-13-08 (described below).

Executive Order S-13-08

Executive Order S-13-08 (issued November 14, 2008), the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the State should plan for future climate impacts. Executive Order S-13-08 calls for the implementation of four key actions to reduce California's vulnerability to climate change:

- 1) Initiate California's first statewide Climate Adaptation Strategy that will assess the State's expected climate change impacts, identify where California is most vulnerable, and recommend climate adaptation policies;
- 2) Request the National Academy of Science establish an expert panel to report on sea level rise impacts in California in order to inform state planning and development efforts;
- 3) Issue interim guidance to state agencies for how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects; and
- 4) Initiate studies on critical infrastructure projects, and land-use policies, vulnerable to sea level rise.

The California Natural Resources Agency coordinated with ten state agencies, multiple scientists, a consulting team, and stakeholders to develop the California Climate Adaptation Strategy (CNRA 2009), which summarizes the best-known science to assess the vulnerability of the State to climate change impacts, and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

Senate Bill 375, Sustainable Communities and Climate Protection Act

SB 375, the Sustainable Communities and Climate Protection Act of 2008, enhances California's ability to reach its AB 32 goals by promoting good planning with the goal of more sustainable communities. SB

375 requires the CARB to develop regional GHG emissions reduction targets for passenger vehicles to be achieved by 2020 and 2035, and requires the regional Metropolitan Planning Organizations, such as SANDAG, to develop Sustainable Communities Strategies in their regional transportation plans. The Sustainable Communities Strategies demonstrate how each region will meet the CARB's emissions reduction targets through integrated land use, housing, and transportation planning to reduce the amount of vehicle miles travelled within their respective regions.

4.7.2.3 Regional and Local

SANDAG Climate Action Strategy

The Climate Action Strategy (SANDAG 2010) serves as a guide to help policymakers to address climate change as they make decisions to meet the needs of a growing population, maintain and enhance quality of life, and promote economic stability. The Climate Action Strategy focuses on three essential areas where regional and local governments have the authority or opportunity to influence GHG emissions: (1) land use patterns, transportation infrastructure, and related public investments; (2) building construction and energy usage; (3) government operations. A major purpose of the Climate Action Strategy is to identify land use and transportation policy measures that could help SANDAG meet or exceed SB 375 targets for reducing GHG emissions from passenger cars and light-duty trucks.

The policy measures identified in the Climate Action Strategy are intended to be a list of potential options for consideration as SANDAG updates its long-term planning documents such as the Regional Transportation Plan and the Regional Comprehensive Plan, and as local jurisdictions update their general plans and other community plans.

County of San Diego

The County of San Diego is currently preparing a Climate Action Plan. The CAP will outline the specific activities the County will undertake to reduce GHG emissions in the unincorporated communities of San Diego County. The CAP will also aid the County to meet state-mandated GHG reduction targets. An EIR will be prepared and is scheduled for adoption by the County Board of Supervisors in the fall of 2017. The CAP will have a GHG emissions inventory for 2014, which will serve as the base year, as well as emissions inventory forecasts aligned with California's milestone years for GHG reduction (e.g., 2020, 2030, 2040, and 2050).

4.7.3 Thresholds of Significance

Thresholds used to evaluate potential greenhouse gas (GHG) emissions impacts for the proposed project are based on applicable criteria in the State CEQA Guidelines (CCR 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant GHG emissions impact would occur if the proposed project would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

4.7.4 Impact Analysis

4.7.4.1 Issue 1 – Generate Greenhouse Gas Emissions

Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impacts

The CEQA Guidelines do not identify a quantitative threshold of significance for GHG emissions. Instead, the CEQA Guidelines leave the determination of the significance of GHG emissions up to the lead agency and authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts (CEQA Guidelines §§ 15064.4(a), 15064.7(c)).

Specifically, CEQA Guidelines § 15064.7(c) states, "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

There are no quantitative GHG thresholds of significance adopted by the state of California or SDAPCD. Therefore, this analysis uses the threshold of significance adopted by the County of San Diego in June 2012 to determine whether the GHG emissions from the proposed project may have a significant impact on the environment. The County's Guidelines for Determining Significance for Climate Change are based on regional data and therefore may be used by lead agencies in the region other than the County of San Diego. The purpose of these guidelines is to ensure that new development in the county achieves its fair share of emission reductions needed to meet the statewide AB 32 mandate.

The County guidelines establish a screening level threshold of 2,500 MT CO₂e per year. This screening level applies separately to both construction and operation. Projects that would emit less than 2,500 MT CO₂e per year are considered to have insignificant emissions and would not affect the region's ability to meet reduction goals (County 2013). Therefore, projects that result in emissions that are below this screening level threshold would not result in significant GHG emissions and no further analysis is required.

Construction Impacts

GHG emissions for project construction activities were estimated using the construction data provided in the San Pasqual Undergrounding Project Feasibility Project (B&V 2016), the emission factors included in the CalEEMod model (Version 2013.2.2) (SCAQMD 2013), and the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Model (Version 7.1.5.1), which take into account the hours of operation, load factor, and the emission factors for each piece of equipment. Detailed input and model outputs are provided in Appendix B to this EA-IS/MND. The GHG emissions that would result from construction of the proposed project are summarized in Table 4.7-3. Construction of the proposed project would result in total GHG emissions of 519.3 MT CO₂e over 9 months (36 weeks). Annual GHG emissions would not exceed the County recommended 2,500 MT CO₂e screening threshold during construction. Therefore, a significant GHG emissions impact would not occur from construction of the proposed project.

Table 4.7-3 Estimated Construction GHG Emissions	
Construction Activity	GHG Emissions (MT CO₂e)
Access Road	115.3
Pipeline	211.0
Desilting Basin	192.9
Total	519.3
County GHG Threshold	2,500
Impact?	No

Source: CalEEMod Version 2013.2.2. See Appendix B for model output

The emissions modeling is based on construction equipment parameters and schedule information that was available at the time of the analysis; it is understood that the parameters utilized in the emissions analysis is substantially representative of what would occur with project implementation. Construction emissions can vary from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. In addition, construction equipment lists and estimated use is also refined as a project nears the start of construction. As shown in the analysis, the emissions output is substantially lower than the applicable threshold. Therefore, normal and minor variances in equipment type and use would not change the findings of this GHG assessment.

Operation Impacts

As discussed above, the proposed project would generate new vehicle trips during operation and maintenance of the proposed pipeline and support facilities. These trips would be few and infrequent, resulting in minimal emissions that would not exceed the significance thresholds for GHG emissions. Therefore, the construction and operational phases of the proposed project would have a less than significant impact with regards to greenhouse gas emissions.

Mitigation Measures

No mitigation measures are necessary because impacts would be less than significant.

4.7.4.2 Issue 2 – Conflict with an Applicable Plan

Would the proposed project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Impacts

In order to evaluate consistency with an applicable GHG plan, this analysis will use the County of San Diego significance threshold, which was designed to ensure compliance with statewide targets that are identified in AB 32 and Executive Order S-3-05.

As previously discussed, if a project emits GHGs at a quantity less than the significance threshold it can be assumed to comply with AB 32 within the County of San Diego’s jurisdiction. As the proposed project would emit 519.3 MTCO₂e (less than 2,500 MTCO₂e screening threshold), it would not conflict with the state’s ability to achieve the reduction targets defined in AB 32. Therefore, the proposed project would not conflict with any applicable, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases, and impacts are less than significant.

Mitigation Measures

No mitigation measures are necessary because impacts would be less than significant.

4.8 Hazards and Hazardous Materials

This section addresses potential hazards and hazardous materials issues related to the construction and operation of the proposed project. Information in the following section is based on a hazardous materials search and preliminary site assessment. The search was influenced by the 2013 ASTM) Standard Practice for Phase I Environmental Site Assessments (ASTM E 1527-13). Information regarding potential and existing hazardous material sites within the vicinity of the proposed project are described below.

4.8.1 Environmental Setting

4.8.1.1 Hazards Materials Records Search

In order to determine if hazardous material sites exist on or adjacent to the proposed project, a records search of federal, state, and county hazardous material sites was conducted. Based on the density of the adjacent land uses, topographic and groundwater gradients, and historical and current adjacent land uses, it was determined that the ASTM E 1527-13 approximate minimum search distances (one-quarter mile) were adequate for performing the hazardous materials study. The following databases were used to identify hazardous material sites surrounding the proposed project site:

- **HistUST:** The Hazardous Substance Storage Container Database is a historical listing of underground storage tank (UST) sites. This database is maintained by the SWRCB.
- **LUST:** LUST records contain an inventory of reported leaking underground storage tank incidents. This database is maintained by the SWRCB.
- **PERMITS:** The PERMITS database tracks establishments that were issued permits and the status of their permits in relation to compliance with federal, state, and local regulations that the County oversees. This database tracks if a site is a hazardous waste generator, hazardous waste transfer/storage/disposal (TSD) facility, or gas station, and if it has USTs, violations, or unauthorized releases. This database is maintained by the County of San Diego.
- **UST:** This database contains registered USTs and is maintained by the SWRCB.
- **Spills:** The California RWQCBs maintain reports of sites that have records of spills, leaks, investigations, and cleanups.

A search of these databases produced one LUST site at 27755 North Lake Wohlford Road in Valley Center; the site is a private residence. Details of the site are described below in Section 4.8.1.2.

4.8.1.2 Review of Regional Water Quality Control Board Agency Files

The 27755 North Lake Wohlford Road property is listed as a San Diego RWQCB case (number 9099). The RWQCB files were reviewed on July 18, 2016.

The file indicated that on July 12, 1994, gasoline-contaminated soil was discovered during tank excavation activities; one 550 gallon tank was removed. One sample collected from the 550-gallon tank area had low levels of gasoline range total petroleum hydrocarbons (TPH-G), diesel range total petroleum hydrocarbons (TPH-D), and ethylbenzene and xylenes (BTEX). The contaminated soil (195 tons) was hauled off-site to TPS Technologies and Landmark Materials and the tank was cleaned onsite. On March 12, 1997, it was determined that water wells and surface water had not been affected by the leak. On October 8, 1998, the case was closed and no further action was required (SWRCB 2016).

4.8.1.3 Review of State of California Division of Oil and Gas Records

A review of the Division of Oil, Gas & Geothermal Resources Well Finder (2016) indicates that no oil wells are located within 0.5-mile of the project area.

4.8.1.4 Historical Uses in the Project Area and Adjoining Properties

A historical records review of the project area and adjacent properties determined that the San Pasqual Reservation was officially patented to the San Pasqual Band of Mission Indians in 1910. However, much of the tribe did not relocate to the reservation until the 1950s (SPBMI n.d.).

The surrounding land uses, historically, including the reservation has included low-density residential, agriculture, and undeveloped land. Existing land uses within the project area consist mostly of agriculture, semi-rural residences, and undeveloped land.

4.8.2 Regulatory Setting

4.8.2.1 Federal

Resource Conservation and Recovery Act of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984

Federal hazardous waste laws are generally promulgated under the Resource Conservation and Recovery Act (RCRA). These laws provide for the “cradle to grave” regulation of hazardous wastes. Any business, institution, or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed.

The EPA has the primary responsibility for implementing RCRA; however, individual states are encouraged to seek authorization to implement some or all of RCRA provisions. California received authority to implement the RCRA program in August 1992. The California Department of Toxic Substances Control (DTSC) is responsible for implementing the RCRA program as well as California’s own hazardous waste laws, which are collectively known as the Hazardous Waste Control Law. Under the Certified Unified Program Agency (CUPA) program, DTSC has in turn delegated enforcement authority to the County of San Diego, which has direct oversight of hazardous waste generation, transportation, treatment, storage, and disposal.

Hazardous Materials Transportation Act

The U.S. Department of Transportation regulates hazardous materials transportation under Title 49 CFR. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). These agencies also govern permitting for hazardous materials transportation.

CFR Title 29, Occupational Safety and Health Act

The federal Occupational Safety and Health Act is intended to ensure that employers provide their workers with a work environment free from recognized hazards to safety and health, such as exposure to toxic chemicals, excessive noise levels, mechanical dangers, or unsanitary conditions. Operation of this program is delegated to the state and operated by the California Occupational Safety and Health

(Cal/OSHA). These regulations would apply to the construction and operation of the proposed pipeline and associated facilities.

Title 40 CFR Part 112, Oil Pollution Prevention

A Spill Prevention Control and Countermeasure (SPCC) plan is required by Title 40, CFR Part 112. In California, owners and operators of aboveground storage tanks (ASTs) must comply with federal regulations pertaining to oil spill prevention and aboveground petroleum storage. The SPCC plan provides an analysis of the potential for release from ASTs and the measures that could be put into place to reduce the potential of release. Facilities subject to these regulations must complete an SPCC plan if they contain tanks with a capacity of 660 gallons or more, or if the total facility capacity exceeds 1,320 gallons.

4.8.2.2 State

Aboveground Petroleum Storage Act

The Aboveground Petroleum Storage Act requires registration and spill prevention programs for ASTs that store petroleum. In some cases, ASTs for petroleum may be subject to groundwater monitoring programs that are implemented by the RWQCBs and the SWRCB.

Title 8 CCR, California Occupational Safety and Health Act

In California, under the California Occupational Safety and Health Act, Cal/OSHA enforces federal OSHA requirements as well as more stringent state regulations. Cal/OSHA hazardous materials regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which include identifying and labeling hazardous substances, providing employees with Material Safety Data Sheets (MSDSs), and describing employee training programs. These regulations also require the preparation of an emergency action plan, including escape and evacuation procedures. This would apply to the construction and operation of the proposed pipeline and associated facilities.

Emergency Response to Hazardous Materials Incidents

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government, and private agencies. The plan is administered by the Office of Emergency Services and includes response to hazardous materials incidents. The Office of Emergency Services coordinates the response of other agencies, including CalEPA, the CHP, the CDFW, the San Diego RWQCB, the San Diego Air Pollution Control District (APCD), and the City of San Diego Fire Department (SDFD).

Hazardous Materials Release Response Plans and Inventory Act

Chapter 6.95 of the California Health and Safety Code requires facilities that use, produce, store, or generate hazardous substances or have a change in business inventory to have a Hazardous Materials Management Plan (HMMP) or Business Plan. The plan must disclose the type, quantity, and storage location of materials. The law also requires a site-specific emergency response plan, employee training, and designation of emergency contact personnel.

Title 22, California Hazardous Waste Control Law

As previously discussed, the DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the RCRA and the California Hazardous Waste Control Law. Both laws

impose “cradle to grave” regulatory systems for handling hazardous waste in a manner that protects human health and the environment. The DTSC has delegated some of its authority under the Hazardous Waste Control Law to county health departments and other CUPAs, including the San Diego County DEH.

In California, under the California Occupational Safety and Health Act, Cal/OSHA enforces federal OSHA requirements as well as more stringent state regulations. Cal/OSHA hazardous materials regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which include identifying and labeling hazardous substances, providing employees with MSDSs, and describing employee training programs. This would apply to the construction and operation of the proposed pipeline and associated facilities.

4.8.2.3 Local

Unified Program Facility Permits

The County of San Diego regulates establishments which use hazardous materials, dispose of hazardous wastes, have USTs, and/or generate medical waste. Any business in the county that generates hazardous waste, handles hazardous waste, or uses USTs must apply for a Unified Program Facility Permit and may be subject to various hazardous materials requirements.

4.8.3 Thresholds of Significance

Thresholds used to evaluate potential hazardous materials impacts are based on applicable criteria in the State CEQA Guidelines (CCR 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant hazardous materials impact would occur if the proposed project would:

1. Would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
2. Would create a significant hazard to the public or environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
3. Would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
4. Would be located on a site which is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
5. 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, result in a safety hazard for people residing or working in the project area.
6. For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
7. Would impair implementation of or physically interfere with an adopted emergency plan or emergency evacuation plan.
8. Would expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

4.8.4 Impact Analysis

4.8.4.1 Issues 1 and 2 – Routine Transport, Use, or Disposal of Hazardous Materials; Release of Hazardous Materials into the Environment

Would implementation of the proposed project result in a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Would implementation of the proposed project result in the release of hazardous materials into the environment through reasonably foreseeable accident conditions?

Impacts

Construction of the proposed project would require the use of hazardous materials, such as fuels and lubricants for construction equipment and pipeline component materials, such as paints and epoxies. During the operation phase of the proposed project routine transport, use, or disposal of hazardous materials would not occur. Compliance with the County Consolidated Fire Code and Cal/OSHA regulations on County lands or the International Fire Code and OSHA on Tribal lands, as well as all other applicable federal, state, and local regulations related to the transport, use, or disposal of hazardous materials and worker safety would be required during all phases of the proposed project. These regulations, which include provisions for the proper storage of hazardous materials, would minimize the risk of upset and accident conditions such as leaks or spills and prevent significant hazard to the public or the environment. Therefore, impacts associated with the routine transport, use, or disposal of hazardous materials would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.8.4.2 Issue 3 – Existing or Proposed School

Would implementation of the proposed project result in activities that emit hazardous emissions or handle hazardous materials within one-quarter mile of an existing or proposed school?

Impacts

Schools located in the vicinity of the project area include Valley Center Middle School, Valley Center High School, and Valley Center Elementary. However, the schools are located over one-quarter mile from the proposed project. Furthermore, compliance with the County Consolidated Fire Code and OSHA regulations, as well as all other applicable federal, state, and local regulations related to the handling of hazardous materials and worker safety would be required during construction and operation of the proposed project. These regulations would minimize the risk of upset and accident conditions, such as leaks or spills and would ensure prompt and effective cleanup in the event of an accidental release. Therefore, impacts associated with emitting hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.8.4.3 Issue 4 – Located on a Hazardous Materials Site

Would implementation of the proposed project result in activities located on a listed hazardous materials site creating a significant hazard to the public or environment?

Impacts

As discussed above in Sections 4.8.1.1 and 4.8.1.2, based on a preliminary review of the list of hazardous materials sites pursuant to Government Code Section 65962.5, one LUST site was determined to be within the associated search radius (one-quarter mile). Site cleanup has been completed for this site and, therefore, implementation of the proposed project would not cause a significant hazard to the public or environment by impacting a hazardous materials site.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.8.4.4 Issues 5 and 6 – Located within an Airport Land Use Plan or near a Public Airport; Within the Vicinity of a Private Airstrip

Would the proposed 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, result in a safety hazard for people residing or working in the project area?

Would the proposed project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?

Impacts

The project area is not located within an airport land use plan or within two miles of a public airport or public use airport. No direct, impacts would occur.

Lake Wohlford Resort Airport is a privately owned, private use airport located over two miles from the proposed project. Due to the short-term duration of construction activities, exposure of construction workers to airport safety hazards would be temporary. Furthermore, Lake Wohlford Resort Airport does not service large aircraft and averages only 86 aircraft operations per week (AirNav, LLC 2012); thus, airport safety hazards would be limited. Therefore, impacts related to safety hazards associated with a private airstrip would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.8.4.5 Issue 7 – Emergency Response and Evacuation Plans

Would implementation of the proposed project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impacts

During construction, the contractor would be required to prepare and implement a Traffic Control Plan including safety measures, temporary lane closures, and alternate routes through the project area, to be used during construction of the proposed project. Emergency access would be provided at all times during construction and operation of the proposed project. Therefore, the proposed project would not impair

implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No impact would occur.

Mitigation Measures

Implementation of the proposed project would have no impact; therefore, no mitigation is required.

4.8.4.6 Issue 8 – Wildland Fires

Would implementation of the proposed project expose people or structures to a significant risk of loss, injury or death involving wildland fires?

Impacts

According to the Fire and Resource Assessment Program San Diego County Fire Hazard Severity Zones map (Cal Fire 2007), there are areas of moderate to very high fire threat within the project area. Construction of the proposed project may take place near highly flammable vegetation; however, construction activities would comply with the County Consolidated Fire Code and all other applicable federal, state, and local regulations related to fire prevention and safety. These regulations, which include provisions for proper maintenance of construction equipment, brush clearance, and fuel management, would minimize the risk of wildland fires during construction.

Following construction, the proposed project is a water conveyance facility and, therefore, would not represent a fire hazard. Aboveground facilities, such as the desilting basin, would comply with the County Consolidated Fire Code and all other applicable federal, state, and local regulations related to fire prevention and safety. These regulations, which include provisions for brush management and fire-resistant building materials, would minimize the risk of damage to water infrastructure from potential wildland fires. Furthermore, the proposed project does not propose the construction of any housing or structures intended for human occupancy. Therefore, impacts related to safety hazards associated with wildland fires would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

This page intentionally left blank.

4.9 Hydrology and Water Quality (Water Resources)

This section describes the existing hydrologic conditions in the project area and addresses the proposed project's impacts to surface and groundwater and to water quality, quantity, and use. The information presented in this section was compiled from a review of available hydrologic data for the Valley Center community area, current applicable regulations, and project design.

4.9.1 Environmental Setting

4.9.1.1 Existing Hydrologic Conditions

The project area is located in the San Luis Rey River watershed (Figure 4.9-1). The major water bodies in the watershed are the San Luis Rey River and Lake Henshaw. The San Luis Rey River extends over 55 miles across northern San Diego County forming a watershed with an area of approximately 360,000 acres or 562 square miles (PCW 2016). The San Luis Rey River is the primary surface water system within the watershed. Headwaters of the river are located in the Cleveland National Forest near Palomar Mountain; from there the river flows in a northwesterly direction, eventually reaching the Pacific Ocean in the city of Oceanside. The San Luis Rey River is an ephemeral river that stays dry most of the year. The San Luis Rey River flows through five valleys: Warner, Pauma, Pala, Bonsall, and Mission, which are separated by narrow, steep-walled canyons. In 1977, the peak discharge at the mouth of the river was estimated to be 51,000 cfs during a 100-year flood. The lower seven miles of the San Luis Rey River is confined by a 400-foot-wide leveed earthen channel. Henshaw Dam is located along the river in the unconfined upper portion of the watershed, approximately 50 miles from the ocean at approximately 2,700 feet in elevation. Lake Henshaw retains 36 percent of the water which would normally flow through the length of the river and out to the Pacific Ocean (PBS&J 2008).

Over 54 percent of the land in the San Luis Rey River watershed is vacant or undeveloped; other major land uses include residential (15 percent) and agriculture (14 percent). Although the watershed is the third largest in San Diego County by area, it contains the lowest population density. The watershed has 197,790 acres of undeveloped land; of which 63,512 acres are planned for residential development. The majority of vacant land occurs in the eastern half of the watershed, east of the project area. The water supply of the San Pasqual Reservation has been partially derived from the springs, surface water, and groundwater supplies that occur naturally on that reservation, as well as imported water delivered through arrangements with the Valley Center Municipal Water District. Escondido and VID are member agencies of the SDCWA and receive a blend of Local Water that they develop from the San Luis Rey River watershed and imported water from the SDCWA. This water is used for municipal use in the Escondido and VID service areas.

Groundwater

The proposed project is within the South Coast Groundwater Hydrologic Region as identified in California's Groundwater Bulletin 118. The proposed project does not directly overly a groundwater basin; however, the San Luis Rey Valley Groundwater Basin is located approximately 0.85 mile north of the project area. The geologic units in the San Luis Rey River Basin consist of two main groups: consolidated rocks of the pre-Tertiary and Tertiary periods, and unconsolidated deposits of the Quaternary period. The unconsolidated deposits generally underlie the valleys and stream channels and comprise the major groundwater aquifers in the area. The older consolidated rocks form the mountains and hills, and also

comprise the basement complex underlying the unconsolidated deposits forming the sides and bottom of the groundwater basins. The consolidated rocks for all practical purposes are impermeable. In some areas where the consolidated rock is weathered or highly fractured by faulting, small quantities of water can be obtained from wells and springs. Runoff from the mountains and hills contributes nearly all of the recharge to the groundwater aquifers within the unconsolidated deposits. The older alluvium underlies most of the valley floors and deeper parts of the larger stream channels, and consists mainly of poorly sorted gravel, sand, silt, and clay. It has a moderate permeability and, where saturated, yields water freely to wells; thus comprising the most important water bearing unit in the area (Escondido 2008). Historical groundwater levels in the project area have ranged from near the surface to 50 feet deep; however, investigations in support of the Escondido Canal Undergrounding Geotechnical Feasibility Evaluation (B&V 2016) did not identify groundwater within 20 feet of the surface.

San Luis Rey Valley Groundwater Basin

The San Luis Rey Valley Groundwater Basin underlies an east-west trending alluvium-filled valley located along the western portion of San Diego County. The major hydrologic feature is the San Luis Rey River, which drains the valley overlying basin. The basin is bounded on the east, northeast, and southeast by the contact of alluvium with impermeable Mesozoic granitic and Pre-Cretaceous metamorphic rocks. In the lower portion of the basin, alluvium is in contact with semi-permeable Eocene marine deposits and Tertiary non-marine deposits. The basin is bounded on the west by the Pacific Ocean. The basin is recharged by imported water applied on upland areas and by stormflow in the San Luis Rey River and its tributaries. Due to imported water sources, the groundwater levels have risen to near pre-development levels and range on average from 0 to 20 feet below land surface. Well yields can exceed 2,000 gallons per minute (gpm) and average 500 gpm. The estimated total storage capacity for the basin is 240,000 acre feet (DWR 2004).

Water Quality

Major water quality impacts to the San Luis Rey River watershed include surface water quality degradation, habitat loss, invasive species, and channel bed erosion. The federal CWA was designed to restore and maintain the chemical, physical, and biological integrity of the waters of the U.S. Section 303 of the CWA requires states to adopt water quality standards for all intrastate waters of the U.S. Three water bodies in the San Luis Rey watershed have been placed on the CWA 303(d) list of Impaired Water Bodies (PCW 2016): the Pacific Ocean shoreline (indicator bacteria), the lower 13 miles of the San Luis Rey River (chloride), and the lower 19 miles of the San Luis Rey River (total dissolved solids). These impaired areas are located downstream of the project area. The main constituents of concern in the watershed are fecal indicator bacteria and nutrients. San Luis Rey Participating Agencies (SLRPA), City of Vista, City of Oceanside, County of San Diego, and Caltrans, adopted the San Luis Rey River Watershed Management Area Water Quality Improvement Plan in 2016 to establish numeric goals for the highest priority water quality condition in the lower portion of the watershed. This requires the Participating Agencies to reduce bacteria levels (PCW 2016). Potential sources of these contaminants are varied and include both anthropogenic and natural sources, including agriculture, orchards, livestock, domestic animals, urban runoff, and septic systems. Storm water drainage in the project area consists of swales, drainage ditches, and open land that direct storm water runoff to the nearest drainage course. These drainages discharge to the San Luis Rey River (PBS&J 2008).

This page intentionally left blank.

Potable water transmitted through the existing imported water system is treated upstream at the Robert A. Skinner Treatment Plant. This 630 mgd facility is owned and operated by MWD and treats water stored in Lake Skinner. This plant features both the conventional and direct filtration process. The conventional treatment method includes large sedimentation basins that allow particles to settle to the bottom. The direct filtration process relies on filter beds to remove the particles. Water from the plant meets or surpasses all state and federal water quality standards (MWD 2016).

The Water Control Plan for the San Diego Basin (San Diego Basin Plan), most recently amended in 2012, sets forth water quality objectives for constituents that could potentially cause an adverse impact on the beneficial uses of water. One goal of the San Diego Basin Plan is to protect the designated beneficial uses of water bodies in the San Diego Basin, including the San Luis Rey River watershed. The designated beneficial uses for the inland surface waters, reservoirs and lakes, and groundwater in the watershed are listed in Table 4.9-1.

Table 4.9-1 Beneficial Uses of the San Luis Rey River Watershed			
Beneficial Uses	Inland Surface Water	Reservoirs and Lakes	Ground Water
Municipal and Domestic Supply	X	X	X
Agricultural Supply	X	X	X
Industrial Service Supply	X	X	X
Industrial Process Supply		X	X
Hydropower Generation	X	X	
Freshwater Replenishment	X	X	X
Contact Water Recreation	X	X	
Non-Contact Water Recreation	X	X	
Warm Freshwater Habitat	X	X	
Cold Freshwater Habitat	X		
Wildlife Habitat	X	X	
Rare, Threatened, or Endangered	X	X	

Source: PCW 2016

4.9.2 Regulatory Setting

4.9.2.1 Federal

Clean Water Act

The 1972 CWA was designed to restore and maintain the chemical, physical, and biological integrity of the waters of the U.S. The CWA also directs states to establish water quality standards for all waters of the U.S. and to review and update such standards on a triennial basis. The U.S. Environmental Protection Agency (USEPA) has delegated responsibility for implementation of portions of the CWA in California to the SWRCB and the RWQCBs. This includes water quality control planning and control programs such as NPDES, which seeks to control water pollution through the issuance of permits regulating the discharge of pollutants into waters of the U.S. Section 303 of the CWA requires states to adopt water quality standards for all intrastate waters of the U.S.

National Flood Insurance Act

The National Flood Insurance Act of 1968 established the National Flood Insurance Program (NFIP) in order to provide flood insurance within communities that were willing to adopt floodplain management programs to reduce future flood losses. The Act also required the identification of all floodplain areas within the U.S. and the establishment of flood-risk zones within those areas. The Federal Emergency Management Agency (FEMA) is the primary agency responsible for administering programs and coordinating with communities to establish effective floodplain management standards. FEMA is responsible for preparing Flood Insurance Rate Maps that delineate the areas of known special flood hazards and their risk applicable to the community.

National Flood Insurance Reform Act

The National Flood Insurance Reform Act of 1994 resulted in major changes in the NFIP. The Act, which amended the Flood Disaster Protection Act of 1973, provided tools to make NFIP more effective in achieving its goals of reducing the risk of flood damage to properties and reducing federal expenditures for uninsured properties that are damaged by flood. The Act required mitigation insurance and established a grant program for state and community flood mitigation planning projects.

4.9.2.2 State

Assembly Bill 3030 - Groundwater Management Act

In 1992, AB 3030 was passed which greatly increased the number of local agencies authorized to develop a groundwater management plan and set forth a common framework for management by local agencies throughout California. These agencies could possess the same authority as a water replenishment district to fix and collect fees and assessments for groundwater management (Water Code Section 10754), provided they receive a majority of votes in favor of the proposal in a local election (Water Code Section 10754.3).

Cobey-Alquist Floodplain Management Act of 1965

Under this Act, local governments are encouraged to plan, adopt and enforce land use regulations for floodplain management, in order to protect people and property from flooding hazards. This Act also identifies requirements that jurisdictions must meet in order to receive state financial assistance for flood control.

California Groundwater Rights

California created a system of appropriating surface water rights through a permitting process in 1913, but groundwater has never had any statewide regulation. Though the regulation of groundwater has been considered on several occasions since 1913, the California Legislature has repeatedly determined that groundwater management should remain a local responsibility. The right to use groundwater in California has evolved through a series of court decisions dating back to the late 1800s. Groundwater rights are usufructuary, meaning the right is not one of absolute ownership, but of the opportunity of use on the overlying land. This use must be reasonable and beneficial.

California Water Code

In the California Water Code, there are 22 kinds of districts or local agencies with specific statutory provisions to manage surface water. Many of these agencies have statutory authority to exercise some forms of groundwater management. For example, a Water Replenishment District (Water Code Section 60000 et seq.) is authorized to establish groundwater replenishment programs and collect fees for that

service, while a Water Conservation District (Water Code Section 75500 et seq.) can levy groundwater extraction fees.

Construction Stormwater Permits

Stormwater runoff from construction activity that results in soil disturbances of at least one acre of total land area (and projects that meet other specific criteria) is governed by the SWRCB under Storm Water Discharges Associated with Construction Activity (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAR000002 [Construction General Permit]) adopted September 2, 2009. These regulations prohibit discharges of polluted stormwater from construction projects that disturb one or more acres of soil unless the discharge is in compliance with the general NPDES permit requirements. The nine individual RWQCBs enforce the General Construction Permits for projects within their region. The San Diego RWQCB oversees permits in the project area. It is the responsibility of the landowner or applicant to obtain coverage under the General Construction Permit prior to commencement of construction activities. To obtain coverage, the owner must file a Notice of Intention with a vicinity map and the appropriate fee to the SWRCB. The General Permit outlines the requirements for preparation of a SWPPP.

SWPPPs are prepared and BMPs identified in the SWPPPs are implemented for construction sites greater than one acre, which reduce the likelihood of alterations in drainage to result in these impacts. In compliance with applicable construction permits, the proposed action would implement the following BMPs during construction, as appropriate:

- **Minimizing disturbed areas.** Clearing of land is limited to that which will be actively under construction in the near term, new land disturbance during the rainy season is minimized, and disturbance to sensitive areas or areas that would not be affected by construction is minimized.
- **Stabilizing disturbed areas.** Temporary stabilization of disturbed soils is provided whenever active construction is not occurring on a portion of the site, and permanent stabilization is provided by finish grading and permanent landscaping.
- **Protecting slopes and channels.** Outside of the approved grading plan area, disturbance of natural channels is avoided, slopes and crossings are stabilized, and increases in runoff velocity caused by the project is managed to avoid erosion to slopes and channels.
- **Controlling the site perimeter.** Upstream runoff is diverted around or safely conveyed through the project and is kept free of excessive sediment and other constituents.
- **Controlling internal erosion.** Sediment-laden waters from disturbed, active areas within the site are detained.

National Pollution Discharge Elimination System Permits

In California, the SWRCB and its RWQCBs administer the NPDES permit program. The NPDES permit system was established under the CWA to regulate both point source discharges and non-point source discharges to surface waters of the U.S. The NPDES program consists of characterizing receiving water quality, identifying harmful constituents, targeting potential sources of pollutants, and implementing a comprehensive stormwater management program. Construction and industrial activities are typically regulated under statewide general permits that are issued by the SWRCB. The RWQCB also issues Waste Discharge Requirements (WDRs) that serve as NPDES permits under the authority delegated to the RWQCBs under the CWA. In November 1990, under Phase I of the urban runoff management strategy, the USEPA published NPDES permit application requirements for municipal, industrial, and construction stormwater discharges. With regard to municipalities, the permit application requirements were directed

at jurisdictions owning or operating municipal separate storm sewer systems serving populations of 100,000 or more, or contributing significant pollutants to waters of the U.S. Such municipalities were required to obtain coverage under a NPDES municipal stormwater permit as well as to develop and implement an urban runoff management program to reduce pollutants in urban runoff and stormwater discharges.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, enacted in 1969, authorizes the SWRCB to adopt, review, and revise policies for all waters of the state (including both surface and ground waters) and directs the RWQCBs to develop region-specific Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative. The purpose of these plans is to designate beneficial uses of the region's surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives.

4.9.2.3 Regional/Local

City of Escondido Dam Emergency Action Plans

The City of Escondido Public Works Department maintains Dixon Lake and Lake Wohlford Dam Emergency Action Plans. Emergency plans for dam evacuation are necessary to plan for the loss of life, damage to property, displacement of people, and other ensuing hazards that can occur from dam failure. Dam Emergency Action Plans contain information concerning the physical situation, affected jurisdictions, evacuation routes, unique institutions and event responses. In addition, the plans include inundation maps showing direction of flow; inundation area boundaries; hospitals, schools, multi-purpose staging areas; command posts and sites; and mass care and shelter facilities and sites.

City of Escondido Floodplain Overlay Zone

The purpose of the City's Floodplain Overlay Zone is to provide land use regulations in areas with properties situated within the designated floodplains of rivers, creeks, streams and water courses to protect public health, safety and welfare and to minimize losses to property and life due to flooding and periodic inundation. Land use regulations include: (1) restricting or prohibiting uses which are dangerous to health, safety or property in times of flood or cause excessive increases in flood heights or velocities; (2) requiring that uses vulnerable to floods, including public facilities which serve such uses, be protected against flood damage at the time of initial construction; and (3) protecting individuals from buying lands which are unsuitable for intended purposes because of a flood hazard.

City of Escondido Grading and Erosion Control Ordinance

Article 55 of the Escondido Municipal Code establishes the grading and erosion control regulations for the City. The purpose of this article is to assure that development occurs in a manner which protects the natural and topographic character and identity of the environment, the visual integrity of hillsides and ridgelines, sensitive species and unique geologic/geographic features, and the health, safety, and welfare of the general public. This Article regulates grading on private and public property and provides standards and design criteria to control stormwater and erosion during construction activities. The ordinance sets forth rules and regulations to control excavation, grading, earthwork construction (including fills and embankments), and development on hillsides and along ridgelines; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction necessary for compliance with stormwater management requirements.

City of Escondido Procedures for Floodplain Management

Article 19 of Chapter 6 of the Escondido Municipal Code establishes the procedures for floodplain management within the city. This article includes regulations to restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities; require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction; control the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel floodwaters; control filling, grading, dredging, and other development which may increase flood damage; and, prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards in other areas.

Chapter 22 of the City of Escondido Municipal Code

Chapter 22 of Escondido's Municipal Code, establishes regulations related to stormwater management and discharge control, harmful waters and wastes, sewer service charges, private sewage disposal systems, sewer connection fees, sewer connection laterals, and industrial wastewaters. The purpose of the stormwater management and discharge control regulations (Article 2) identified in this ordinance is to ensure the health, safety and general welfare of the citizens of the City by controlling non-stormwater discharges to the stormwater conveyance system. This is achieved by eliminating discharges to the stormwater conveyance system from spills, dumping, or disposal of solid or liquid waste other than stormwater and by preventing, eliminating or reducing pollutants in urban stormwater discharges to the maximum extent practicable. Article 2 prohibits the discharge of anything except stormwater into a stormwater conveyance system, prohibits illegal connections to the stormwater drainage system, and requires any person owning or occupying property through which a natural watercourse of a stormwater conveyance system passes to maintain the area free of debris and other obstacles. The purpose of the Industrial Water Regulations (Article 8) is to provide for the maximum possible beneficial public use of the City's wastewater collection and treatment facilities through adequate regulations and permit requirements governing nonresidential discharges, to provide for equitable distribution of the City's costs, and to provide procedures for complying with requirements placed upon the City by other regulatory agencies.

County of San Diego Hydromodification Management Plan

Provision D.1.g of the San Diego RWQCB Permit Order R9-2007-0001 requires co-permittees to implement a Hydromodification Management Plan to manage increases in runoff discharge rates and durations from all priority development projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force." To address the permit condition, the San Diego stormwater co-permittees, representing the County of San Diego and all incorporated cities, developed a plan that meets the intent of the Order. The Hydromodification Management Plan was adopted in March 2011 and identifies standards to control flows that may result in erosion. Priority development projects are required to implement hydromodification mitigation measures so that post-project runoff flow rates and durations do not exceed pre-project flow rates and durations where such increases would result in an increased potential for erosion or significant impacts to beneficial uses. The Hydromodification Management Plan also includes a decision matrix, which leads project applicants through plan compliance options.

San Diego Basin Plan

The Basin Plan for the San Diego Groundwater Basin, most recently amended in 2007, sets forth water quality objectives for constituents that could potentially cause an adverse impact on the beneficial uses of water. Specifically, the Basin Plan is designed to accomplish the following: (1) designate beneficial uses for surface and ground waters; (2) set the narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy; (3) describe mitigation measures to protect the beneficial uses of all waters within the region; and (4) describe surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan. The Basin Plan incorporates by reference all applicable SWRCB and RWQCB plans and policies.

San Diego County Groundwater Ordinance

The County of San Diego currently manages anticipated future groundwater demand within its jurisdiction through the County Groundwater Ordinance. This Ordinance does not limit the number of wells or the amount of groundwater extraction from existing landowners. However, the ordinance does identify specific measures to reduce potential groundwater impacts of projects requiring specified discretionary permits. Existing land uses are not subject to the Ordinance unless a listed discretionary permit is required. Additionally, Major Use Permits or Major Use Permit Modifications which involve construction of agricultural and ranch support facilities or those involving new or expanded agricultural land uses are among the exemptions from the ordinance. However, the agricultural exemption does not supersede or limit the application of any law or regulation, including CEQA.

San Luis Rey Watershed Urban Runoff Management Program

The San Luis Rey WURMP requires annual reporting by the San Luis Rey watershed co-permittees. The San Luis Rey watershed co-permittees include the City of Oceanside, the City of Vista, and the County of San Diego. The City of Oceanside serves as the Lead watershed co-permittee for the San Luis Rey watershed. The 2011 San Luis Rey WURMP describes the plans and efforts to reduce the impacts of urban activity on receiving water quality within the San Luis Rey watershed to the maximum extent practicable. The most recent San Luis Rey WURMP was adopted in January 2011 and covers the time period July 1, 2009 – June 30, 2010.

4.9.3 Thresholds of Significance

Thresholds used to evaluate potential water resources impacts are based on applicable criteria in the State CEQA Guidelines (CCR Sections 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant water resources impact would occur if the proposed project would:

1. Violate any water quality standards or waste discharge requirements.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site.
4. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site.

5. 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.
6. Otherwise substantially degrade water quality.
7. 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 map.
8. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
9. 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.
10. Inundate by seiche, tsunami, or mudflow.

4.9.4 Impact Analysis

4.9.4.1 Issues 1 and 6 – Violate Water Quality Standards; Degrade Water Quality

Would the proposed project violate any water quality standards or waste discharge requirements?

Would the proposed project otherwise substantially degrade water quality?

Impacts

Construction Impacts

Grading, excavation, and other construction-related activities for the proposed project could cause soil erosion at an accelerated rate during storm events. Construction of the proposed project would involve earth-disturbing activities (using such equipment as dozers, scrapers, graders, loaders, compactors, dump trucks, cranes, water trucks, and concrete mixers) that could discharge sediment or other pollutants (e.g., petroleum products or building materials such as paints and cement) into local drainages adjacent to the project area via runoff from the construction sites. Because activities associated with the proposed project would disturb more than one acre of land surface, the proposed project would be subject to the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit) (Order No. 2009-0009-DWQ, NPDES No. CAR000002 [Construction General Permit]) adopted September 2, 2009. The Construction General Permit also includes requirements for all Linear Underground/Overhead Projects (LUPs); the proposed project would be considered an LUP. The proposed project would be required to comply with the terms and conditions in the Construction General Permit. System testing and flushing would require coverage under the WDR for Dewatering and Other Low Threat Discharges to Surface Waters (Order No. R5-2008-0081, NPDES No. CAG995001 [Low Threat WDR]) or an individual WDR/NPDES permit if test waters do not meet Low Threat WDR requirements. Small amounts of dewatering, if applicable, (e.g., trenches filled with stormwater runoff) would be covered under the Construction General Permit.

The NPDES Construction General Permit is intended to ensure compliance with State water quality objectives and water protection laws and regulations, including those related to waste discharges. NPDES Construction General Permit permittees are required to prepare and retain at the construction site a SWPPP that identifies erosion-control measures. The SWPPP would address proposed project construction activities and would specify control measures and BMPs designed to prevent erosion, sedimentation, and pollutants from entering stormwater runoff during construction. Consistent with the

state's requirements, BMPs that could be implemented as part of the SWPPP include, but would not be limited to:

- Construction during the dry/summer season;
- Reduction of the area and length of time that the site is cleared and graded;
- Revegetation/stabilization of cleared areas as soon as possible; and
- Implementation of comprehensive erosion, dust, and sediment controls.

The project area is within the jurisdiction of the San Diego RWQCB, which has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. Water quality objectives for the stream systems and their tributaries are specified in The Water Quality Control Plan for San Diego County (Basin Plan), described above, in compliance with the federal CWA and the State Porter-Cologne Water Quality Control Act. The Basin Plan establishes water quality objectives and implementation programs to meet stated objectives and to protect the beneficial uses of water in the San Diego Basin. Because the project area (corridor and alignment) is located within the San Diego RWQCB's jurisdiction, all discharges to surface water or groundwater are subject to Basin Plan requirements. Because the proposed project would be required to comply with State water quality standards and permits, and applicable county codes and permits, any potential impacts from the proposed project would be less than significant.

Operation Impacts

Post-construction runoff is likely to contain residues from pesticides and other landscape maintenance products, as well as pollutants typically associated with urban uses, such as those generated by motor vehicle operations and pavement wear, for maintenance of the existing Escondido Canal. Operation of the proposed pipeline would be similar and would not result in the use, storage, or disposal of materials within the project area that would result in degradation of water quality. Project operations would be similar to existing operations and, therefore, would not affect water quality. Because the proposed project would be required to comply with State water quality standards and permits, and applicable county codes and permits, any residual impact from the proposed project would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.9.4.2 Issues 3, 4, and 5 – Alter Existing Drainage of the Site through Alteration of the Course of a Stream; Create or Contribute Runoff; or Increase the Rate or Amount of Surface Runoff

Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?

Would the proposed project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?

Would the proposed project 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?

Impacts

Construction of the proposed project would include light grading, excavation, installation of a pipeline and appurtenances, backfilling of trenches, and revegetation of disturbed areas. The proposed pipeline alignment would not increase impervious surfaces along the alignment corridor and would not create additional on-site and off-site runoff. Surface street drains connected to underground pipelines would collect stormwater drainage from the existing storm drain collectors in the ROWs along the existing roads. Stormwater would drain to the agricultural and rural properties adjacent to the ROWs and would not be directed towards existing storm drain facilities. Stormwater flows from the proposed project would be similar to existing conditions and not expected to exceed the flows anticipated within the existing land uses. In addition, replacement of natural landscape vegetation after construction in areas along the pipeline corridor would reduce high velocity flows. Stormwater flows would drain over the San Pasqual Recreational Fields towards the existing stormwater collection system. Stormwater flows are expected to percolate and attenuate prior to reaching the stormwater system, and this would not result in a need to alter the existing system. Therefore, drainage facilities previously identified would be adequate for the well sites and the drainage would be considered less than significant.

Runoff from the proposed project would not exceed the drainage systems planned capacity. VID and Escondido would review the design of the proposed project infrastructure to ensure adequacy with county standards. Further, commensurate approvals to meet county standards would also be required before construction and installation of the proposed pipeline and support facilities would occur. Construction of the proposed project would not increase the rate or amount of on or off-site runoff; thus and this impact is considered less than significant.

The proposed project would not substantially alter the current drainage patterns along the proposed pipeline alignment or along the proposed access roads and vehicle turnout locations that would result in an increase in sedimentation rates or runoff volumes and flows. Because the proposed project would be required to comply with State water quality standards and permits, and applicable county codes and permits, any residual impact from the proposed project would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.9.4.3 Issue 6 – Deplete Groundwater Supply

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

Impacts

The project area does not directly overlay a groundwater basin. The nearest groundwater basin, the San Luis Rey Valley Groundwater Basin, is approximately 0.85 mile north of the project area. This groundwater basin is recharged by imported irrigation water applied on upland areas and by stormflow in the San Luis Rey River and its tributaries (DWR 2004); therefore, implementation of the proposed project would not directly or indirectly impact the San Luis Rey Valley Groundwater Basin.

Construction of the proposed project would include light grading, excavation, installation of a pipeline and appurtenances, backfilling of trenches and revegetation of disturbed areas. Trenches for the Segment 2

pipeline would be excavated to depths of approximately 6.5 feet wide by 6 feet deep, and approximately 9 feet wide by 8 feet deep for the Segment 1 pipeline. The proposed project would not result in new groundwater wells or an increase in the pumping of existing groundwater wells. The proposed project would not result in pipelines or other structures buried deep enough to reach groundwater levels and affect the quality of flow of groundwater in the area. The trenches would be filled and restored to pre-project conditions after construction so that the percolation patterns along the proposed pipeline would not change. Notably, with demolition and removal of the existing canal system, existing impervious surfaces (concrete canal) would be reduced through the installation of the underground pipeline. Installation of the proposed pipeline and support facilities would not create any new impervious surfaces that would prevent percolation of groundwater directly. Therefore, impacts would be less than significant to groundwater supplies, levels, flow, and recharge.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.9.4.4 Issues 7, 8 and 9 – Place Housing within 100-year Floodplain; or within a 100-year Flood Hazard Area; Dam or Levee Failure

Would the proposed project 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 map?

Would the proposed project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Would the proposed project 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?

Impacts

The proposed project does not include the construction of housing, would not impede or redirect flood flows, and would not expose people or structures to risks associated with a 100-year flooding event. No levees exist within the proposed pipeline corridor, and as a result the proposed project would not expose people or properties to levee failure. Lake Wohlford is a local recreational reservoir managed and operated by the City of Escondido. The lake has a design capacity of 6,500 acre-feet and is undergoing a dam replacement to maximize its capacity. Lake Wohlford is less than 5 miles from the proposed pipeline alignment; however, the earthen dam at Lake Wohlford is situated at approximately 1,600 AMSL. In the event of a dam failure, flood waters would flow towards the city of Escondido and not towards the project area. Therefore, no impact would occur from flooding, levee or dam failure.

Mitigation Measures

Implementation of the proposed project would have no impact; therefore, no mitigation is required.

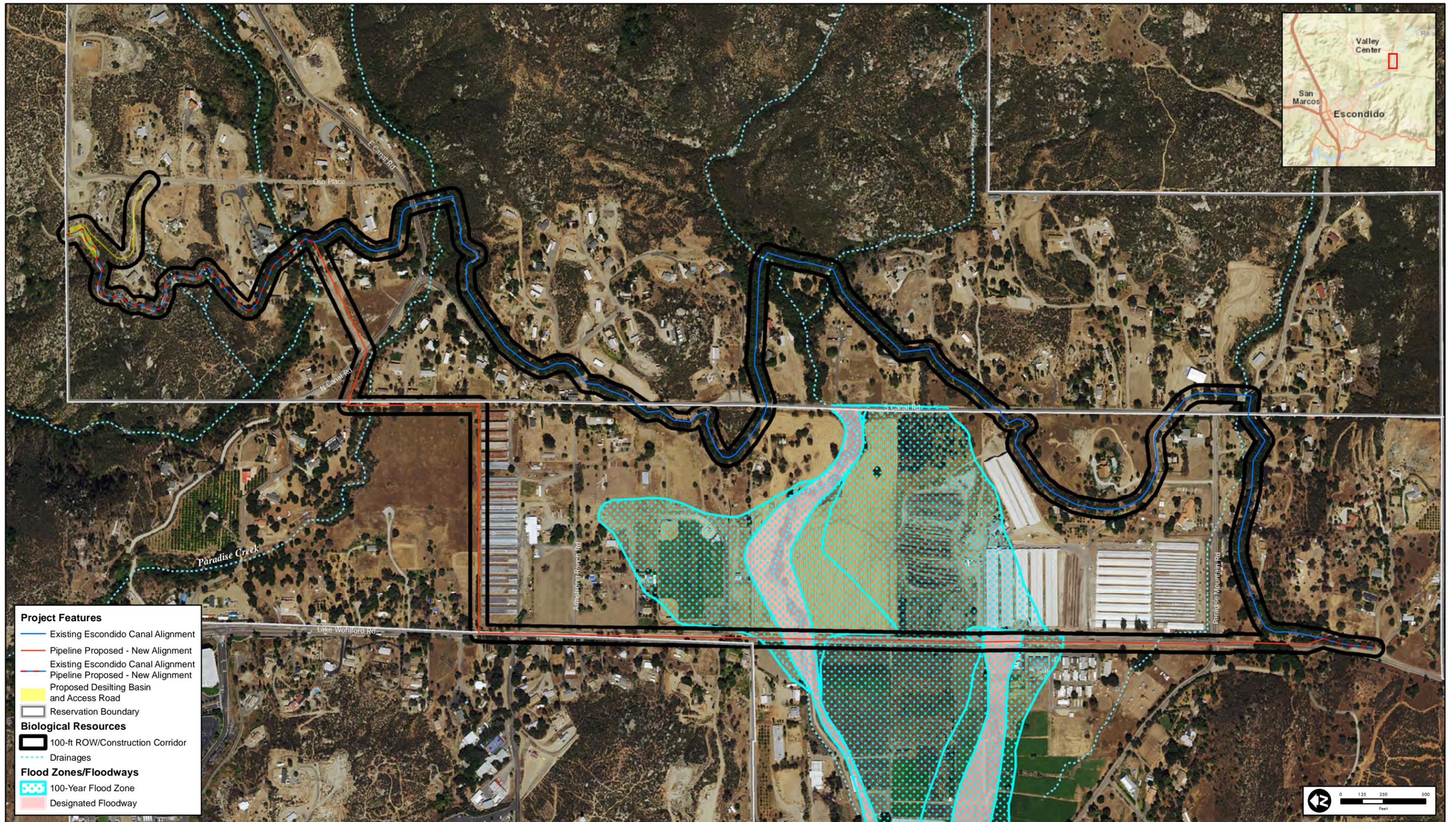


Figure 4.9-2
Flood Zones and Designated Floodways

100049195 2016 San Pasqual Undergrounding Project

Sources: Esri, Atkins

7/26/2016 cava6246 H:\Clients\Escondido\100049195 VID SPUP ENV EA MND\GIS\data\Figure 4.9-2 Flood Zones.mxd

This page intentionally left blank.

4.9.4.5 Issue 10 – Inundation by Seiche, Tsunami, or mudflow

Would the proposed project inundate by Seiche, Tsunami, or mudflow?

Impacts

The project area is not located near oceans or volcanoes. Groundshaking could result from the Escondido Fault zone. Lake Wohlford is a highly confined body of water and seiches can occur in lakes similar to Lake Wohlford. In larger bodies of water, movement of water or waves is largely dissipated throughout the large open boundaries of the lake. However, Lake Wohlford is topographically divided by three miles of mountainous terrain from the proposed pipeline alignment. As such, the potential for seiche from Lake Wohlford is minimal due to the distance from the lake to the project area. Furthermore, numerous topographic elevation changes between the project area and Lake Wohlford would prevent a seiche wave from reaching the proposed pipeline corridor.

Mudflows and landslides are known to occur in California. Southern California is especially susceptible to landslides and mudflows caused by heavy precipitation in areas of weak soils and steep terrain, like that surrounding the project area. However, the proposed pipeline would be buried below ground surface to a depth of approximately 6 feet for Segment 2 and 8 feet for Segment 1 and does not include above ground structures that would be impacted by mudflows or landslides. Therefore, the impact resulting from seiche, tsunami, or mudflow would be less than significant.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

This page intentionally left blank.

4.10 Noise

This section evaluates the potential impacts of the proposed project on noise and vibration. This evaluation includes an assessment of the direct, indirect, short-term, and long-term impacts of the proposed project.

4.10.1 Environmental Setting

4.10.1.1 Ambient Noise Level

Low ambient noise levels are characteristic of the rural project area. Daytime noise levels were monitored at two locations in the Valley Center community and two locations in the Pala-Pauma community by PBS&J in March 2008, in support of the environmental impact report for the County General Plan Update. The measured noise levels from this survey effort are provided in Table 4.10-1. Noise levels obtained during the 15-minute measurement periods ranged from 44 A-weighted sound level (dBA) equivalent sound level (Leq) to 69 dBA Leq. Motor vehicle traffic was found to have the primary influence on noise levels at locations near well-traveled roadways. Noise from agricultural operations and schools were also contributors to total noise levels at locations distant from busy roadways. Nuisance noise such as barking dogs is associated with residential land use. Residences are typically not substantial contributors to ambient noise levels.

Site	Location	Major Noise Sources	Date/Time	Leq	Lmax	Lmin
1	Low density residential area on Blueberry Hill Lane in Valley Center	Traffic	3-3-2008 / 1:52 p.m.	55	75	44
2	Pauma Elementary School in Pala-Pauma	School bells, students	3-25-2008 / 10:37 a.m.	50	81	39
3	Low density residential area on Lilac Road, between Old Castle Road and Anthony Road in Valley Center	Traffic	3-25-2008 / 7:33 a.m.	69	88	39
5	Agricultural area (row crops) on Cole Grade Road in Pala-Pauma	Tractor and forklift operation	3-25-2008 / 12:38 p.m.	44	71	37

Source: PBS&J 2008. Ambient measurements were 15 minutes in duration.

4.10.1.2 Sensitive Noise Receptors

The San Diego County General Plan Noise Element defines noise sensitive areas where an excessive amount of noise would interfere with normal activities. Primary noise-sensitive land uses include residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreational parks. The proposed pipeline alignment will be constructed in close proximity to homes along Lake Wohlford Road, Armstrong Ranch Road, Paradise Mountain Road, and South Canal Road. Additional homes and parks are located throughout the project area and may be located near future water transmission facilities.

4.10.1.3 Fundamentals of Environmental Noise

Noise is usually 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. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is

a unit of measurement that indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Audible increases in noise levels generally refer to a change of 3 dB or more, as this level has been found to be barely perceptible to the human ear in outdoor environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense, and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness.

Sound intensity is normally measured through the dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for a number of various sound level metrics, including the day/night sound level (Ldn) and the Community Noise Equivalent Level (CNEL), both of which represent how humans are more sensitive to sound at night. In addition, the Leq is the average sound energy of time-varying noise over a sample period and the Lmax is the maximum instantaneous noise level occurring over a sample period.

Construction Noise Fundamentals

Noise levels generated by individual pieces of construction equipment and specific construction operations form the basis for the prediction of construction-related noise levels. Two types of sources generate noise during construction activities: Stationary Equipment and Mobile Equipment. Stationary equipment consists of equipment that generates noise from one general area and includes items such as pumps, generators, compressors, etc. These types of equipment operate at a constant noise level under normal operation and are classified as non-impact equipment. Other types of stationary equipment such as pile drivers, jackhammers, pavement breakers, and blasting operations produce variable and sporadic noise levels and often produce impact-type noises. Impact equipment is equipment that generates impulsive noise, where impulsive noise is defined as noise of short duration (generally less than one second), high intensity, abrupt onset, rapid decay, and often rapidly changing spectral composition. For impact equipment, the noise is produced by the impact of a mass on a surface, typically repeating over time. Mobile equipment such as bulldozers, scrapers, graders, loaders, and mobile cranes may operate in a cyclic fashion in which a period of full power is followed by a period of reduced power. Other equipment, such as compressors, although generally considered to be stationary when operating, can be readily located to another location for the next operation. Table 4.10-2 shows typical noise levels of construction equipment as measured at a distance of 50 feet from the operating equipment.

During construction of a project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Two types of short-term noise impacts typically occur during construction of a project. The first type includes noise generated by construction crew commutes and the transport of construction equipment and materials to and from a project site. This activity would incrementally increase noise levels on access roads (or roadways in the vicinity) leading to a project site. Typically, pieces of heavy equipment would be moved on-site to a construction staging area and would remain for the duration of each necessary construction phase. This equipment would not add to the daily traffic volume on roadways in the vicinity of a project.

The second type of short-term noise impact is related to noise generated during on-site construction. Specifically for the proposed project, pipeline construction is performed in discrete steps; each step of pipeline placement has its own mix of equipment and, consequently, its own noise characteristics. These various construction operations would change the character of the noise generated at a construction site and, therefore, the noise levels as construction progresses.

Table 4.10-2 Typical Construction Equipment Maximum Noise Levels, L_{max}

Type of Equipment	Impact Device? (Yes/No)	Specification Maximum Sound Levels for Analysis (dBA at 50 feet)
Impact Pile Driver	Yes	95
Auger Drill Rig	No	85
Vibratory Pile Driver	No	95
Jackhammers	Yes	85
Pneumatic Tools	No	85
Pumps	No	77
Scrapers	No	85
Cranes	No	85
Portable Generators	No	82
Rollers	No	85
Dozers	No	85
Tractors	No	84
Front-End Loaders	No	80
Backhoe	No	80
Excavators	No	85
Graders	No	85
Air Compressors	No	80
Dump Truck	No	84
Concrete Mixer Truck	No	85
Pickup Truck	No	55

Source: Harris Miller 2006

Ground-borne Vibration Fundamentals

Vibrating objects in contact with the ground radiate vibration waves through various soil and rock strata to the foundations of nearby buildings. When assessing annoyance from groundborne noise, vibration is typically expressed as root mean square (rms) velocity in units of decibels of 1 micro-inch per second. To distinguish vibration levels from noise levels, the unit is written as “VdB.”

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving, and operating heavy earthmoving equipment. However, construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). Therefore, for purposes of this analysis, project related impacts are expressed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 4.10-3.

4.10.2 Regulatory Setting

The County of San Diego has adopted a Noise Ordinance (Chapter 4, Noise Abatement and Control, of the San Diego County Code), which identifies exterior noise standards, specific noise restrictions, exemptions, and variances for sources of noise within the county. The exterior noise standards established in the County Noise Ordinance are identified in Table 4.10-4, along with the time periods when they are applicable. The exterior noise standard for the project area is the standard for open space, agriculture, and areas within a density of less than 11 dwelling units per acre. The noise standard for these areas is 50 dBA between 7:00 a.m. and 10:00 p.m., and 45 dBA between 10:00 p.m. and 7:00 a.m. Additionally, the Noise Element of the San Diego County General Plan establishes noise

compatibility guidelines that indicate ranges of compatibility between land uses and the noise environment. A land use located in an area identified as acceptable indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can carry out outdoor activities with minimal noise interference. The noise compatibility guidelines are provided in Table 4.10-5.

Table 4.10-3 Vibration Levels of Construction Equipment

Type of Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels at 25 Feet
Air Compressor	0.090	87.0
Backhoe ⁽¹⁾	0.040	80.0
Caisson drilling	0.089	86.9
Clam shovel drop	0.202	94.1
Compactor	0.050	82.0
Compressor	0.045	81.0
Concrete Mixer	0.040	80.0
Concrete Pump	0.028	77.0
Concrete Vibrator	0.014	71.0
Crane (Derrick)	0.057	83.0
Crane (Mobile)	0.057	83.0
Generator	0.018	73.0
Excavator ⁽¹⁾	0.040	80.0
Jackhammer	0.035	78.8
Large Bulldozer	0.089	86.9
Loaded Trucks	0.076	85.6
Water Trucks ⁽¹⁾	0.076	85.6
Loader ⁽¹⁾	0.071	85.0
Pavement Breaker	0.100	88.0
Paver	0.063	84.0
Pile Driver (impact-upper range)	1.518	111.6
Pile Driver (impact-typical)	0.644	104.1
Pneumatic Tool	0.040	80.0
Pump	0.014	71.0
Roller ⁽¹⁾	0.020	74.0
Scraper/Grader	0.057	83.0
Tub Grinder	0.252	96.0
Small Bulldozer ⁽¹⁾	0.001	48.5

⁽¹⁾ These types of equipment expected to be used during the construction phases of the proposed project.

Source: DOT FHWA 2006

Table 4.10-4 San Diego County Noise Ordinance Exterior Noise Standards

Land Use	Limit One-Hour dBA ⁽¹⁾	Time Period
Single-family residences, duplex and multi-family residences with a density of less than 11 dwelling units per acre, rural residences, mobile homes, agricultural, open space and ecological resource, and general rural	50 dBA 45 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
Recreation oriented residential, residential/commercial, multi-family residential with a density of 11 or more dwelling units per acre, office professional, parking	55 dBA 50 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
Transportation and utility corridor and all other commercial zones	60 dBA 55 dBA	7:00 a.m. – 10:00 p.m. 10:00 p.m. – 7:00 a.m.
Basic industrial, limited impact industrial, and general light industrial	70 dBA	Anytime
Extractive, high impact industrial, and all other industrial zones.	75 dBA	Anytime

- ⁽¹⁾ If the measured ambient level exceeds the applicable limit, the allowable one-hour average sound level shall be the ambient noise level.
⁽²⁾ The sound level shall not exceed the one-hour average sound level at any point on or beyond the boundaries of the property on which the sound is produced.
⁽³⁾ Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits listed above, measured at or beyond (6) feet from the boundary of the easement upon which the equipment is located.
Source: County 2011

Table 4.10-5 Noise Compatibility Guidelines

Land Use Category	Exterior Noise Level (CNEL)					
	55	60	65	70	75	80
A Residential—single family residences, mobile homes, senior housing, convalescent homes						
B Residential—multi-family residences, mixed-use (commercial/residential)						
C Transient lodging—motels, hotels, resorts						
D ⁽¹⁾ Schools, churches, hospitals, nursing homes, child care facilities						
E ⁽¹⁾ Passive recreational parks, nature preserves, contemplative spaces, cemeteries						
F ⁽¹⁾ Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation						
G ⁽¹⁾ Office\professional, government, medical\dental, commercial, retail, laboratories						
H ⁽¹⁾ Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair						

-  ACCEPTABLE—Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.
-  CONDITIONALLY ACCEPTABLE—New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table 2-3, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate County decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.
-  UNACCEPTABLE—New construction or development shall not be undertaken.

⁽¹⁾ Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL
Source: County 2011

4.10.3 Thresholds of Significance

Thresholds used to evaluate potential noise impacts are based on applicable criteria in the State CEQA Guidelines (CCR Sections 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant noise impact would occur if the proposed project would:

1. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
2. Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
3. Cause a substantial permanent increase in the ambient noise levels in the project vicinity above levels existing without the proposed project.
4. Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project.
5. 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, expose people residing or working in the project area to excessive noise levels.
6. For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

4.10.4 Impact Analysis

4.10.4.1 Issue 1 – Exposure to Noise Levels in Excess of Standards

Would the proposed project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impacts

Short-Term Construction Impacts

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Noise, the proposed project would have a significant impact if it would result in a substantial temporary or periodic increase in ambient noise levels during construction which, together with noise from all sources, would exceed the standards listed in San Diego County Code Sections 36.408 and 36.409, Construction Equipment. Sections 36.408 and 36.409 state that, except for emergency work, it shall be unlawful for any person to operate or cause to be operated, construction equipment:

- a. Between the hours of 7:00 p.m. and 7:00 a.m.
- b. On a Sunday or a holiday. For the purposes of this section a holiday means January 1st, the last Monday in May, July 4th, the first Monday in September, December 25th and any day appointed by the President as a special national holiday or the Governor of the State as a special state holiday. A person may, however, operate construction equipment on a Sunday or holiday between the hours of 10:00 a.m. and 5:00 p.m. at the person's residence or for the purpose of constructing a residence for himself or herself, provided that the operation of construction equipment is not carried out for financial consideration or other consideration of any kind and does not violate the limitations in Sections 36.409 and 36.410.

- c. That exceeds an average sound level of 75 decibels for an eight 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.

The County Noise Ordinance also includes standards for other sources of temporary and nuisance noise. Section 36.410, Sound Level Limitations on Impulsive Noise, states that except for emergency work, no person shall produce or cause to be produced an impulsive noise that exceeds the following standards when measured at the boundary line of or on any occupied property for 25 percent of the minutes in the measurement period:

- 82 dBA at an occupied residential, village zoning, or civic use, or 85 dBA at an occupied agricultural, commercial, or industrial use; or
- 85 dBA at an occupied residential, village zoning, or civic use, or 90 dBA at an occupied agricultural, commercial, or industrial use for a public road project.

The minimum measurement period for any measurements conducted under this section shall be one hour. During the measurement period a measurement shall be conducted every minute from a fixed location on an occupied property. The measurements shall measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute it will be deemed that the maximum sound level was exceeded during that minute.

Section 36.414, General Noise Regulations of the San Diego County Noise Ordinance includes additional noise standards for disturbing, excessive or offensive noise. Generally, this section states that it shall be unlawful for any person to make, continue, or cause to be made or continued, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area.

Construction Impact

Implementation of the proposed project would result in construction of a pipeline and support facilities desilting basin and the decommissioning of about two miles of the Escondido Canal. The grading portion of each component is anticipated to create the highest noise levels since the greatest amount of heavy equipment would be operating at that time.

The equipment assumptions obtained from Section 4.3, Air Quality, indicate that the following equipment would be utilized during construction:

- | | |
|---|-----------------------------------|
| ■ Pipeline Construction and Canal Restoration | ■ Desilting Basin and Access Road |
| – 1 Excavator | – 1 Excavator |
| – 1 Bulldozer | – 1 Bulldozer |
| – 1 Loader | – 1 Loader |
| – 1 Roller | – 1 Roller |
| – 1 Water Truck | – Water Truck |

Section 4.3, Air Quality, conservatively assumed each piece of equipment would operate for a full 8-hours during each day of construction. If every piece of equipment were operating at the same time within proximity of the other equipment, then the assumptions would result in a generation of approximately 90 dBA at 50 feet during both pipeline construction and desilting basin construction. The nearest noise sensitive land uses include an existing residence approximately 86 feet from the proposed access road for the new desilting basin, and approximately 32 feet from the new underground pipeline.

Therefore, although the assumptions used to estimate potential noise impacts are overly conservative (all equipment operating simultaneously during the work day), it is reasonably concluded that construction of the proposed project would exceed the significance criteria identified by the County of San Diego and result in a substantial adverse noise impact.

The noise analysis is based on construction equipment parameters and schedule information that was available at the time of the analysis; it is understood that the parameters utilized in the analysis is substantially representative of what would occur with project implementation. Construction equipment use can vary from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. In addition, construction equipment lists and estimated use is also refined as a project nears the start of construction. Normal and minor variances in equipment type and use would not change the findings of this noise assessment.

Mitigation measure Noi-1 is provided that requires preparation and implementation of a noise mitigation plan that would reduce the noise impact to less than the County's significance thresholds. The plan would include noise modeling and detail specific measures to be implemented. Implementation of mitigation measure Noi-1 would reduce the impact to less than significant levels.

Operational Noise

The proposed project would not generate traffic or have stationary sources of noise; therefore, the proposed project would not generate noise impacts from the proposed pipeline and support facilities onto the nearby existing noise sensitive land uses.

Mitigation Measures

Noi-1 Prior to the start of construction, the project proponent shall prepare a noise mitigation plan that demonstrates that the County of San Diego's noise standards will not be exceeded during construction. The plan shall be implemented during construction. The plan shall include, but not be limited to, the following components:

- a. Noise modeling to quantitatively demonstrate construction activities' noise impacts at nearby noise sensitive land uses.
- b. Require construction activities to be limited to between the hours of 7 a.m. and 7 p.m.
- c. Require construction equipment to use noise-reduction features (e.g., mufflers, dampners, and engine shrouds) that are no less effective than those originally installed by the manufacturer.
- d. Require noise monitoring during construction of the pipeline and desilting basin.

4.10.4.2 Issue 2 – Exposure to Ground-borne Vibration

Would the proposed project expose persons to or generate excessive groundborne vibration or groundborne noise levels?

Impacts

Groundborne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of groundborne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Construction activities can produce vibration that may be felt by adjacent uses. The short-term and long-term groundborne vibration impacts associated with project construction and operation are discussed separately below.

Based on Appendix G of the CEQA Guidelines and County of San Diego Guidelines for Determining Significance, Noise, the proposed project would have a significant impact if it would result in the exposure of vibration sensitive uses to groundborne vibration and noise equal to or in excess of the levels shown in Table 4.10-3, Groundborne Vibration and Noise Standards, or if new sensitive land uses would be located in the vicinity of groundborne vibration inducing land uses such as railroads or mining operations. The groundborne vibration and noise standards identify the following three land use categories with increasing sensitivity to groundborne vibration and noise impacts:

- a. Category 1: Buildings where low ambient vibration is essential for interior operations (research & manufacturing facilities with special vibration constraints).
- b. Category 2: Residences and buildings where people normally sleep (hotels, hospitals, residences, & other sleeping facilities).
- c. Category 3: Institutional land uses with primarily daytime use (schools, churches, libraries, other institutions, & quiet offices).

The proposed project would result in a significant impact if frequent events would exceed 0.0018 in/sec RMS for Category 1 land uses, 0.004 in/sec RMS for Category 2, and 0.0056 in/sec RMS for Category 3. Occasional or infrequent events (fewer than 70 vibration events per day) would be considered a significant impact if they would exceed 0.0018 in/sec RMS for Category 1 land uses, 0.010 in/sec RMS for Category 2, and 0.014 in/sec RMS for Category 3.

The proposed project would include occasional or infrequent vibratory events during construction. Therefore, the applicable significance thresholds are exceeding 0.0018 in/sec RMS for Category 1 land uses, 0.010 in/sec RMS for Category 2, and 0.014 in/sec RMS for Category 3.

Short-Term Construction Vibration Impacts

The primary source of vibration during construction would be from a loader, which may produce a vibration level of 0.071 inch per second PPV at 25 feet. For the purposes of this impact analysis, construction-related vibration impacts would be considered significant if they involve any activities that would create a vibration in excess of 0.010 PPV at the nearby noise sensitive land uses. There are Category 2 land uses (existing residences) approximately 86 feet from the proposed access road for the new desilting basin, and approximately 32 feet from the pipeline alignment. Therefore, although the assumptions used to estimate potential vibratory impacts are conservative (all equipment operating simultaneously during the work day), it is reasonably concluded that construction of the proposed project would exceed the significance criteria identified by the County of San Diego and result in a substantial adverse vibration impact.

Mitigation measure Noi-2 is provided that requires preparation and implementation of a vibration mitigation plan that would reduce the vibratory impact to less than the County's significance thresholds. The plan would include vibration calculations and detail specific measures to be implemented. Implementation of mitigation measure Noi-2 would reduce the impact to less than significant levels.

Long-Term Operational Vibration Impacts

The proposed project would not generate traffic or stationary vibratory impacts from the proposed new underground pipeline and support facilities onto the nearby existing noise sensitive land uses.

Mitigation Measures

- Noi-2 Prior to the start of construction, the project proponent shall prepare a vibration mitigation plan that demonstrates that the County of San Diego's vibration standards will not be exceeded during construction. The plan shall be implemented during construction. The plan shall include, but not be limited to, the following components:
- a. Vibration calculations to quantitatively demonstrate construction activities' vibratory impacts at nearby land uses.
 - b. Require specific measures such as equipment phasing, limitations of use, or vibration-reduction features that are no less effective than those originally installed by the manufacturer.
 - c. Require plan monitoring during construction of the pipeline and desilting basin.

4.10.4.3 Issues 3 and 4 –Ambient Noise Levels

Would the proposed project cause a substantial permanent increase in the ambient noise levels in the project vicinity above levels existing without the proposed project?

Would the proposed project cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the proposed project?

Impacts

The proposed project would generate noise during construction, but would not generate traffic or result in operation of new stationary noise sources. Therefore, the proposed project would not result in operational noise impacts from the new underground pipeline and support facilities to the nearby existing noise sensitive land uses. As a result, the proposed project would not result in a permanent increase in ambient noise levels.

As discussed Section 4.10.4.1, the greatest noise impacts to the nearby noise sensitive land uses would occur during project construction. Mitigation measure Noi-1, which requires preparation and implementation of a noise mitigation plan that would reduce the noise impact to less than the County's significance thresholds, would reduce short-term impacts to less than significant and would therefore reduce short-term ambient noise levels to less than significant levels.

Mitigation Measures

Impacts from the proposed project would be less than significant; therefore, no mitigation is required.

4.10.4.4 Issues 5 and 6 – Airports and Airstrips

Would the proposed 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, expose people residing or working in the project area to excessive noise levels?

Would the proposed project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels?

Impacts

There are no public use airports within two miles of the project area; thus, the proposed project would not expose people residing or working in the project area to excessive aircraft noise levels from a public

airport or public use airport. The nearest private airstrip is the Lake Wohlford Resort airstrip located approximately two miles southwest of the proposed project alignment. Therefore, the proposed project would not expose people residing or working in the project area to excessive aircraft noise levels from a private airstrip.

Mitigation Measures

Implementation of the proposed project would have no impact; therefore, no mitigation is required.

This page intentionally left blank.

4.11 Traffic

This section evaluates the potential impacts of the proposed project on traffic and circulation. This evaluation includes an assessment of the direct, indirect, short-term, and long-term impacts of the proposed project.

4.11.1 Environmental Setting

The Valley Center area is primarily a semi-rural area with people and businesses concentrated in several small to medium-sized communities. Passenger cars, agricultural trucks, and private automobiles dominate roads in the project area. The roadway network that would potentially be affected by the proposed project is located along parts of North Wohlford Lake Road and North Canal Road east of Valley Center.

4.11.1.1 Existing Circulation Network

The main roads in the project area are East Canal Road, North Canal Road, and North Lake Wohlford Road. Access to the project area is possible on North Lake Wohlford via Valley Center Road to the north or Woods Valley Road from the west and from East and North Canal Roads via North Lake Wohlford Road. Lake Wohlford Road is classified as a light collector roadway (County 2011).

Alternative modes of transportation are limited in this semi-rural area. San Diego Metropolitan Transit System and BREEZE bus services are available in the project area; however, there are no rail/trolley lines. The entire length of North Lake Wohlford Road is part of the San Diego County Bicycle Network (County 2011).

The closest rail facilities include a freight line that runs from Oceanside to Escondido and is located approximately nine miles southwest from the project area.

4.11.1.2 Existing Traffic Volumes

The following section identifies existing roadway and intersection conditions for North Lake Wohlford Road, Valley Center Road, and Woods Valley Road based on SANDAG data.

Lake Wohlford Road

North Lake Wohlford Road is categorized as a 2 lane/2 way Light Collector Series (2.2D) road and also functions as a Class II bike lane. Class II Bike Lanes provide a striped lane for one-way bike travel on a street or highway. Light Collector roads include those with a lower design speed and wide ROW for added flexibility to accommodate improvement options such as turn lanes, medians, or passing lanes. The typical ROW range for this classification of road is 88-100 feet (County 2011). This road currently has a 45 mph speed limit and lacks a median. Average daily traffic volumes for Lake Wohlford Road between Valley Center Road and Woods Valley cross streets were recorded at 6,600 vehicles daily from 2009 to 2013 (SANDAG 2016b).

Valley Center Road

Valley Center Road at the intersection of North Lake Wohlford Road is categorized as a 2 lane/2 way Community Collector Series road (2.1D) and supports a Class II bike lane. Community Collector roads include those with a wider ROW for added flexibility to accommodate improvement options such as turn

lanes, medians, or passing lanes. The typical ROW range for this classification of road is 84-96 feet. This road currently has a 55 mph speed limit with a median. Average daily traffic volumes for Valley Center Road between North Lake Wohlford Road and Cole Grade Road cross streets, which also includes part of a Boulevard Series classification (4 lane road with raised median), were recorded at 19,900 vehicles daily in 2013. The section of Valley Center Road going east from North Wohlford Lake to Route 76 was recorded as having a daily average traffic volume of 15,300 (SANDAG 2016b).

Woods Valley Road

Woods Valley Road at the intersection of North Lake Wohlford Road is categorized as a 2 lane/2 way Light Collector Series (2.2C) supports a Class III bike route. A Class III Bike Route provides for shared use with pedestrians or motor vehicle traffic. Light Collector roads of this type include dedicated intermittent turn lanes in order to provide more capacity and improve traffic flow. The typical ROW range for this classification of road is 64-90 feet. It currently has a 40 mph speed limit and lacks a median. Average daily traffic volumes for Woods Valley Road between North Lake Wohlford Road and Valley Central Road cross streets were recorded at 2,400 vehicles daily in 2013 (SANDAG 2016b).

4.11.1.3 Level of Service Standards

The concept of level of service (LOS) is defined as a quantitative stratification of performance measures that represent quality of service. Quality of service describes how well a transportation facility operates from a traveler's perspective. Level of service definitions (LOS A through LOS F) generally describe these operating conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety. LOS A represents the best operating conditions, while LOS F represents the worst operating conditions. Table 4.11-1 summarizes the generalized definitions of urban transportation systems operating at LOS A through LOS F.

In accordance with the LOS criteria identified in the Mobility Element of the County of San Diego General Plan (County 2011), LOS D or better is considered acceptable operating conditions for roadway segments and peak period intersection LOS. However, exceptions have been made where physical and other constraints preclude constructing roads to the number of lanes required to accommodate traffic with a LOS D or better and accepting the road operating at LOS E or F, according to the SANDAG traffic model forecasts.

4.11.1.4 Existing Facilities Levels of Service

Table 4.11-2 identifies existing roadway and intersection conditions for Valley Central Road, North Lake Wohlford Road, and Woods Valley Road. Existing Average Daily Trips (ADT) traffic volumes were obtained from the City and SANDAG records.

Table 4.11-2 presents the existing LOS and ADT results for the key roadway segments within and surrounding the project area. As shown in Table 4.11-2, Lake Wohlford and Wood Valley Roads are currently operating at above acceptable LOS C or better based on SANDAG data. A portion of the Valley Center Road segment from North Wohlford Lake Road to Route 76 is currently performing at LOS E.

Table 4.11-1 Level of Service Definitions

LOS	Description
A	This LOS represents a completely free-flow conditions, where the operation of vehicles is virtually unaffected by the presence of other vehicles and only constrained by the geometric features of the highway and by driver preferences.
B	This LOS represents a relatively free-flow condition, although the presence of other vehicles becomes noticeable. Average travel speeds are the same as in LOS A, but drivers have slightly less freedom to maneuver.
C	At this LOS the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream is clearly affected by other vehicles.
D	At this LOS, the ability to maneuver is notably restricted due to traffic congestion, and only minor disruptions can be absorbed without extensive queues forming and the service deteriorating.
E	This LOS represents operations at or near capacity. LOS E is an unstable level, with vehicles operating with minimum spacing for maintaining uniform flow. At LOS E, disruptions cannot be dissipated readily thus causing deterioration down to LOS F
F	At this LOS, forced or breakdown of traffic flow occurs, although operations appear to be at capacity, queues forms behind these breakdowns. Operations within queues are highly unstable, with vehicles experiencing brief periods of movement followed by stoppages.

Source: Caltrans 2008

Table 4.11-2 Roadway Segment Level of Service Existing Conditions

Roadway	Segment	Classification	Capacity (LOS D)	Existing ADT	Existing LOS
Lake Wohlford Road	Valley Center Road to Woods Valley Road	2-Lane Light Collector with passing lane (2.2D)	13,500	6,600	C
Valley Center Road	North Lake Wohlford Road to Cole Grade Road	2-Lane Community Collector with passing lane (2.1D)/4-Lane Boulevard Series with raised median	27,000	19,900	B
	North Wohlford Lake Road to Route 76	2-Lane Community Collector with passing lane (2.1D)	13,500	15,300	E
Woods Valley Road	North Lake Wohlford Road to Valley Central Road	2-Lane Light Collector with intermittent turn lane (2.2C)	13,500	2,400	A

4.11.2 Regulatory Setting

The development and regulation of the project area transportation network involves state and local jurisdictions. State jurisdiction includes permitting and regulation of the use of state highways, while local jurisdiction includes implementation of permitting, policies, and regulations, as well as management and regulation of local roads. The proposed project would encroach onto ROWs and surfaces of local roadways. Therefore, applicable permits would need to be acquired prior to construction from those entities that manage or maintain the affected roadways. Applicable state and local laws and regulations related to traffic and transportation issues are discussed below.

4.11.2.1 Federal

There are no federal regulations for traffic.

4.11.2.2 State

California Department of Transportation Standards

The California Department of Transportation (Caltrans) is responsible for planning, designing, building, operating, and maintaining California's state road system. Caltrans sets standards, policies, and strategic plans that aim to do the following:

1. Provide the safest transportation system in the nation for users and workers;
2. Maximize transportation system performance and accessibility;
3. Efficiently deliver quality transportation projects and services;
4. Preserve and enhance California's resources and assets; and,
5. Promote quality service.

Caltrans has the discretionary authority to issue special permits for the use of state highways for other than normal transportation purposes. Caltrans also reviews all requests from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within state highway ROWs. The Caltrans Highway Design Manual, prepared by the Office of Geometric Design Standards (Caltrans 2015), establishes uniform policies and procedures to carry out highway design functions. Caltrans has also prepared a Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Objectives for the preparation of this guide include providing consistency and uniformity in the identification of traffic impacts generated by local land use proposals.

4.11.2.3 Regional

SANDAG Congestion Management Program

The San Diego Association of Governments is the Metropolitan Planning Organization and Regional Transportation Planning Agency for the San Diego region. State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP), which is a part of the Regional Transportation Plan (RTP) described below. The purpose of the state-mandated CMP is to monitor the performance of the roadway transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. By addressing congestion early through the CMP, larger future problems that would require more expensive solutions can be avoided. In the short-term, the CMP serves as an element of the RTP, focusing on congestion management strategies that can be implemented in advance of the long-range transportation solutions contained within the RTP. SANDAG, as the designated Congestion Management Agency for the San Diego region, must develop, adopt, and regularly update the CMP, which includes six specific components as described below:

- Roadway Monitoring. Designate a CMP roadway system, establish a level of service standard for the system, and monitor congestion levels against the standard.
- Multimodal Performance Measures. Establish performance measures to evaluate the region's multimodal transportation system.
- Transportation Demand Management. Establish a transportation demand management element that promotes alternative transportation strategies.
- Land Use Impact Analysis. Establish a program to analyze the effects of local land use decisions on the CMP transportation system.
- Capital Improvement Program. Prepare a capital improvement program of projects that maintains or improves the performance of the transportation system.

- **Deficiency Plan.** Prepare a plan of remedial actions when the roadway level of service standard is not maintained on the designated CMP roadway system.

SANDAG Regional Transportation Plan

In San Diego County, SANDAG is responsible for developing the RTP. The 2050 RTP (SANDAG 2011) is the blueprint for a regional transportation system that further enhances our quality of life, promotes sustainability, and offers more mobility options for people and goods by developing an integrated, multimodal transportation system. The RTP is a long-range plan built on a set of integrated public policies, strategies, and investments to maintain, manage, and improve the transportation system so it meets the diverse mobility needs of our changing region through 2050. The goals of the RTP are structured into two overarching themes: (1) Quality of Travel and Livability; and (2) Sustainability. Quality of Travel and Livability relates to how the transportation system functions from the customers' perspective, and focuses on providing mobility, reliability, and system preservation and safety. Sustainability relates to making progress simultaneously in promoting social equity, a healthy environment, and a prosperous economy from a regional perspective. The RTP's vision for transportation supports the region's comprehensive strategy to promote smarter, more sustainable growth.

San Diego County Public Road Standards

The San Diego County public road standards provide design and construction requirements for public road improvement projects located within the unincorporated areas of San Diego County. These standards apply to county initiated and privately initiated public road improvement projects. These standards provide minimum design and construction requirements for public roads.

County of San Diego General Plan

The County of San Diego General Plan identifies long-range goals and policies for the comprehensive development of land within its jurisdiction. The County General Plan includes the following specific planning elements: Land Use, Mobility, Conservation and Open Space, Housing, Safety and Noise. The County General Plan has multiple elements that are relevant to the Traffic and Transportation aspect of the proposed action. These include the Mobility Element and the Land Use Element and are summarized below.

Mobility Element

The Mobility Element of the County General Plan includes several components including a description of the county transportation network, the goals and policies that address the safe and efficient operation, maintenance, and management of the transportation network. The goals and policies aim for a balanced transportation system with adequate capacity to support the land uses and development patterns detailed in the Land Use Element of the General Plan. The goals in the County General Plan that are relevant to Transportation and Traffic are as follows:

- **M-2.1 Level of Service Criteria.** Requires development projects to provide associated road improvements necessary to achieve a LOS of "D" or higher on all Mobility Element roads except for those where a failing LOS has been accepted by the county pursuant to the criteria specifically identified in the accompanying text box (Criteria for Accepting a Road Classification with Level of Service E/F). When development is proposed on roads where a failing LOS has been accepted, it requires feasible mitigation in the form of road improvements or a fair share contribution to a road improvement program, consistent with the Mobility Element road network.

- **M-3.2 Traffic Impact Mitigation.** Requires development projects to contribute their fair share toward financing transportation facilities, including mitigating the associated direct and cumulative traffic impacts caused by their project on both the local and regional road networks. Transportation facilities include road networks and related transit, pedestrian and bicycle facilities, and equestrian.
- **M-3.3 Multiple Ingress and Egress.** Requires development projects to provide multiple ingress/egress routes in conformance with State law and local regulations.
- **M-10.1 Parking Capacity.** Requires new development to provide sufficient parking capacity for motor vehicles consistent with the project's location, use, and intensity; provide parking facilities for motorcycles and bicycles; and provide staging areas for regional and community trails.

Land Use Element

The Land Use Element and associated Community Plan (described below) identify areas where urban development is planned to occur in unincorporated areas of San Diego County. These areas include where existing or planned infrastructure and services can support growth and locations within or adjacent to existing communities.

Land use goals in the County General Plan that are relevant to Transportation and Traffic are as follows:

- **LU-5.5 Projects that Impede Non-Motorized Travel.** Ensure that development projects and road improvements do not impede bicycle and pedestrian access. Where impacts to existing planned routes would occur, ensure that impacts are mitigated and acceptable alternative routes are implemented.
- **LU-9.8 Village Connectivity and Compatibility with Adjoining Areas.** Require new development within Villages to include road networks, pedestrian routes, and amenities that create or maintain connectivity; and site, building, and landscape design that is compatible with surrounding areas.
- **LU-12.2 Maintenance of Adequate Services.** Require development to mitigate significant impacts to existing service levels of public facilities or services for existing residents and businesses. Provide improvements for Mobility Element roads in accordance with the Mobility Element Network Appendix matrices, which may result in ultimate build-out conditions that achieve an improved LOS but do not achieve a LOS of D or better.

4.11.2.4 Local

Valley Center Community Plan (County of San Diego)

The Valley Center Community Plan has a Mobility goal to provide “a circulation system that achieves the combined objectives of connectivity and safety for all user (automobiles, bicyclists, equestrians and pedestrians) and also preserves the rural character of the community.” Policies included which detail traffic and transportation impacts related to the Mobility goal are summarized below.

- Mobility Policy 5 - Required roadside and median landscaping shall reflect standards as outlined in the Valley Center Design Guidelines.
- Mobility Policy 6 - Existing trees and vegetation located within the ROW of all public roads, and determined to be of significant visual benefit shall be transplanted or replaced consistent with the Valley Center Design Guidelines.

- Mobility Policy 9 - Require that the road system function at a service level no worse than "C" at peak hours as development occurs.

4.11.3 Thresholds of Significance

Thresholds used to evaluate potential traffic impacts are based on applicable criteria in the State CEQA Guidelines (CCR Sections 15000-15387), Appendix G. Based on Appendix G of the CEQA Guidelines, a significant traffic impact would occur if the proposed project would:

1. 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.
2. 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.
3. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
4. Result in inadequate emergency access.

The Initial Study Checklist prepared determined that the proposed project would result in no impact to (1) "conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities" and would not (2) "result in a change in air traffic patterns." Therefore, these thresholds are not discussed further in the EA-IS/MND. The Initial Study Checklist is provided in Appendix A of this EA-IS/MND.

4.11.4 Impact Analysis

4.11.4.1 Issue 1 – Increases in Traffic

Would the proposed project 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?

Impacts

The proposed project would not conflict with applicable San Diego County or local community plans, ordinances, or policies establishing measures of effectiveness for the performance of a circulation system. However, traffic would be generated during construction as a result of worker trips and the transport of materials and equipment. Construction of the proposed project would be short-term, consisting of approximately 223, 8-hour days and add at most, 64 daily round trip journeys to local highways and roadways during the construction period. This is based on a total temporary workforce of 32 workers. As a result, short-term construction traffic will represent a minor increment to existing volumes, and would not cause any circulation system to deteriorate below the minimum performance standard of LOS D.

As part of the proposed project, disturbed soils would not be exported or hauled off-site. All disturbed areas would be reclaimed through grading and restoration. Therefore, no additional impacts to relevant components of the circulation system would occur as a result of haul trips.

Traffic impacts associated with operations of the proposed underground pipeline and support facilities would be similar to or less than existing conditions. It is anticipated that a small operational work force would be required for inspections and servicing trips of the pipeline and desilting basin. It is anticipated that up to 2,429 tons per year of accumulated sediment within the proposed desilting basin would be removed and hauled to a designated disposal site which would be equivalent to 150 truck-loads per year. This hauling activity would be concentrated after storm events, with up to 30 truck trips per week following a storm. As a result of short-term construction impacts associated with the proposed project, and additional trips associated with O&M activities, impacts would be less than significant with mitigation. The following mitigation measure is proposed to minimize potential impacts on traffic during construction of the proposed project.

Mitigation Measures

Tra-1 Traffic Management and Control Plans. Prior to the construction of each component within a public road ROW, the project proponent shall retain a qualified engineer to prepare a traffic control plan for the roadways that may be affected by that particular project component. The traffic control plan shall be developed in accordance with the California Manual on Uniform Traffic Control Devices and submitted to the County's Traffic Engineering Section for approval on county land. The traffic control plan shall identify temporary lane and roadway closures, safety measures, and alternative routes to be utilized during construction of the proposed project in order to minimize impacts and ensure continuous operations on North Lake Wohlford Road and North Canal Road during pipeline construction activities. The traffic control plan would also include, if applicable:

- a. Speed limit reduction through installation of temporary traffic lights and/or other signage with addition of acceleration, deceleration, and turn lanes on routes with site entrances developed under the proposed project.
- b. Covering trenches (e.g., using metal plates) in roadways during non-working hours.
- c. Limiting construction vehicles traveling on public roadways during the morning and late afternoon peak commute times to minimize impacts on local commuters.
- d. Requirement for workers to park personal vehicles at the approved staging areas and take only necessary project vehicles to the work sites.
- e. Plans for notifications and a process for communication with affected residents and landowners prior to the start of construction. Advance public notification shall include posting of notices and appropriate signage of construction activities. The written notification shall include the construction schedule, the exact location and duration of activities within each street (i.e., which road/lanes and access point/driveways/parking areas would be blocked on which days and for how long), and a toll-free telephone number for receiving questions or complaints.
- f. Sight distance at individual construction site access points will be reviewed to ensure compliance with appropriate sight distance standards at the time of preparation of final grading, and landscaping.

- g. Plans to coordinate all construction activities with emergency service providers in the area. Emergency service providers would be notified of the timing, location, and duration of construction activities. All roads would remain passable to emergency service vehicles at all times.
- h. Provision of vehicle safety procedures for entering and exiting site access roads.
- i. Maintain access to transit, bicycle, and pedestrian facilities along project routes.
- j. Provision of ridesharing/carpooling options for construction staff to reduce the number of vehicles traveling to a work zone.

4.11.4.2 Issue 2 – Conflict with an Applicable Congestion Management Plan

Would the proposed project 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?

Impacts

The proposed project is not intended or designed to increase traffic that is substantial in relation to the existing traffic load and capacity of the roadway network within the project area. SANDAG's congestion management program requires an Enhanced CEQA Review for all large projects that are expected to generate more than 2,400 average daily trips or more than 200 peak hour trips (SANDAG 2016b). Construction and operation of the proposed project would generate a limited number of daily vehicle trips which would not meet or exceed the 2,400 average daily trips threshold or generate more than 200 peak hour trips per day. In addition, the proposed project would not result in a substantial increase in either number of vehicle trips, volume to capacity ratio on roads, or congestion at intersections, or exceed, either individually or cumulatively, the current LOS standard. Temporary construction impacts and increased operational maintenance traffic may occur; however, implementation of mitigation measure Tra-1 would reduce potential impacts to local traffic to below a level of significance.

Mitigation Measures

Implementation of mitigation measures Tra-1 would ensure that impacts on local traffic during construction of the proposed project would be less than significant.

4.11.4.3 Issue 3 – Increase Hazards due to a Design Feature

Would the proposed project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Impacts

For the purposes of this analysis, hazards are defined as changes to circulation patterns that could result in unsafe driving or pedestrian conditions. Examples include inadequate vision or stopping distance, sharp roadway curves where there is an inability to see oncoming traffic, or vehicular/pedestrian traffic conflicts.

The proposed project will not result in major alterations to the existing road infrastructure as part of the construction and operation of the proposed project other than the provision of servicing any access

roads to current design standards, if applicable. Roadways in the vicinity of the proposed project, including North Lake Wohlford Road and North Canal Road, are generally straight with good sight distance, so visibility and access is thought to be acceptable. The maneuvering of slow-moving construction vehicles and equipment among the general-purpose traffic on these roads could temporarily slow traffic flow. In addition, the temporary construction activities could result in potential partial closure of select road segments for pipeline installation. This has the potential to substantially increase circulation hazard levels due to construction caused design features or incompatible uses. As stated above, a traffic control plan will be prepared prior to construction and will identify any alterations to local traffic patterns and ensure safety during construction activities. The implementation of mitigation measure Tra-1 as well as county requirements will ensure that impacts related to design hazards would be less than significant.

Following construction, the proposed underground pipeline would not represent a traffic hazard; however, the proposed project would also include a desilting basin and potential access road. However, these aboveground facilities would be accessed via existing or new roadways and driveways that would be designed to current county standards. Thus, operation of the proposed project would not substantially increase hazards due to a design feature or incompatible uses.

Mitigation Measures

Implementation of mitigation measure Tra-1 would ensure that impacts related to design hazards would be less than significant.

4.11.4.4 Issue 4 – Inadequate Emergency Access

Would the proposed project result in inadequate emergency access?

Impacts

Construction of the proposed project could potentially impact emergency access along North Lake Wohlford Road and North Canal Road. The potential for temporary closure of travel lanes could result in delays for emergency vehicles passing through the vicinity of North Lake Wohlford Road and North Canal Road and/or impede access to dwellings and businesses adjacent to the construction site(s). Following completion of construction and during operation of the project facilities, no impact on emergency access would occur.

Mitigation Measures

Implementation of mitigation measure Tra-1 would ensure that impacts associated with temporary impacts on emergency access would be mitigated to a less than significant level.

5.0 Cumulative Impacts

5.1 Introduction

Both NEPA and CEQA require the analysis of cumulative impacts of a proposed project in conjunction with “other closely related past, present, and reasonably foreseeable probable future projects (40 CFR Section 1508.7 and CEQA Guidelines Section 15355). The following discussion examines the potential cumulative effects of the proposed action.

5.2 Regulatory Framework

California Environmental Quality Act

According to Section 15355 of the CEQA Guidelines, “cumulative impacts” refers to two or more individual effects which, when considered together, would compound or increase other environmental impacts.

The geographic scope of the cumulative impact analysis varies depending upon the specific environmental issue being analyzed. Table 5-1 summarizes the geographic scope of the analyses for the major cumulative issues analyzed in this chapter. The geographic scope defines the geographic area within which projects may contribute to a specific cumulative effect. Therefore, past, present, and probable future projects within the defined geographic area for a given cumulative issue must be considered.

Table 5-1 Geographic Scope of Cumulative Impact Analyses	
Environmental Issue	Geographic Scope of Cumulative Impact Analyses
Aesthetics/Visual Quality	Immediate vicinity of proposed project
Agriculture and Forestry Resources	Immediate vicinity of proposed project
Air Quality	San Diego Air Basin
Biological Resources	San Diego County region
Cultural Resources	San Diego County region for historic resources; ethnographic territory of the San Pasqual Band of Mission Indians for archaeological resources and human remains; and San Diego County region for paleontological resources
Geology and Soils	Community of Valley Center and San Pasqual Reservation for geologic hazards, unstable soils, and expansive soils and San Luis Rey Hydrologic Unit for erosion and topsoil loss
Greenhouse Gas Emissions	San Diego Air Basin
Hazards and Hazardous Materials	Community of Valley Center for hazardous materials and the existing roadways in the vicinity of the proposed project for emergency response and evacuation plans
Hydrology and Water Quality	San Luis Rey Hydrologic Unit
Land Use and Planning	Community of Valley Center and San Pasqual Reservation
Noise	Immediate vicinity of the proposed project
Socioeconomics	Community of Valley Center and San Pasqual Reservation
Traffic	Community of Valley Center and San Pasqual Reservation

CEQA Guidelines Section 15130(b) presents possible approaches for considering cumulative effects. This EA-IS/MND uses “a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.” Past and present projects are considered as part of the baseline when evaluating effects of the proposed project.

To identify present and foreseeable future projects for this EA-IS/MND, Chad Broussard at the BIA, Dave Toler and Andrew Orosco with the San Pasqual Band of Mission Indians were consulted, Valley View Casino and Resort and Rincon Band of Luiseno Indians environmental documents were reviewed, and the City of Escondido Planning Department and Valley Center Municipal Water District websites were searched. Table 5-2 lists the “related projects,” as described by CEQA Guidelines Section 15130(b), that were identified and considered in the cumulative impact analyses within the following sections. Figure 5-1 shows the locations of the projects in relation to the proposed project.

Table 5-2 List of Cumulative Projects in Vicinity of Proposed Project			
Project #	Name	Status	Description
1	Lake Wohlford dam replacement project	Engineering design and environmental review	Construction of an earth-core rockfill dam to replace the existing dam. Implementation will allow City of Escondido to assure seismic stability of the dam and increase water levels within the lake to its design capacity of 6,500 acre-feet (Escondido 2015).
2	San Pasqual Reservation fee-to-trust land acquisition	Under environmental review	San Pasqual Band of Mission Indians is acquiring a 29-acre parcel in a fee-to-trust acquisition. The parcel is located at the intersection of Lake Wohlford Road and Woods Valley Road. The San Pasqual Band is proposing to develop a portion of the site with administrative/recreation buildings and sports fields. The proposed project would avoid developing areas within a floodplain (Broussard 2016).
3	Harrah’s Rincon Casino and Resort expansion	Recently completed	Expansion of the gaming floor by nearly 15,000 square feet, construction of a 23,285 square foot multi-purpose room, construction of a 10,000 square foot night club, construction of a 21 story hotel and pool, and construction of a 23,285 square foot multi-purpose room (AES 2014).
4	Valley View Casino and Hotel parking structure expansion project	Recently completed	The project expanded the existing parking structure by 80,400 square feet, adding an additional 287 parking spaces (AES 2010).
5	South Village Collection System project	Under construction	Includes four components: 200,000 gpd expansion of Wood Valley Water Reclamation treatment facility, a 48-acre bioretention reservoir at Charlan Road, and expansion of the South Village and North Village Wastewater Collection System facilities. Construction is occurring along Valley Center Rd., between Lilac Road and Sunday Drive (VCMWD 2016).
6	San Pasqual Reservation Tribal Hall/ Administration parking lot development	Under construction	A one-half acre parking lot is being constructed north of the current Tribal Hall on the San Pasqual Reservation. The lot will supplement the current parking lot (Toler and Orosco 2016).
7	San Pasqual Reservation proposed residential subdivision	Site selection ongoing	San Pasqual Reservation single family residential subdivision located north of Lake Wohlford is being planned. Preliminary projections for construction are three years out. Potential sites range from 20 to 30 acres with varying levels of existing disturbance (Toler and Orosco 2016).
8	San Pasqual Reservation upgrade to water system	Completion by end of 2016/ 1 st Quarter 2017	Installment of a 70,000 gallon water tank on San Pasqual Reservation that will result in one-quarter acre disturbance (Toler and Orosco 2016).

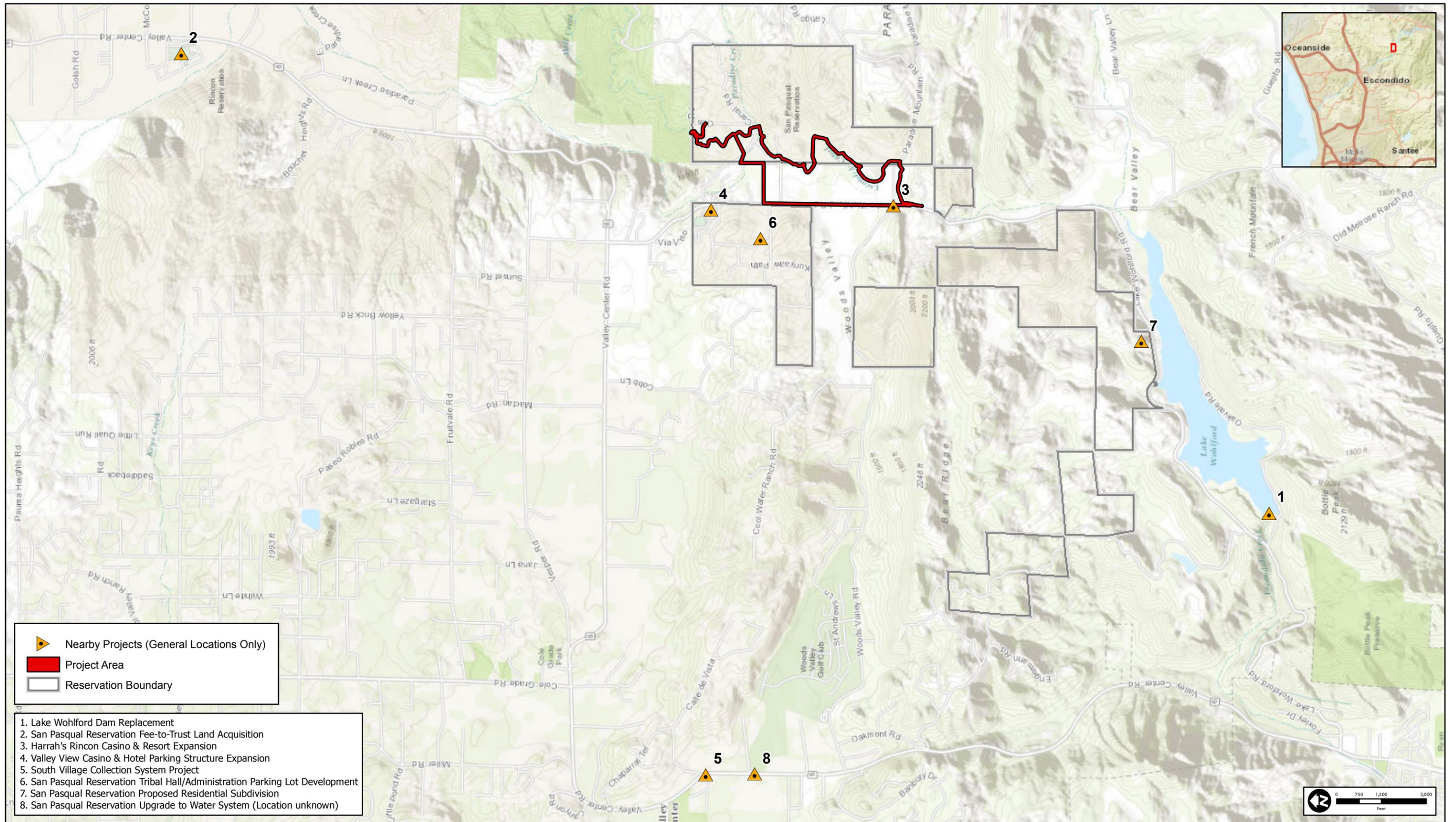


Figure 5-1
Location of Cumulative Projects

100049195 2016 San Pasqual Undergrounding Project



Sources: Esri, Atkins

8/11/2016 cava6246 H:\Clients\Escondido\100049195 VID SPUP ENV EA\MND\GIS\data\Figure X Projects in the Vicinity .mxd

This page intentionally left blank.

Section 15130(a) of the CEQA Guidelines requires the discussion of cumulative impacts associated with a project when a project's incremental effect is cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual project or action would be considerable when viewed in connection with the effects of past, present, or probable foreseeable projects or actions. A cumulative impact is not deemed significant if the effect would be essentially the same whether the project is implemented or not. Further, in discussing the cumulative impacts, one question and a possible follow-up question will be answered for each environmental issue topic: *Overall, is there a significant cumulative impact?* If it is determined that a significant cumulative impact exists, *Is the project's contribution cumulatively considerable?*

National Environmental Policy Act

Similar to CEQA Guidelines, the CEQ regulations define cumulative effects as the impact on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR Section 1508.7). Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

5.3 Cumulative Effects of the Proposed Project

Aesthetics/Visual Quality

The geographic context for the analysis of cumulative effects to scenic vistas and existing visual character and quality is limited to the vicinity of the proposed project. Existing land uses within the immediate vicinity of the proposed project consist mostly of agricultural uses, semi-rural residential, commercial and Tribal governmental land uses, tribal lands, and undeveloped land. Implementation of the cumulative projects listed in Table 5-2 would result in the development of small and large structures that would be visible from public roads and private property; however, the cumulative projects would be spread across a large area. The effect to visual quality in the vicinity of the proposed project would be less than significant. Therefore, the cumulative impact to aesthetics and visual quality would not be significant.

Agricultural and Forestry Resources

The geographic context for the analysis of cumulative effects to agriculture and forestry resources is limited to the immediate vicinity of the proposed project. It was determined that the proposed project would have no impact on forestry resources as this habitat type is absent from the project area. The proposed project would convert a relatively small tract of agricultural land, approximately 1.25 acres, to non-agricultural use and thus would conflict with existing zoning for agricultural use. However, the conversion of 1.25 acres represents a small percentage of the overall agricultural land within the vicinity of the proposed project. Therefore, the cumulative impact to agricultural and forestry resources would not be significant.

Air Quality

The geographic context for the analysis of cumulative impacts relative to criteria air pollutants is the SDAB. The County of San Diego is presently designated as being a nonattainment area for the federal ozone standard; specifically, the county is classified as a marginal nonattainment area for the federal 2008 8-hr ozone standard. The county is also a nonattainment area for the CAAQS for ozone, PM₁₀, and PM_{2.5}. Consequently, the pollutants of concern are PM₁₀, PM_{2.5}, and ozone precursors (VOC and NO_x). If a project exceeds the regional thresholds for PM₁₀, or PM_{2.5}, then it would contribute to a cumulatively considerable

impact for those pollutants. If a project exceeds the regional threshold for VOC and NO_x, then it follows that the project would contribute to a cumulatively considerable impact for ozone.

The proposed project's construction-generated emissions would not exceed the applicable SDAPCD's regional thresholds of significance. The proposed project's operational emissions would also not exceed the SDAPCD's regional thresholds of significance. Therefore, construction and operation of the proposed project would not result in a significant cumulative criteria pollutant impact.

Additionally, it is assumed that a project that conforms to the applicable planning document for the lead agency and does not have emissions exceeding the significance thresholds would not result in a cumulatively considerable net increase to ozone. It is assumed that SDAPCD's Regional Attainment Strategy accounts for growth identified in planning documents that were adopted prior to development of the Regional Attainment Strategy. In other words, it is reasonable to conclude that if a project is consistent with the applicable general plan land use designation (or similar planning document), and if the general plan (or other plan) was adopted prior to the Regional Attainment Strategy, then the growth generated by the proposed project would be consistent with the growth assumed within the Regional Attainment Strategy. As such, the proposed project would not result in construction of new residences (a source of population increase) or result in new operational jobs. The construction of a new pipeline to replace an existing canal, access road, and desilting basin would not be growth inducing or result in an overall increase in operational vehicle miles traveled or operational emissions in the project area or SDAB. Therefore, the cumulative impact to air quality would not be significant.

Biological Resources

The geographic context for the analysis of cumulative impacts to biological resources is the San Diego region. Because sensitive species and habitats are identified due to scarcity throughout their range, impacts to these species and habitat communities are considered cumulatively significant. The proposed project would result in potentially significant impacts to sensitive plants and animal species and/or their habitat; however, the proposed project would implement several mitigation measures (Bio-1 - Bio-10) to avoid impacts to sensitive species and/or their habitat and reduce the impacts to less than significant. The proposed project would salvage and replant rare and sensitive plants, survey for sensitive animal species and avoid them as necessary, and restore native vegetation including oak woodlands and riparian habitats. It is anticipated that projects listed in Table 5-2 would implement mitigation measures to ensure the protection of biological resources within the project specific area. Therefore, the proposed project's contribution to a significant cumulative impact to sensitive species and vegetation communities would not be cumulatively considerable.

Cultural Resources

The geographic context for the analysis of cumulative impacts to historic structures is the San Diego County region. San Diego County has many buildings and districts listed on the NRHP and CRHR. Development in these areas could result in demolition, destruction, or alteration of historic resources. Although these resources are listed on federal or state lists, the listing itself often grants little or no inherent protection. Further, while development in San Diego County would be required to adhere to requirements under CEQA, mitigation measures may be found infeasible. Therefore, future development in San Diego County would have the potential to impact historic, archaeological, or tribal cultural resources, which could lead to a significant cumulative impact.

The proposed project will implement mitigation measures Cul-1 through Cul-5 to reduce impacts associated with construction to a less than significant level. It is anticipated that the proposed projects in Table 5-2 would have the potential to result in significant impacts with regard to cultural resources.

Individual projects would be subject to environmental review similar to the review required for the proposed project. Cultural and historical resource searches will be performed and sites identified as significant. Mitigation measures would be implemented to reduce project specific impacts, and a significant cumulative impact would be avoided.

Geology and Soils

The proposed project would result in less than significant impacts with regards to Geology and Soils. The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: (1) rupture of a known earthquake fault; (2) strong seismic ground shaking; (3) seismic related ground shaking, including liquefaction (4) landslides. Additionally, the proposed project would not result in substantial soil erosion, be located on unstable soils resulting in lateral spreading, be located on an expansive soil, or be located in an area incapable of supporting the use of septic. The geographic context for the analysis of geology and soils impacts is generally site specific, rather than cumulative in nature, because each development site has unique geologic considerations that would be subject to uniform site development and construction standards. In this way, potential cumulative impacts resulting from geologic and soil conditions would be minimized on a site-by-site basis to the extent that modern construction methods and code requirements provide. Nevertheless, when considering the impacts in a larger geographic context, all development in San Diego County is required to undergo analysis of the geologic and soil conditions applicable to the development site in question. The analysis provides recommendations to prepare the site for development to avoid the hazards associated with unstable and expansive soils. Typical measures to treat unstable or expansive soils involve removal and replacement with properly compacted fill, compaction grouting, or deep dynamic compaction. Because restrictions on development would be applied in the event that soil or slope conditions pose a risk to safety, it is anticipated that cumulative impacts from development on soil subject to soil instability, liquefaction, subsidence, and expansive soils would be less than significant.

The geographic context for the analysis of erosion and loss of topsoil is the San Luis Rey Hydrologic Unit, because impacts from site development and operation can be cumulative in effect within a watershed. Development in San Diego County is subject to state and local runoff and erosion prevention requirements, including the applicable provisions of the general construction permit, BMPs, and Phases I and II of NPDES, as well as implementation of fugitive dust control measures required by the SDAPCD. These measures are implemented as conditions of approval for development projects and are subject to continuing enforcement. As a result, it is anticipated that cumulative impacts within the San Luis Rey Hydrologic Unit due to runoff and erosion from cumulative development activity would be less than significant. Therefore, the cumulative impact to geology and soils would not be significant.

Greenhouse Gas Emissions

Individual actions of any size are generally of insufficient magnitude by themselves to influence climate change or result in a substantial contribution to the global GHG inventory. Thus, GHG impacts are recognized as exclusively cumulative impacts; therefore, there are no non-cumulative GHG emission impacts from a climate change perspective from construction of the proposed project (CAPCOA 2008). Accordingly, the discussion of GHG emissions from construction and operation of the proposed project addresses the action's cumulative impact related to GHG emissions. Therefore, the cumulative impact to greenhouse gas emissions would not be significant.

Hazards and Hazardous Materials

The geographic context for the analysis of cumulative impacts from hazards and hazardous materials is the community of Valley Center. It is anticipated that future growth in this community would result in an

incremental increase in the amount of hazardous materials transported, used, treated, and disposed of area wide. Although each development site has potentially unique hazardous materials considerations, it is expected that future growth would comply with federal and state statutes and regulations applicable to hazardous materials and would be subject to existing and future plans or programs of enforcement by the appropriate regulatory agencies. Further, it is possible that future development in the community of Valley Center would involve excavation, renovation, or demolition activities, which would potentially subject construction workers to health and safety risks through exposure to hazardous materials, although the individual workers potentially affected would vary from project to project. It is anticipated that future development projects would adhere to the applicable requirements that regulate worker safety and exposure. For these reasons, cumulative impacts resulting from hazardous materials would be less than significant.

The geographic context for the analysis of cumulative impacts to emergency response and evacuation plans encompasses the existing roadways in the vicinity of the proposed project. Construction and operation associated with future development could result in activities that may interfere with adopted emergency response or evacuation plans, such as temporary construction barricades or other obstructions that could impede emergency access. It is anticipated that future development projects in the area would undergo CEQA and/or NEPA review of potential impacts on adopted emergency response or evacuation plans, and thus would be required to implement measures necessary to mitigate potential impacts. As a result, cumulative impacts related to interference with adopted emergency response or evacuation plans would be less than significant.

Hydrology and Water Quality

The geographic context for the cumulative impact analysis concerning drainage and water quality is the San Luis Rey Hydrologic Unit. Urban development within the San Luis Rey Hydrologic Unit would increase impervious areas and consequently increase storm water runoff. These increases could result in flooding, drainage system capacity issues, and erosion problems throughout the watershed. An increase in urban development would also increase activities that generate pollutants and could result in additional impacts to receiving waters in the watershed. However, most future development projects within the San Luis Rey Hydrologic Unit and in San Diego County would be subject to NPDES Phase I and II regulations, which require that changes to the hydrologic regime and mitigation for such conditions of concern be addressed. These regulations also require that source control and nonpoint source BMPs be employed to control potential effects on water quality and that storm water quality control devices be incorporated into storm water collection systems to collect sediment and other pollutants. Therefore, with the federal and state regulations in place, cumulative impacts to drainage and water quality would not be significant.

Noise

The geographic context for the analysis of cumulative impacts for temporary (short-term) construction noise includes the vicinity of the proposed project. Future construction in the vicinity of the proposed project would not be expected to result in a significant cumulative noise impacts for the following reasons: (1) construction-related noise levels are temporary and localized in nature, and decrease substantially with distance; and (2) the projects listed in Table 5-2 are located at sufficient distance from each other so that construction noise levels would not be cumulative if construction were to occur simultaneously. Therefore, cumulative impacts resulting from temporary construction noise would be less than significant. There would be no noise associated with the operation of the proposed project, therefore, the proposed project would not have a cumulative impact.

Traffic

The geographic context for the analysis of cumulative impacts to traffic is the community of Valley Center. Construction associated with the proposed project would result in impacts to the local circulation system; however, implementation of mitigation measure Tra-1 would reduce the level of impact during the construction period to a less than significant level. The projects identified in Table 5-2 would also have the potential to significantly impact the existing circulation system. It is anticipated that future projects would analyze the impacts on traffic and introduce mitigation measures to avoid any project specific significant impacts. Traffic impacts associated with construction of the proposed project would be temporary, and operation of the proposed project would not result in any impacts to the existing circulation system. Therefore, the proposed project's contribution to cumulative impacts during the construction phase of the project would be less than significant with the implementation of mitigation measure Tra-1.

This page intentionally left blank.

6.0 Alternatives

This chapter compares the San Pasqual Undergrounding Project (proposed project) as well as alternatives to the proposed project that have been considered by Escondido and the BIA as lead agencies under CEQA and NEPA, respectively. The alternatives have been identified based on their ability to feasibly meet the proposed project objectives identified for the proposed project (see Chapter 2.5 for a discussion of the objectives). As discussed in Section 2.5, the primary objectives of the proposed project are to:

- Comply with the Settlement Agreement (January 30, 2015) which pertain chiefly to the rights of the Settlement Parties to both the Supplemental Water and certain waters of the San Luis Rey River watershed and ROWs for the operation and maintenance of water conveyance facilities and appurtenant structures.

As discussed in Chapter 3, the following two alternatives were selected for further analysis as feasible alternatives. These alternatives include the following:

- Off-Reservation Desilting Basin Alternative
- No Project Alternative

Each of the alternatives are analyzed in terms of whether it would reduce or avoid the significant impacts as identified in Sections 4.1 through 4.11 of this EA-IS/MND. Each alternative's ability to meet project objectives is also discussed. In addition, several alternatives that were considered but eliminated from further analysis because they would not feasibly meet the project objectives are briefly discussed.

6.1 Comparison of Alternatives to the Proposed Project

6.1.1 Off-Reservation Desilting Basin

Under this alternative, the pipeline would be 342 feet longer to accommodate a desilting basin north of the San Pasqual Reservation boundary, outside of the proposed ROW.

All support facilities required for the proposed project, such as a desilting basin and access road, would also be required for this alternative. The desilting basin would be located off the San Pasqual Reservation lands, approximately 72 feet north of the San Pasqual Reservation boundary, and Escondido and VID would need to acquire land or exercise eminent domain to control the property for development and operation of the desilting basin.

6.1.1.1 Impact Analysis

Aesthetics (Visual Resources)

This alternative would construct a desilting basin and access road that would be visible from surrounding areas. Similar to the proposed project, mitigation would be identified to reduce potentially significant impacts to visual character, quality, or scenic vistas to below a level of significance. This alternative would result in similar significant but mitigable aesthetics impacts as the proposed project.

Air Quality

This alternative would involve construction methods and equipment similar to those used for the proposed project. The grading/excavation activities for this alternative would be slightly more intensive than those for the proposed project, due to the longer length of the pipeline (0.46 mile for the alternative versus 0.40 mile for the proposed project). The longer pipeline would result in slightly greater emissions impacts from construction activities than the proposed project.

Biological Resources

Under this alternative, the pipeline alignment would be identical to the proposed project but a bit longer in length to connect to the off-reservation desilting basin. Therefore, this alternative would be expected to result in slightly greater direct impacts to special-status plant and wildlife species and/or their habitats and suitable nesting habitat for a variety of bird species protected under the MBTA and CFG Code than the proposed project. This alternative would require construction methods and equipment similar to those used for the proposed project; therefore, indirect impacts to sensitive species would be similar to the proposed project. Overall, impacts to biological resources from this alternative would be slightly greater than those from the proposed project. This alternative would result in similar significant but mitigable biological impacts as the proposed project.

Cultural and Paleontological Resources

Under this alternative, the pipeline alignment would be identical to the proposed project but a bit longer in length to connect to the off-reservation desilting basin. Overall, this alternative would have the potential for slightly greater impacts to historical cultural and archaeological sites due to greater ground-disturbing activities within the APE than the proposed project. This alternative would result in similar significant but mitigable cultural resources impacts as the proposed project.

Geology and Soils (Environmental Management)

This alternative would involve construction methods and equipment and geologic formations and soils similar to the proposed project. The main difference between this alternative and the proposed project is that the pipeline under this alternative would be 342 feet longer to accommodate a desilting basin north of the San Pasqual Reservation boundary, outside of the proposed ROW. Identical to the proposed project, the roads, water conveyance pipeline and appurtenances would be constructed according to state and county enforced building codes and designed to meet the California Building Code Standards for seismic Zone 4, which would minimize damage that could be caused by seismic groundshaking. Therefore, impacts from this alternative would be less than significant.

Identical to the proposed project, Cieneba soils have high erosion rates and would be prone to erosion. Construction and installation of the proposed underground pipeline would temporarily disturb the soils in ROWs but would not permanently alter the existing conditions along the alignment corridor. After trenching and placement of the pipeline, the trench would be backfilled with the stored soils, and then

compacted to engineering specifications. Vegetated areas would be revegetated after backfilling. Further, Escondido and VID would be required to employ BMPs to prevent erosion as a requirement of a State General Construction National Pollutant Discharge Elimination System Permit (NPDES General Construction Permit) (see Section 4.9.2.2). Therefore, similar to the proposed project, this alternative would not result in substantial soil erosion or topsoil loss and impacts would be less than significant.

Overall, impacts to geology and soils from this alternative would be similar to those from the proposed project.

Greenhouse Gas Emissions

This alternative would result in greater construction-related GHG emissions than the proposed project, because the construction timeframe would be longer over the greater pipeline length (an additional 342 feet), which would increase the duration of construction equipment operation and its associated GHG emissions. Therefore, this alternative would result in slightly greater emissions of GHGs than the proposed project.

Hazards and Hazardous Materials

Similar to the proposed project, construction of this alternative would require the use of hazardous materials, such as fuels and lubricants for construction equipment and pipeline component materials, such as paints and epoxies. Compliance with the County Consolidated Fire Code and Cal/OSHA regulations on county lands or the International Fire Code and OSHA on Tribal lands, as well as all other applicable federal, state, and local regulations related to the transport, use, or disposal of hazardous materials and worker safety would be required during all phases of the proposed project. These regulations, which include provisions for the proper storage of hazardous materials, would minimize the risk of upset and accident conditions such as leaks or spills and prevent significant hazard to the public or the environment. Therefore, impacts associated with the routine transport, use, or disposal of hazardous materials would be less than significant.

Similar to the proposed project, no schools are located within a one-quarter mile of this alternative. Furthermore, compliance with the County Consolidated Fire Code and OSHA regulations, as well as all other applicable federal, state, and local regulations related to the handling of hazardous materials and worker safety would be required during construction and operation of the proposed alternative. Therefore, impacts would be less than significant.

Similar to the proposed project, this alternative is not located within an airport land use plan, within two miles of a public airport or public use airport, or within the vicinity of a private airstrip. Thus, no direct impacts would occur.

Similar to the proposed project, the contractor would be required to prepare and implement a Traffic Control Plan during construction of this alternative. Emergency access would be provided at all times during construction and operation. Therefore, this alternative would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Thus, no impacts would occur.

Similar to the proposed project, construction of this alternative may take place near highly flammable vegetation; however, construction activities would comply with the County Consolidated Fire Code and all other applicable federal, state, and local regulations related to fire prevention and safety. These regulations, which include provisions for proper maintenance of construction equipment, brush clearance, and fuel management, would minimize the risk of wildland fires during construction. Furthermore, this alternative does not propose the construction of any housing or structures intended

for human occupancy. Therefore, impacts related to safety hazards associated with wildland fires would be less than significant

Overall, impacts associated with hazardous materials from this alternative would be similar to those from the proposed project.

Hydrology and Water Quality

Under this alternative, a pipeline and related support facilities would be constructed and operated similar to the proposed project. The main difference between this alternative and the proposed project is that the pipeline under this alternative would be 342 feet longer to accommodate a desilting basin north of the San Pasqual Reservation boundary, outside of the proposed ROW. Similar to the proposed project, this alternative would not result in new groundwater wells or an increase in the pumping of existing groundwater wells. The proposed pipeline would not result in pipelines or other structures buried deep enough to reach groundwater levels and affect the quality of flow of groundwater in the area. The trenches would be filled and restored to pre-project conditions after construction so that the percolation patterns along the proposed pipeline would not change. Notably, with demolition and removal of the existing canal system, existing impervious surfaces (concrete canal) would be reduced through installation of the proposed pipeline. Further, installation of the proposed pipeline under this alternative would not create any new impervious surfaces that would prevent percolation of groundwater directly. Therefore, compliance with state water quality standards and permits, and applicable county codes and permits would ensure that construction and operation of this alternative would not adversely affect hydrology or water quality.

Similar to the proposed project, this alternative does not include the construction of housing, would not impede or redirect flood flows, and would not expose people or structures to risks associated with a 100-year flooding event. Lake Wohlford is less than 5 miles from the proposed pipeline alignment. However, the earthen dam at Lake Wohlford is situated at approximately 1,600 AMSL and in the event of a dam failure flood waters would flow towards the city of Escondido and not towards the project area. Therefore, flooding, levee or dam failure as result of this alternative would have no impact.

Similar to the proposed project, the proposed pipeline would be buried below ground surface to a depth of 6 feet and does not include above ground structures that would be impacted by mudflows or landslides. Therefore, the impact resulting from seiche, tsunami, or mudflow to this alternative would be less than significant.

Similar to the proposed project, this alternative would not result in significant impacts to water resources.

Noise

This alternative would involve construction methods and equipment similar to those of the proposed project. The construction activities for this alternative would be slightly more intensive than those for the proposed project, due to the longer length of the pipeline. The longer pipeline would result in slightly greater noise impacts from construction activities than the proposed project. Indirect construction noise impacts to sensitive species, including migratory birds, would be similar to those of the proposed project. Similar to the proposed project, operation of the proposed underground pipeline and support facilities would not generate additional traffic from existing conditions or have stationary sources. Therefore, impacts to noise from construction activities associated with this alternative would be slightly greater than those from the proposed project. However, this alternative would result in similar significant but mitigable noise impacts as the proposed project.

Traffic

Similar to the proposed project, this alternative would result in a similar increase in vehicle trips during construction but would not cause any transportation facility to deteriorate below the minimum performance standard of LOS D. Traffic impacts associated with operations of this alternative would be similar to or less than existing conditions. As a result of short-term construction impacts associated with this alternative, and additional trips associated with pipeline O&M activities, impacts would be less than significant with implementation of a Traffic Management and Control Plan as identified in Section 4.11. Therefore, less than significant impacts related to traffic for this alternative would be similar to the proposed project.

6.1.1.2 Comparative Evaluation of Objectives

The proposed project objectives would be achieved under the Off-Reservation Desilting Basin Alternative. However, this alternative would require securing more land for the desilting basin, at considerable cost to Escondido and VID.

6.1.2 No Project Alternative

Under the No Project Alternative, the proposed pipeline and related support facilities would not be constructed. The No Project Alternative would:

- Not construct the proposed pipeline or related facilities, including the pipeline, desilting basin, and access roads.
- Not align with the Settlement Agreement to supply needed water.
- Not require grading, excavation, and revegetation to construct the proposed project.

6.1.2.1 Impact Analysis

The No Project Alternative would avoid all significant impacts identified for the proposed project. A summary of each environmental issue is provided below.

Aesthetics (Visual Resources)

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no potential impacts to visual character, quality, and scenic vistas would occur from construction of the desilting basin and access roads associated with the pipeline. This alternative would result in fewer significant impacts to aesthetics than the proposed project.

Agriculture and Forest Resources

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, the conversion of agricultural land to non-agricultural uses would not occur. This alternative would result in fewer significant impacts to agriculture than the proposed project.

Air Quality

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no air pollutant emissions from construction of the proposed project would occur. Similar to the proposed project, this alternative would result in less than significant air quality impacts.

Biological Resources

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no grading or excavation impacts to natural habitats, including wetlands and habitats occupied by sensitive species would occur. In addition, no indirect impacts to biological resources from construction noise, lighting, and traffic would occur. All significant but mitigable impacts identified in Section 4.4, Biological Resources, of this EA-IS/MND for the proposed project would be avoided.

Cultural and Paleontological Resources

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no grading or excavation would occur. This alternative would avoid all the significant but mitigable impacts identified in Section 4.5, Cultural Resources, of this EA-IS/MND for the proposed project.

Geology and Soils (Environmental Management)

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no grading or excavation would occur that might impact geologic formations and soils. Similar to the proposed project, this alternative would not result in significant impacts to geology and soils.

Greenhouse Gas Emissions

The No Project Alternative would result in fewer construction-related GHG emissions than the proposed project, since this alternative would not involve the operation of any construction equipment that may emit GHGs. This alternative would result in fewer significant impacts to GHS emissions and climate change than the proposed project.

Hazards and Hazardous Materials

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no ground surface disturbances would occur that could potentially create a health risk or upset the condition from previous uses along the proposed pipeline alignment. Similar to the proposed project, this alternative would not result in significant impacts to hazards and hazardous Materials.

Hydrology and Water Quality

The No Project Alternative would not construct and operate the proposed pipeline or related support facilities; therefore, it would not have the potential to degrade water quality and impact site hydrology. Similar to the proposed project, this alternative would not result in significant impacts to water resources.

Noise

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no noise impacts from construction activities to nearby residences and sensitive species would occur. All significant but mitigable impacts identified in Section 4.10, Noise, of this EA-IS/MND for the proposed project would be avoided.

Traffic

The No Project Alternative would not construct the proposed pipeline or related support facilities; therefore, no traffic impacts from construction activities to nearby residences or recreational facilities

would occur. All significant but mitigable impacts identified in Section 4.11, Traffic, of this EA-IS/MND for the proposed project would be avoided.

6.1.2.2 Comparative Evaluation of Proposed Project Objectives

None of the fundamental objectives of the proposed project would be achieved under the No Project Alternative, such as providing the infrastructure necessary to deliver water pursuant to the Settlement Agreement.

6.2 Alternatives Eliminated from Further Consideration

6.2.1 Hellhole Siphon

Escondido and VID considered an alternative to extend a siphon out of Hellhole Canyon to connect directly with the proposed underground pipeline at the upstream end of Segment 2; therefore, negating the need for the proposed project and off-reservation alternative desilting basin options (see Sections 3.1 and 3.2 for a descriptions of the On-Reservation Desilting Basin and Off-Reservation Desilting Basin). However, based on the results of a Feasibility Study for the San Pasqual Undergrounding Project (B&V 2016), the siphon option was deemed economically infeasible when compared to the cost of implementing the proposed project. Therefore, this alternative was eliminated from further consideration.

6.2.2 Pipeline Alignments from the 2010 Feasibility Study

In 2010, Escondido and VID commissioned the first Feasibility Study (B&V 2010) to identify a way to underground approximately two miles of the Escondido Canal. Overall, ten pipeline alignments were initially evaluated as part of a Coarse Screening Analysis.

Under the Coarse Screening Analysis, the alignments were evaluated based on the following three criteria: hydraulic performance, environmental impacts, and constructability. Six alignments were eliminated as part of the Coarse Screening, four alignments were moved forward, and one additional alignment was added to be evaluated as part of the Fine Screening Analysis.

Each of the alignments evaluated in the Fine Screening consisted of three or four segments. As part of the Fine Screening, the remaining segments and alignments were rated based on the following four criteria: ROW assessment, utility investigation, constructability, and operation and maintenance. After analysis, a preferred alignment, Alignment C, was recommended. Alignment C from the 2010 Feasibility Study was used to create the current alignment of Segment 1 of the proposed project. Therefore, other alignments analyzed were determined to be infeasible in the 2010 Feasibility Study and were eliminated from further consideration.

This page intentionally left blank.

7.0 Growth-Inducement Impacts

Appendix G of the State CEQA Guidelines includes an item related to growth-inducement under Section XII, Population and Housing for consideration when preparing an Initial Study, which reads: “Would the project 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)?” Section 15126.2(d) of the CEQA Guidelines, in discussing the required contents of environmental impact reports, notes that a project may also have growth-inducing impacts if it removes obstacles to growth, fosters economic growth in the region, or burdens existing community service facilities such that construction of new facilities (that could cause significant environmental effects) would be required to maintain desired levels of service.

As defined in the CEQ NEPA regulations at 40 CFR Section 1508.8(b), “growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate...” are to be included in the list of indirect effects to be evaluated for a federal action. Growth inducement means the ways in which a project could foster, either directly or indirectly, economic or population growth, or construction of additional housing in the surrounding environment. Growth inducement is generally a function of the presence or absence of existing utilities and public services in a given area.

7.1 Growth Inducement

The proposed project is a water transmission pipeline project necessary to deliver water pursuant to the Settlement Agreement and would not involve the construction of any buildings, including housing units, businesses, roads, or infrastructure that would lead directly or indirectly to local or regional growth. As stated in Section 2.3 of this EA-IS/MND, the operative provisions of the Settlement Agreement establish the rights and responsibilities of each of the Settlement Parties by which they may access both Supplemental Water and certain waters of the San Luis Rey River watershed developed by Escondido and VID, and ROWs for the operation and maintenance of water conveyance facilities and appurtenant structures. The proposed project would decommission, relocate, or replace about 2.5 miles of the Escondido Canal that crosses the San Pasqual Reservation. Therefore, the proposed project would have no direct or indirect growth-inducing impacts.

7.2 Significant Irreversible and Irretrievable Changes

Section 15126.2 (c) of the State CEQA Guidelines requires that environmental impact reports discuss the significant irreversible and irretrievable environmental changes resulting from a proposed project should it be implemented. Section 15126.2 (c) of the State CEQA Guidelines states that irretrievable commitments of resources should be evaluated to assure that such current consumption is justified

(Public Resources Code Section 21100(b)(2)(B) and Section 15126(c) and 15126.2(c) of the State CEQA Guidelines).

Section 15127 of the State CEQA Guidelines clarifies that the information regarding irreversible and irretrievable changes need be included only in environmental impact reports prepared in connection with the following: (a) the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; (b) the adoption by a Local Agency Formation Commission (LAFCO) of a resolution making determinations; or (c) a project which will be subject to the requirement for preparing an environmental impact statement pursuant to the requirements of the NEPA. The proposed project does not involve the adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency; does not require the adoption of a resolution by a LAFCO; and does not require the preparation of an environmental impact statement. Therefore, the proposed project does not meet any of the criteria requiring the addressment of significant irreversible environmental changes. Thus, no further discussion is necessary.

7.3 Disproportionate Effects (Environmental Justice)

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, is designed to focus federal attention on environmental and human health conditions in minority communities and low-income communities. Environmental justice requires the fair treatment of all people regardless of race, color, national origin, or income level and that no group should bear a disproportionate share of the environmental cost or other burdens of federal, state, or local projects or programs. As required by NEPA, this section of the EA-IS/MND will identify any disproportionately high or adverse environmental effects to minority or low-income communities as a result of constructing the proposed project. For the purpose of this EA-IS/MND, a minority population is defined as a group where less than 50 percent of the population is identified as non-Hispanic white. Based on 2014 Census Bureau estimates, the Native American population within the community of Valley Center, which includes the project area, makes up about 6.4 percent of the total population. The proposed project would not disproportionately affect the minority population of Native Americans within the project area, because the proposed project reduces the overall impact of the Escondido Canal on the San Pasqual Reservation with the construction of an underground pipeline and the decommissioning and restoration of a portion of the Escondido Canal. Therefore, impacts would be less than significant.

8.0 Consultation and Coordination

This section identifies the agencies, organizations, and individuals consulted with during preparation of the EA-IS/MND, and the statutes that apply to the proposed project.

Consultation and Coordination

Federal

Attorney General of the United States
Department of the Interior, Bureau of Indian Affairs
 John Rydzik, Chief of Division of Environmental and Cultural Resources Management
 Dan Hall, Regional Archeologist
Federal Energy Regulatory Commission
National Marine Fisheries Service
Secretary of the Interior
U.S. Army Corps of Engineers, Los Angeles District
U.S. District Court in San Diego
U.S. Environmental Protection Agency, Region 9
U.S. Fish and Wildlife Service, Carlsbad Field Office

State

California Department of Fish & Wildlife, South Coast Region
California Department of Transportation, District 11
California Native American Heritage Commission
California Public Utilities Commission
State Historic Preservation Office
State Historic Preservation Officer
State Water Resources Control Board

Local

California Native Plant Society
City of Escondido
 Chris McKinney, P.E., Directory of Utilities
 Craig Whittemore, P.E., Deputy Utilities Manager/Construction and Maintenance
 Angela Morrow, P.E., Deputy Director of Utilities / Construction and Engineering
 Bill Martin, Director of Community Development
 Jeffrey Epp, City Attorney
 Donald R. Lincoln, Special Counsel
 Dave Chapman, Consultant
County of San Diego, Department of Planning & Development Services

Metropolitan Water District
San Diego Air Pollution Control District
San Diego County Water Authority
San Diego Regional Water Quality Control Board, Region 9
Vista Irrigation District
 Roy Coox, General Manager
 Don Smith, P.E., Director of Water Resources
 John Penn Carter, Special Counsel (Horton, Knox, Carter & Foote)
 Kevin Davis, P.E., Engineering Consultant (Black & Veatch)
 John Bekmanis, P.E., Engineering Consultant (Black & Veatch)
Valley Center Community Planning Group

Tribal

La Jolla Band of Mission Indians
 Barbara Karshmer, Special Counsel (Karshmer & Associates)
Pala Band of Mission Indians
Pauma Band of Mission Indians
Rincon Band of Luiseño Missions Indians
 Dick Watenpaugh, Directory of Tribal Administration
San Luis Rey Indian Water Authority
 Robert Pelcyger, Special Counsel
 Jeffrey Helsley, P.E., Consulting Engineer (Stetson Engineers)
San Pasqual Band of Mission Indians
 David Toler, Tribal Councilman
 Andrew Orosco, Director, Planning Department
 Joseph R. Membrino, Special Council (Hall Estill)

Applicable Statutes

Federal

Clean Air Act
Clean Water Act
Endangered Species Act
Fish and Wildlife Coordination Act
Migratory Bird Treaty Act
National Historic Preservation Act
National Pollutant Discharge Elimination System

State

AB 32, the California Global Warming Solutions Act of 2006
AB 52, Native Americans: California Environmental Quality Act
Alquist-Priolo Earthquake Fault Zoning Act
California Building Code
California Clean Air Act
California Fish and Game Code
California Health and Safety Code Section 7050.5
California Public Resources Code Section 5097.98

Local

County of San Diego Code of Regulatory Ordinances, Chapter 4, Noise Abatement Ordinance
County of San Diego Code of Regulatory Ordinances Sections 68.508 – 68.518, Construction and Demolition Materials Diversion Program
County of San Diego Code of Regulatory Ordinances Sections 86.601 – 86.608, Resource Protection Ordinance
County of San Diego Consolidated Fire Code
San Diego Air Pollution Control District Rule 55, Fugitive Dust Control

This page intentionally left blank.

9.0 List of Preparers

The following professional staff participated in the preparation of this EA-IS/MND.

City of Escondido

Bill Martin, AICP, Director of Community Development
Angela Morrow, PE, Deputy Director of Utilities/Construction and Engineering

Vista Irrigation District

Don Smith, PE, Director of Water Resources

Bureau of Indian Affairs, Pacific Regional Office

John Rydzik, Chief, Division of Environmental, Cultural Resources Management & Safety

Atkins

Chris Moore, Project Director, QA/QC Lead
Melissa Tu, Project Manager, Biological Technical Lead
Travis Whitney, Deputy Project Manager
Lisa Mash, General Document Preparation
Claudia Watts, General Document Preparation
Mariela Mendoza, General Document Preparation
Thomas Strand, General Document Preparation
Sandra Pentney, Cultural Resources Technical Lead
Chryss Meier, Air Quality and GHG Emissions Technical Report, and Noise Technical Lead
Deanna Meier, Biological Technical Reports and Wetland Delineation
Leonard Griffiths, General Document Preparation, Biological Technical Reports QA/QC
David Beauchamp, General Document QA/QC
Marc Cavallaro, GIS
Branden Belajac, GIS

This page intentionally left blank.

10.0 References

- AirNav, LLC. 2012. Lake Wohlford Resort Airport (8CL1), Escondido, CA, USA. FAA Information Effective July 26, 2012. Accessed August 16, 2012, available at <http://www.airnav.com/airport/8CL1>
- Analytical Environmental Services (AES). 2008. Environmental Evaluation San Pasqual Indian Reservation Valley View Hotel Project. Prepared for San Pasqual Band of Mission Indians (SPBMI). February. Available at <http://legacy.sandiegouniontribune.com/news/northcounty/images/080312vvhotel.pdf>
- Analytical Environmental Services (AES). 2014. Environmental Assessment Rincon San Luiseno Band of Mission Indians Management Agreement for Harrah's Rincon Casino & Resort Expansion, San Diego County, California. Prepared for National Indian Gaming Commission. February. Available at <http://www.rinconcasinoea.com/wp-content/uploads/2014/02/Rincon-Casino-EA.pdf>
- ASM Affiliates, Inc. 2012. Cultural and Historical Resources Survey and Evaluation Report for the San Luis Rey Indian Water Rights Settlement Agreement, Escondido Canal Undergrounding, San Diego County, California. Prepared for Bureau of Indian Affairs and Vista Irrigation District. September 2012.
- Atkins. 2012. City of Escondido Final Climate Action Plan (PHG 10-0016). Prepared for the City of Escondido Community Development Department. Prepared by Atkins. August 22, 2012.
- Atkins. 2016a. San Pasqual Undergrounding Project Special Status Plant Species. July.
- Atkins. 2016b. San Pasqual Undergrounding Project Delineation of Waters of the United States, Including Wetlands. July.
- Atkins. 2016c. San Pasqual Undergrounding Project Least Bell's Vireo Report. July.
- Atkins. 2016d. San Pasqual Undergrounding Project Coastal California Gnatcatcher Protocol Survey Report. July.
- Atkins. 2016e. San Pasqual Undergrounding Project General Biological Resources. July.
- Baldwin, B.G, D.H. Goldman, D.J Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken. 2012. The Jepson Manual: Higher Plants of California. University of California Press. Berkeley, California. January.
- Black & Veatch (B&V). 2010. Escondido Canal Undergrounding Feasibility Study, Draft Feasibility Report. Prepared for City of Escondido and Vista Irrigation District. February.
- Black & Veatch (B&V). 2016. Technical Memorandum San Pasqual Undergrounding Project Feasibility Study Part II. Prepared for City of Escondido and Vista Irrigation District. June 22.

- Black & Veatch (B&V). 2016a. Technical Memorandum regarding SPUP Amendment 2 Equipment, Crew, and Schedule. Prepared for Angela Morro City of Escondido and Don Smith Vista Irrigation District. Prepared by John Bekmanis and Stephen Davis. July 27.
- Broussard, Chad. 2016. Personal Communication. July 22, 2016.
- California Air Pollution Control Offices Association (CAPCOA). 2013. California Emissions Estimator Model (CalEEMod) version 2013.2.2.
- California Air Pollution Control Offices Association (CAPCOA). 2008. CEQA & Climate Change Evaluating and Addressing Greenhouse Gas Emissions from Project Subject to the California Environmental Quality Act. January.
- California Air Resources Board (CARB). 2005. Air Quality Land Use Handbook: A Community Health Perspective, April 2005.
- California Air Resources Board (CARB). 2007. Staff Report, California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, November 16, 2007.
- California Air Resources Board (CARB). 2008. Climate Change Scoping Plan, a Framework for Change, December 2008.
- California Air Resources Board (CARB). 2013. Area Designations for State Ambient Air Quality Standards – Ozone, PM10, PM2.5, Carbon Monoxide, Nitrogen Dioxide, Lead, Sulfur Dioxide, Sulfates, Hydrogen Sulfide, Visibility Reducing Particulates. June.
- California Air Resources Board (CARB). 2014. First Update to the Climate Change Scoping Plan. May.
- California Air Resources Board (CARB). 2016a. Ambient Air Quality Standards. May 4, 2016. Access July 16, 2016 at <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>
- California Air Resources Board (CARB). 2016b. iADAM Air Quality Statistics. Access July 16, 2016 at <http://www.arb.ca.gov/adam/topfour/topfour1.php>
- California Climate Action Team (CCAT). 2010. Climate Action Team Report to Governor Schwarzenegger and the California Legislature, December 2010. Available at http://www.climatechange.ca.gov/climate_action_team/reports/#2010
- California Department of Conservation (CDOC). 2010. Division of Land Resource Protection Farmland Mapping and Monitoring Program San Diego County Important Farmland. Available at <http://www.conservation.ca.gov/dlrp/fmmp>
- California Department of Conservation (CDOC). 2016. Alquist-Priolo Earthquake Fault Zoning Maps. Available at <http://www.conservation.ca.gov/cgs/rghm/ap/Pages/main.aspx>
- California Department of Conservation (CDOC). 2016. Division of Oil, Gas & Geothermal Resources Well Finder. Available at <http://maps.conservation.ca.gov/doggr/#close>
- California Department of Fish and Wildlife (CDFW). 2016. Biogeographic Data Branch, California Natural Diversity Database (CNDDB), RareFind. February 2016 data.

- California Department of Forestry and Fire Protection (Cal Fire). 2010. Fire and Resource Assessment Program California's Forests and Rangelands 2010 Assessment. June 2010. Accessed July 2016 at <http://frap.fire.ca.gov/>
- California Department of Forestry and Fire Protection (Cal Fire). 2007. Fire and Resource Assessment Program San Diego County Fire Severity Hazard Zones. November 7, 2007. Accessed July 2016 at http://www.fire.ca.gov/fire_prevention/fhsz_maps_sandiego
- California Department of Transportation (Caltrans). 2002. Guide for the Preparation of Traffic Impact Studies. December, 2002. Available at http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf
- California Department of Transportation (Caltrans). 2008. Interstate 5 Transportation Concept Report Corridor Traffic Assessment. Level of Service Definitions pg 28. Available at <http://www.dot.ca.gov/dist2/planning/pdf/tcr/i5/cortras.pdf>
- California Department of Transportation (Caltrans). 2015. California Highway Design Manual Sixth Edition. December 30, 2015. Available at http://www.dot.ca.gov/hq/oppd/hdm/erratas/HDM_Chng_30Dec2015.pdf
- California Department of Transportation (Caltrans). 2016. California Scenic Highway Mapping System. Updated September 7, 2011. Accessed June 2016, available at http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/
- California Department of Water Resources (DWR). 2004. California's Groundwater Bulletin 118: Hydrologic Region South Coast San Luis Rey Valley Groundwater Basin. February 27, 2004.
- California Energy Commission (CEC). 2010. 2008 Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Effective January 1, 2010.
- California Environmental Protection Agency (CEPA). 2016. Volatile Organic Compounds Health Effects. Available at https://www.epa.gov/indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality#Health_Effects
- California Natural Resources Agency (CNRA). 2009. 2009 California Climate Adaptation Strategy. A Report to the Governor of the State of California in Response to Executive Order S-13-2008. Available at http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf
- California State Water Resources Control Board (SWRCB). 2016. GeoTracker. Accessed July 21, 2016 at http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607301613
- City of Escondido and Vista Irrigation District. 2008. Escondido Project FERC Project No. 176 – Update of Application for Minor License. Exhibit A – Project Description and Mode of Operation. December 2008.
- City of Escondido. 2015. March 6, 2015 Planning Update. Accessed July 21, 2016 at <http://www.escondido.org/march-6-2015.aspx>
- Council on Environmental Quality (CEQ). 2014. Revised Draft Guidelines Memorandum for Greenhouse Gas Emissions and Climate Change. December. Available at https://www.whitehouse.gov/sites/default/files/docs/nepa_revised_draft_ghg_guidance_searchable.pdf

- County of San Diego (County). 2010. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Biological Resources. Land Use and Environment Group. Department of Planning and Land Use Department of Public Works. September 15. Available at http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/Biological_Guidelines.pdf
- County of San Diego (County). 2007. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Air Quality. Land Use and Environmental Group, Planning & Development Services Department of Public Works. March 19. Available at <http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf>
- County of San Diego (County). 2008. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Mineral Resources. Land Use and Environmental Group, Planning & Development Services Department of Public Works. July 30. Available at http://www.sandiegocounty.gov/dplu/docs/Mineral_Resources_Guidelines.pdf
- County of San Diego (County). 2009. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Paleontological Resources. Land Use and Environmental Group, Planning & Development Services Department of Public Works. January 15. Available at <http://www.sandiegocounty.gov/dplu/docs/Paleo-Guidelines.pdf>
- County of San Diego (County). 2009. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Noise. Land Use and Environmental Group, Planning & Development Services Department of Public Works. January 27. Available at <http://www.sandiegocounty.gov/dplu/docs/Noise-Guidelines.pdf>
- County of San Diego (County). 2009. Draft North County Multiple Species Conservation Program (MSCP) Plan. Accessed June 2016 at http://www.sandiegocounty.gov/content/sdc/pds/mscp/NCMSCP_documents.html
- County of San Diego (County). 2011. San Diego County General Plan: A Plan for Growth, Conservation, and Sustainability. August 2011. Accessed July 2016 at <http://www.sandiegocounty.gov/pds/generalplan.html>
- County of San Diego (County). 2013. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Climate Change. Land Use and Environmental Group, Planning & Development Services Department of Public Works. November 7. Available at <https://www.sandiego.gov/sites/default/files/legacy/environmental-services/pdf/sustainable/significanceclimate.pdf>
- ESRI. 2016. Geographic Information System Data.
- Harris Miller Miller & Hanson Inc. (Harris Miller). 2006. Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Prepared for Federal Transit Administration Office of Planning and Environment. Prepared by Harris Miller Miller & Hanson Inc. May 2006. Available at https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf
- KEA Environmental, Inc. (KEA). 2001. Final Initial Study/Environmental Assessment for the Rincon and Wohlford Penstocks Replacement Project. June 2001.

- Metropolitan Water District of Southern California (MWD). 2016. Annual Drinking Water Quality Report, January-December 2015. Available at http://www.mwdh2o.com/PDF_About_Your_Water/2.3.1_Annual_Water_Quality_Report.pdf
- Metropolitan Water District of Southern California. 2011. Robert A. Skinner Treatment Plant. Accessed February 11, 2011 at <http://www.mwdh2o.com/mwdh2o/pages/yourwater/plants/skinner01.html>
- National Indian Gaming Commission. 2014. Environmental Assessment: Rincon San Luiseno Band of Mission Indians Management Agreement for Harrah's Rincon Casino and Resort Expansion. February 2014.
- Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge. 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," Robert F. Holland, PhD., October 1986.
- PBS&J. 2008. Final Environmental Impact Report/Environmental Assessment Northern Route Pipeline Project (SCH # 2007091022). October 1, 2008.
- Project Clean Water (PCW). 2016. San Luis Rey Watershed Management Area Interactive Map. Accessed July 22 2016 at http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=40&Itemid=32
- San Diego Air Pollution Control District (SDAPCD) 1998. Rule 20.2 (d)(2), Table 20.2-1. December 1998. Available at www.arb.ca.gov/DRDB/SD/CURHTML/R1501.HTM
- San Diego Air Pollution Control District (SDAPCD) 2009. Regional Air Quality Strategy Revision. 22 April 2009. Available at <http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2009-RAQS.pdf>
- San Diego Association of Governments (SANDAG). 2010. Climate Action Strategy. March 2010. Available at http://www.sandag.org/uploads/publicationid/publicationid_1481_10940.pdf
- San Diego Association of Governments (SANDAG). 2011. Our Region. Our Future. 2050 Regional Transportation Plan. Available at http://www.sandag.org/uploads/2050RTP/F2050rtp_all.pdf
- San Diego Association of Governments (SANDAG). 2016a. SanGIS Interactive Map. Information provided by the participants of San GIS. Available at <http://sdgis.sandag.org/>
- San Diego Association of Governments (SANDAG). 2016b. Average Traffic Volumes Unincorporated Area. Available at http://www.sandag.org/resources/demographics_and_other_data/transportation/adtv/unincorporated_adtv.pdf
- San Pasqual Band of Mission Indians (SPBMI). 2010. Environmental Evaluation San Pasqual Indian Reservation: Valley View Parking Structure Expansion Project. December 2010.
- San Pasqual Band of Mission Indians (SPBMI). n.d. History. Accessed July 21, 2016 at <http://www.sanpasqualbandofmissionindians.org/history>

- South Coast Air Quality Management District (SCAQMD). 2013. California Emissions Estimator Model (CalEEMod) Version 2013.2.2.
- South Coast Air Quality Management District (SCAQMD). 2015. SCAQMD Air Quality Significance Thresholds. March 2015. Available at <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>
- Toler, Dave and Orosco, Andrew. 2016. Personal Communication. July 25, 2016.
- U.S. Department of Agriculture (USDA). 2008. Farm and Ranch Lands Protection Program. Available at <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/farmranch/>
- U.S. Department of Agriculture (USDA). 2013. Natural Resources Conservation Service (NRCS) Web Soil Survey. Available at <http://websoilsurvey.nrcs.usda.gov/app/>
- U.S. Department of Transportation Federal Highway Administration (DOT FHWA). 2006. Construction Noise Handbook Final Report. FHWA-HEP-06-2105. Prepared by U.S. Department of Transportation Research and Innovative Technology Administration. August 2006. Available at https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/
- U.S. Fish and Wildlife Service (USFWS). 1997. Coastal California Gnatcatcher (*Poliophtila californica californica*) Presence/Absence Survey Guidelines. February 28, 1997.
- U.S. Fish and Wildlife Service (USFWS). 2001. Least Bell's Vireo Survey Guidelines. January 19.
- U.S. Fish and Wildlife Service (USFWS). 2016. Environmental Conservation Online System (ECOS) Species by County Report. San Diego, California. Accessed at <http://ecos.fws.gov/ecp0/reports/species-by-current-range-county?fips=06073>
- Valley Center Municipal Water District (VCMWD). 2016. South Village Wastewater Expansion. Accessed July 21, 2016 at <http://www.vcmwd.org/Projects/South-Village-Wastewater-Expansion>