

RECLAMATION

Managing Water in the West

**National Environmental Policy Act
Finding of No Significant Impact**

No. 15-SCAO-027-FONSI

Irvine Ranch Water District
Irvine Lake Pipeline Conversion Project
Orange County, California

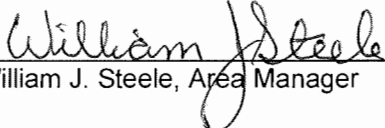
The Bureau of Reclamation has approved a WaterSMART Drought Resiliency Project Grant for the Irvine Lake Pipeline Conversion Project. The Irvine Ranch Water District plans to extend their recycled water distribution system by adding a new booster pump station and storage tank reservoir, and converting a portion of the existing Irvine Lake Pipeline to provide recycled water to 60 irrigation customers

Based on our review of the Final Initial Study and Mitigated Negative Declaration for the *Irvine Lake Pipeline North Conversion Project* (California State Clearinghouse No 2015111011), we have determined that the financial assistance does not constitute a major Federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969. Accordingly, preparation of an environmental impact statement on the proposed action is not required.

Drafted by: Alejandro Bustamonte, Environmental Intern

Recommended:  Date: 12/1/16
Doug McPherson, Environmental Protection Specialist

Reviewed By: *Leslie E Cleveland* Date: DEC - 1 2016
Leslie Cleveland, Water Resources Manager

Approved:  Date: 12/2/16
William J. Steele, Area Manager



U.S. Department of the Interior
Bureau of Reclamation
Lower Colorado Region
Southern California Area Office
Temecula, California

BACKGROUND

The Irvine Ranch Water District plans to convert the northern section of the Irvine Lake Pipeline from an untreated water system to a recycled water system. The Bureau of Reclamation has approved a WaterSMART Drought Resiliency Project Grant for the proposed project, agreement no. R15AP00188.

The project will construct a 2.4 million gallon (MG) recycled water reservoir, convert an existing booster pump station at the Rattlesnake Reservoir Complex, reconfigure the existing Orchard Hills Facility, and install approximately 15,700 linear feet of new pipelines. An Initial Study was prepared to evaluate the project under the California Environmental Quality Act (CEQA). Identified impacts were found to be either less than significant or can be mitigated. No Environmental Impact Report was required under CEQA.

PURPOSE AND NEED

The purpose of the project is to increase water supply and increase long term resiliency to drought. The project will distribute recycled water to additional local customers to meet existing agriculture and irrigation demands and will serve 3,100 acre-feet per year (AFY) of local recycled water to approximately 60 irrigation customers who currently receive imported water through the Irvine Lake Pipeline.

The Bureau of Reclamation developed the Drought Response Program to improve our ability to assist States, tribes, and local governments to prepare for and address drought in advance of a crisis. The Drought Response Program supports a proactive approach to drought by providing assistance to water users to implement projects that will build long-term resiliency to drought.

AUTHORITY

Section 9504(a) of the SECURE Water Act, Subtitle F of Title IX of the Omnibus Public Land Management Act of 2009, Public Law 111-11 (42 United States Code 10364).

PROJECT DESCRIPTION

The Irvine Lake Pipeline North Conversion Project involves improvements and modifications to several existing facilities in the cities of Orange and Irvine. Components include a new Santiago Hills Zone C+ Reservoir, the existing Orchard Hills Facility, the existing Rattlesnake Reservoir Complex, and new pipelines in Santiago Canyon Road and Jamboree Road.

Santiago Hills Zone C+ Reservoir

The project will construct a new 2.4 MG recycled water reservoir next to the existing Zone 5 domestic water reservoir at 1802 East Santiago Canyon Road in the City of Orange. The Santiago Hills Zone C+ Reservoir will be a partially buried circular tank with a high water level of 700 feet. Construction includes:

- Tank Inlet Pipeline. A 42-inch untreated water transmission main will be constructed along East Santiago Canyon Road from the existing 54-inch Irvine Lake Pipeline, near the intersection of Jamboree Road and Chapman Avenue/Santiago Canyon Road, to the Zone C+ reservoir.
- Tank Outlet Pipeline. A 42-inch recycled water transmission main will be constructed along East Santiago Canyon Road from the Zone C+ reservoir to the existing 54-inch Irvine Lake Pipeline south of the suction piping to the Baker Raw Water Pump Station.
- Strainer Facility. Two 30-inch automatic strainers will be installed to strain water flow from the Irvine Lake Pipeline prior to discharging to the proposed reservoir.
- Outlet Valve and Vault. Access to the outlet valve will be provided by a vault.
- Ring Drain. Drainage from the proposed reservoir ring drain will discharge into a below grade structure and either be recycled back into the reservoir or discharged to the storm drain. The ring drain includes piping, below ground structure, pumps, and associated appurtenances.

Rattlesnake Complex Improvements

The Rattlesnake Complex is north of Portola Parkway between Jeffrey Road and Culver Drive in the City of Irvine, north of Orange County Fire Authority Station No. 55 and west of the Rattlesnake Reservoir. The existing Orchard Hills Zone A–C booster pump station in the Rattlesnake Reservoir Complex will be converted to a Zone A–C+ booster pump station, to allow pumping of recycled water to both Zone C and Zone C+ systems. The conversion will require minor modifications to the existing booster pump station.

Orchard Hills Facility Improvements

The Orchard Hills Facility is at 10570½ Woody Knoll in the City of Irvine, north of the Furrow Road and Rembrandt Street intersection and within the City of Irvine's Planning Area 1 (Orchard Hills). The Orchard Hills Facility will be reconfigured to serve as a back-up source of recycled water for Zone C customers.

Zone C+ Distribution Pipelines/ILP North Alignment

A 20-inch pipeline will be constructed along Jamboree Road from Chapman Avenue/Santiago Canyon Road north to Santiago Canyon Road and a 10-inch pipeline will be constructed along Santiago Canyon Road from Jamboree Road west to the Cemetery of the Holy Sepulcher.

Other Project-Related Improvements

Earthwork associated with the proposed reservoir is designed to minimize impacts to the existing Zone 5 reservoir. An earthen berm, with a maximum height of 24 feet, may be located between the access road and Santiago Canyon Road to screen site improvements from public view. Two retaining walls will be required due to elevation differences between the existing Zone 5 reservoir and the new reservoir.

A more detailed project description is available in the Initial Study.

ADOPTION OF EXISTING ENVIRONMENTAL DOCUMENT

NEPA requires review of a proposed Federal action to determine its impact on the human environment. Council on Environmental Quality (CEQ) regulations direct Federal agencies to cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and State and local requirements (40 CFR 1506.2). Department of Interior regulations for implementing NEPA encourage tiering of environmental documents and provide for adoption of existing environmental documents if, upon evaluation by a responsible official, it is found to comply with relevant provisions of the CEQ regulations.

Reclamation staff reviewed the Initial Study and concluded that the document adequately identifies and discloses the reasonably foreseeable environmental effects of the proposed action. We adopt the Initial Study in accordance with regulations for implementing NEPA promulgated by the CEQ at 40 CFR 1506.3 and by the Department of the Interior at 43 CFR 46.320(a).

SUMMARY OF FINDINGS

The Initial Study concluded that the proposed project has the potential to have significant impacts to biological resources, cultural resources, geology and soils, and noise. Measures were identified to avoid or mitigate the environmental effects to a less-than-significant level.

OTHER FEDERAL REQUIREMENTS

Clean Air Act

The South Coast Air Basin is a designated non-attainment area for ozone, PM10 and PM2.5. Estimated air emissions during both construction and operation are below the Clean Air Act conformity applicability *de minimis* thresholds [40 CFR 93.153 (b)]. No Clean Air Act conformity determination is required.

Endangered Species Act

The project is within the Orange County Central-Coastal Subregion Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP), approved by the U.S. Fish and Wildlife Service under the Endangered Species Act. Irvine Ranch Water District is a participating agency in the NCCP/HCP.

The ILP North Alignment near the Baker pump station will impact 0.19 acre of sagebrush–buckwheat scrub that provides habitat for coastal California gnatcatcher (*Polioptila californica californica*), a threatened bird species. The area is part of the NCCP/HCP Reserve located within Peters Canyon Regional Park. The NCCP/HCP allows for operation, maintenance and repair, and reconstruction of existing infrastructure facilities in a Habitat Reserve. Activities related to the provision and operation of necessary public and quasi-public infrastructure facilities, construction of new infrastructure, and ongoing operations and maintenance, repair, and reconstruction activities related to the new infrastructure facilities are “Permitted Activities.” Gnatcatchers were also observed on properties near the reservoir site.

The CEQA document identified potential for thread-leaved brodiaea (*Brodiaea filifolia*), a threatened plant species, at the Santiago Hills C+ Reservoir site. Subsequent evaluation based on review of the geological report determined that this site does not provide suitable habitat for the thread-leaved brodiaea.

No critical habitat is designated within the project action area.

National Historic Preservation Act

Cultural resource survey reports were prepared. No properties listed or eligible for listing in the National Register of Historic Places were identified within the Area of Potential Effect.

Migratory Bird Treaty Act

Several raptor species have potential to nest in the trees within and adjacent to the survey area. This includes riparian trees, such as willows, and those mapped as parks and ornamental plantings, such as pine and *Eucalyptus* species.

Grubbing or brush clearing will be conducted outside of the bird breeding season. If the work cannot be done according to this schedule, prior to the initiation of any ground disturbance, a qualified biologist will determine what birds are nesting in the shrubs or trees to be removed or are within 500 feet of the area that will be under construction. If no native bird nests are discovered, development may proceed.

If construction in the vicinity of bird nests must be conducted during nesting season, a report of findings will be provided to the California Department of Fish and Wildlife (CDFW). If approved by the CDFW, construction can proceed by following any nesting bird protection measures.

Water Resources

The project will offset the demand for approximately 3,410 AFY of imported water by extending the Irvine Ranch Water District recycled water system to irrigation customers and reducing evaporation losses at Irvine Lake. The Project will serve approximately 3,100 AFY of local recycled water to approximately 60 irrigation customers who currently receive imported water through the Irvine Lake Pipeline.

Wetlands and Floodplain

Southern willow scrub, mulefat scrub, disturbed mulefat scrub, and southern arroyo willow forest are adjacent to the ILP North Alignment along Jamboree Road just north of the Baker RWPS. All work will be within the existing roadway. There will be no impact on jurisdictional wetlands. Project sites are not located within a 100-year flood hazard area, and the project will not expose people or structures to flood hazard conditions. The action complies with Executive Orders on wetlands and floodplains.

Clean Water Act

Potential impacts of construction activities on water quality will be minimized through compliance with the Construction General Permit issued by the California State Water Resources Control Board under the National Pollutant Discharge Elimination System (NPDES). Pursuant to permit requirements, the construction contractor will develop a Storm Water Pollution Prevention Plan (SWPPP) that incorporates Best Management Practices for reducing or eliminating construction-related pollutants in the site runoff.

Irvine Ranch Water District will also verify that General Waste Discharge Requirements issued by the Santa Ana Regional Water Quality Control Board (R8-2015-0004, NPDES No. CAG998001, General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant [*De Minimis*] Threat to Water Quality) are in effect and will govern discharges from construction dewatering and water line/sprinkler line testing should they occur during construction.

Socioeconomic Resources

Adverse socioeconomic impacts are not expected. The project will provide drought year reliability, improve local water supplies, sustain municipal water demands, and support economic vitality in the area. The project will not induce population growth. No housing or people will be displaced. No communities will be divided. No effects to public health and safety were identified. Economic or social effects are not intended by themselves to require preparation of an EIS (40 CFR 1508.14).

Environmental Justice

The project does not involve disproportionately high and adverse human health or environmental effects on minority and low-income populations. Construction activities will occur within the relatively affluent cities of Orange and Irvine. No industries or contaminated sites are in or around the project area. The project does not comprise a new hazard or additional hazard to a particular population. Construction will temporarily inconvenience residents along the pipeline routes, but there is no potential to adversely impact any low income or ethnic communities in the long term. The project will be an improvement to area services that will benefit the population.

Prime and Unique Agriculture

Areas adjacent to some project components are currently used for agriculture. Project component sites are not in agricultural use. No conversion of agricultural lands will result from project implementation.

The reservoir site and associated ILP North Alignment contain no land designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland or Farmland of Local Importance. The area immediately south and east of the Orchard Hills Facility site is designated as Prime Farmland. Further south and east, this designation changes to Farmland of Statewide Importance. Land to the northwest of the Orchard Hills Facility is also designated as Farmland of Statewide Importance.

The Rattlesnake Complex is designated Other Land with Urban and Built-Up Land located immediately southwest of the site. Areas located to the northwest, northeast, east, and southeast are designated as Unique Farmland and a small area to the northwest is designated Prime Farmland. Project actions will not extend beyond the existing Rattlesnake Complex footprint and will not impact the farmland areas.

Indian Trust Assets

No Indian Trust Assets are involved.

Wild and Scenic Rivers

No wild or scenic rivers occur within the project region.

Coastal Zone

The project is located 30 miles east of the California Coastal Zone boundary.

Sole Source Aquifers

Only four sole-source aquifers are designated in California. None are near the proposed project.

Invasive species

The project is not likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere. To prevent introduction of exotic, non-native plant species that could damage the local plant community, a qualified biologist will compile a list of species prohibited from use in landscaping within the project area

Climate Change

Construction activities will generate greenhouse gas (GHG) emissions estimated at 905 metric tons of carbon dioxide equivalent (MTCO₂e) over two years. Project operation will also result in indirect GHG emissions estimated at 970 MTCO₂e per year, due to electricity demand. The South Coast Air Quality Management District (SCAQMD) has suggested an interim significance threshold of 10,000 MTCO₂e per year for industrial projects. The project will result in reduced GHG emissions compared to the 1,940 MTCO₂e per year estimated from the energy generation needed to pump imported water into the region.

AGENCY CONSULTATION AND COORDINATION

Fish and Wildlife Service

Reclamation staff will contact the Fish and Wildlife Service to verify that effects to 0.19 acre of sage scrub habitat occupied by coastal California gnatcatcher within Peters Canyon Regional Park are covered by Irvine Ranch Water District participation in the Orange County Central-Coastal Subregion NCCP/HCP.

California State Historic Preservation Officer (SHPO)

In accordance with section 106 of the National Historic Preservation Act and regulations promulgated by the Advisory Council on Historic Preservation at 36 CFR part 800, we submitted the cultural resource survey report to the California SHPO by registered mail on August 12, 2016 with our "No Historic Properties Affected" determination. SHPO staff requested, and we provided, additional information on the Orchard Hills and Rattlesnake facilities on September 14, 2016. No formal response has been received.

ENVIRONMENTAL COMMITMENTS

Cultural Resources: Should cultural resources be discovered during project construction, all ground disturbing activities in the area of the archeological resource will stop and Irvine Ranch Water District will consult with a qualified archeologist to assess the significance of the discovery and determine appropriate actions. If found to be significant, the Regional Archeologist will be contacted at 702-293-8075. Construction will not resume in the area of the discovery until all mitigation measures developed in consultation with the SHPO have been completed.

General: Measures listed in the attached Mitigation Monitoring and Reporting Plan will be implemented. Required CEQA mitigations are ameliorative design elements per 43 CFR 46.130(b).

REFERENCES

Final Initial Study and Mitigated Negative Declaration: *Irvine Lake Pipeline North Conversion Project* (California State Clearinghouse No 2015111011), BonTerra Psomas, Santa Ana, CA, December 2015.

The CEQA Initial Study can be downloaded from the Irvine Ranch Water District website at:
<http://www.irwd.com/doing-business/environmental-documents>

ATTACHMENTS

1. Letter to California SHPO
2. Mitigation Monitoring and Reporting Program



United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Region
Southern California Area Office
27708 Jefferson Avenue, Suite 202
Temecula, CA 92590-2628

IN REPLY REFER TO:
LC-2631
ENV-3.00

AUG 12 2016

CERTIFIED – RETURN RECEIPT REQUESTED

Ms. Julianne Polanco
California State Historic Preservation Officer
1725 23rd Street, Suite 100
Sacramento, CA 95816

Subject: Consultation under Section 106 of the National Historic Preservation Act for the Irvine Lake Pipeline North Conversion Project, Orange County California

Dear Ms. Polanco:

The Bureau of Reclamation is providing drought funding for the Irvine Ranch Water District (IRWD) to convert the northern section of the Irvine Lake Pipeline (ILP) from an untreated water system to a recycled water system. Per 36 CFR 800.16(y), the financial assistance constitutes a federal undertaking. We are consulting with your office on our finding of “*No Historic Properties Affected*” for the undertaking.

Description and Location of the Undertaking – The undertaking involves improvements and modifications to several IRWD facilities in Orange County, California. The Area of Potential Effect (APE) totals 17 acres within the Santiago de Santa Ana and the Lomas de Santiago land grants, Orange and El Toro USGS quadrangles. An APE map is enclosed.

The undertaking will upgrade an existing pump station at Rattlesnake Canyon Reservoir and convert a portion of the ILP to convey recycled water from the pump station northward to just south of the Baker Raw Water Pump Station. The undertaking will install new water pipelines and a reservoir storage tank, and includes minor modifications to the existing Rattlesnake and Orchard Hills facilities. The undertaking includes the following components:

- *Santiago Hills Zone C+ Reservoir*: A 2.4 million gallon water partially buried reservoir is proposed on a 2.7-acre portion of a 7.7-acre parcel (APN 545-011-03) at 1808-1980 East Santiago Canyon Road, Orange, CA. Installation of the reservoir will require substantial excavation to about 40 feet below the existing ground surface. The reservoir tank will have a diameter of 116 feet with a 7-inch thick concrete slab base. Excavated material will be used on site for fill to partially bury the reservoir.

- *Reservoir inlet transmission main:* A 42-inch raw water pipeline will be installed along East Santiago Canyon Road connecting the ILP at the intersection of Jamboree Road to the proposed Zone C+ tank. The APE consists of a corridor 30 feet wide by 2,500 feet long (1.7 acres) within an existing road. The pipe will be buried to a depth of 7 feet below the road surface.
- *Reservoir outlet transmission main:* A 42-inch recycled water pipeline will be installed along East Santiago Canyon Road from the proposed Zone C+ tank to Jamboree Road and south along Jamboree Road connecting to the ILP south of the suction piping to the existing Baker Raw Water Pump Station. The APE consists of a corridor that is 30 feet wide by 7,500 feet long (5.1 acres). The pipe will be buried to a depth of 7 feet below the road surface.
- *Zone C+ Distribution Pipelines:* A 20-inch recycled water pipeline will be installed along Jamboree Road north from Chapman Avenue/East Santiago Canyon Road. A 10-inch pipeline will continue along Santiago Canyon Road to the Holy Sepulcher Cemetery. The APE consists of a corridor that is 30 feet wide by 5,700 feet long (3.9 acres) within an existing road. The pipe will be buried to a depth of 7 feet below the road surface.
- *Orchard Hills Facility:* Minor modifications to the existing facility are proposed. The APE is 100 feet by 50 feet (0.12 acre) located at 10570 ½ Woody Knoll, in the city of Irvine. No ground disturbing activities are anticipated.
- *Rattlesnake Facility:* Minor modifications will upgrade the existing Zone A-C booster pump station to a Zone A-C+ booster pump station. A new surge tank will be installed with about 410 feet of new pipeline. The APE is 3.5 acres.

Methodology Employed for the Identification of Historic Properties – Class I and Class III cultural resources surveys were conducted by BonTerra Psomas of Santa Ana, CA. The methodology and result of the survey is described in the enclosed report titled: *Phase I Cultural Resources Assessment Irvine Lake Pipeline North Conversion Project, Irvine and Orange, California* (Smith and Maxon 2015).

The Class I survey included a file and record search on June 11, 2015 by staff at the South Central Coastal Information Center at California State University Fullerton, and a review of the Sacred Lands File database by the Native American Heritage Commission (NAHC). The objective of the Class I survey was to identify previous cultural resources studies, previously recorded archaeological and architectural properties and structures and Native American sacred places within a ½-mile radius of the APE.

The NAHC provided a list of Native American groups and individuals and recommended follow up consultations. BonTerra Psomas mailed letters to the recommended contacts. Responses were received from the Gabrieleno Band of Mission Indians, the Juaneño Band of Mission Indians Acjachemen Nation, and the Gabrieleno-Tongva San Gabriel Band of Mission Indians.

Identification of Historic Properties and Evaluation of Historical Significance - The Class I survey found that 42 cultural resource studies have been conducted within a ½-mile radius of the APE. Of those, eight overlap a portion of the APE. Seven cultural resource sites are recorded within a ½-mile radius of the APE. This includes the Irvine Park, listed on the National Register of Historic Places (NRHP) in 1983. One prehistoric archaeological site (CA-ORA-556) and a historic archaeological site (CA-ORA-1548) were recorded in or adjacent to the pipeline route.

The prehistoric site, CA-ORA-556, was described as an extensive lithic scatter consisting of metates, manos, cores, flakes, projectiles, and a bifacial knife. The site was originally recorded along a ½-mile swath north of Santiago Canyon roughly between Jamboree Road and North Newport Boulevard. The portion of the site within the APE appears to have been lost due to road construction and installation of underground utilities, but archaeological materials could remain beneath Santiago Canyon Road. The site's NRHP eligibility is unknown.

The historic site, CA-ORA-1548, was described as a historic ditch and associated artifacts. Its location was recorded in the vicinity of Jamboree Road, approximately ¼ mile south of Chapman Avenue. The site was associated with an Irvine Ranch water conveyance system dating to the early part of the 20th Century. The site was tested in 2004 and although an important aspect of the historic Irvine Ranch, it was not considered eligible for listing on the NRHP. Within the APE, it is likely that most or all of the site has been lost or is buried. There is a potential that historic artifacts associated with the site are buried beneath Jamboree Road.

The NAHC Search of the Sacred Lands File on July 1, 2015, resulted in a negative finding for the presence of Native American cultural resources and sacred sites within ½ mile of the APE. Responses from three NAHC contacts recommended that a tribal monitor be present during ground disturbing activity.

BonTerra Psomas conducted an archaeological survey on June 18, 2015 and July 14, 2015, including a pedestrian survey of the Santiago Hills Zone C+ Reservoir water tank location with 10-meter (50-foot) spaced transects. The majority of the APE consist of paved roadways and fenced water facilities and were surveyed on foot and by vehicle. The survey did not result in the identification of any new cultural resources.

Effects Determination – We have reviewed the proposed undertaking and its potential to affect historic properties. Two recorded sites may intersect the APE. No artifacts or elements of the recorded sites are expected within the APE, which is contained within fully developed modern roadways. We have made a finding of No Historic Properties Affected per 36 CFR 800.4(d)(1).

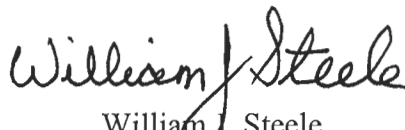
Monitoring: IRWD will retain a qualified archaeologist to be available on-call throughout the duration of the ground-disturbing activities. The archaeologist will be present at the pre-grade conference and will establish procedures for archaeological resource surveillance and for temporarily halting or redirecting work to permit sampling, identification, and evaluation of artifacts as appropriate.

Discovery Clause – If during the course of any activities associated with this undertaking, any districts, sites, buildings, structures, or objects not included in this consultation are discovered, activities will cease in the vicinity of the resource. If the archaeological resources are found to be significant, the Regional Archaeologist will determine appropriate actions for exploration and/or salvage. We will ensure that the stipulations of 36 CFR Part 800.11 are satisfied before activities in the vicinity of the previously unidentified property resume.

Amendment Clause - This consultation is only for the undertaking described above. If the impact/effects area of the undertaking change during the course of the project, Reclamation will reinitiate consultation under 36 CFR Part 800 and will not allow any land-disturbing activities to proceed before Section 106 of the National Historic Preservation Act is satisfied.

Should you have any questions or require further information, please contact James Kangas, Archaeologist at jkangas@usbr.gov or 702-293-8392.

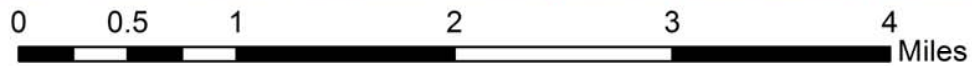
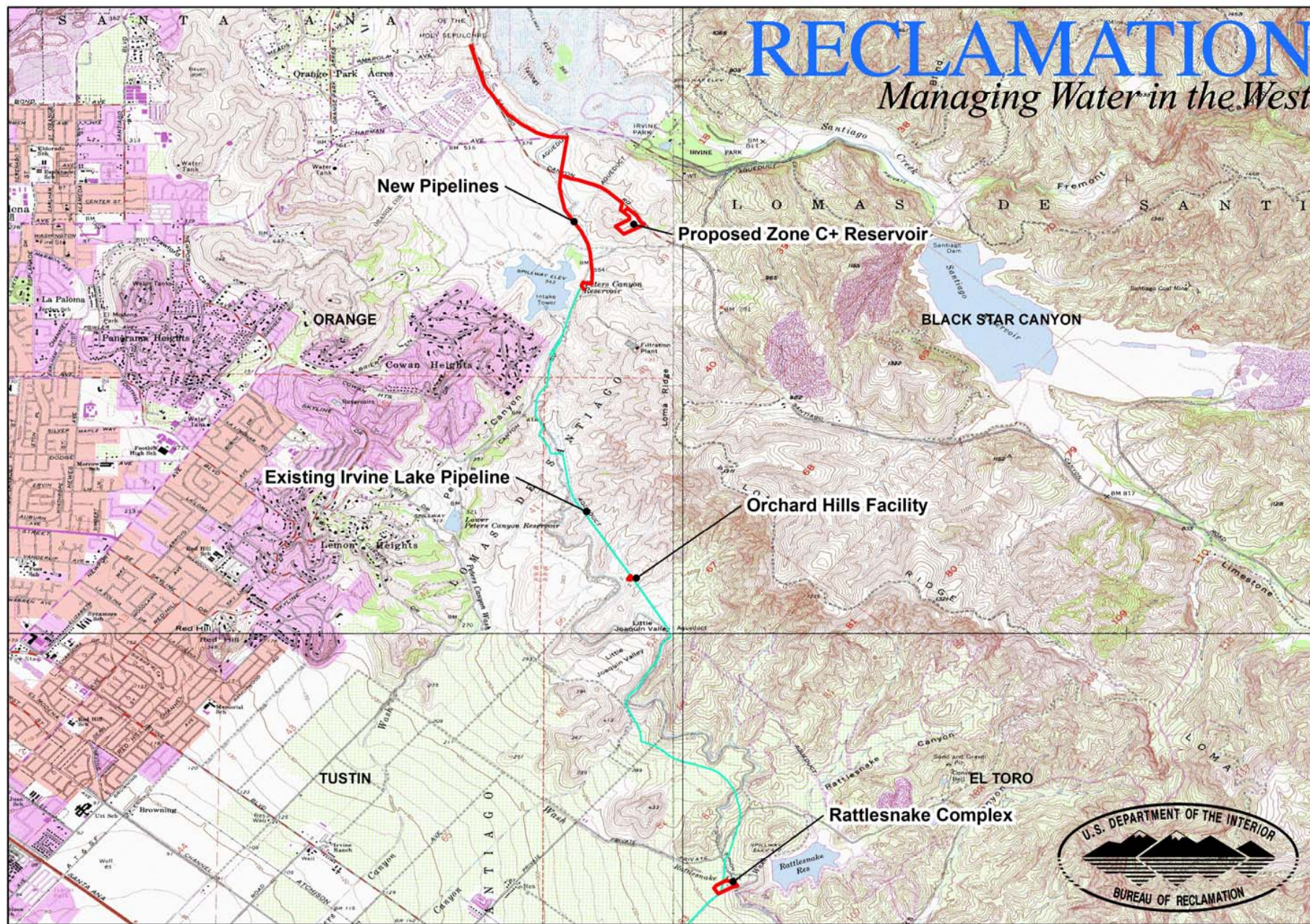
Sincerely,


William J. Steele
Area Manager

Enclosures - 2

cc: Kellie Welch
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618-3100
Chrono (w/o encls)

Irvine Lake Pipeline - North Conversion Project Orange County, California



Southern California Area Office
June 2016

Orange, Black Star Canyon, Tustin & El Toro
USGS 7.5' Quadrangles

Appendix A

Mitigation Monitoring and Reporting Program

MITIGATION MONITORING AND REPORTING PROGRAM

INTRODUCTION

In accordance with the requirements of Public Resources Code Section 21081.6, and as part of its certification of the adequacy of the Mitigated Negative Declaration (MND) for the ILP North Conversion Project, the following “Mitigation Monitoring and Reporting Plan” (“MMRP” or “Plan”) is hereby adopted for this Project. The principal purpose of the MMRP is to ensure that the mitigation measures for the adopted Project are reported and monitored so as to ensure compliance with the measures’ requirements.

MITIGATION MONITORING AND REPORTING PLAN

The MMRP is provided in tabular format to facilitate effective tracking and documentation of the status of mitigation measures. The attached MMRP Table provides the following monitoring information:

- **Mitigation Program.** The text of all adopted mitigation program for the Project from the MND.
- **Implementation Action.** This summarizes the action that must be taken to implement the required measure.
- **Timing of Verification.** This identifies when in the process the measure needs to be implemented.
- **Responsible Party.** The party responsible for overseeing the implementation and completion of each measure.

Mitigation Program	Implementing Action(s)	Time of Verification	Responsible Party
AIR QUALITY			
<p>AQ-1. During construction of the Project, Irvine Ranch Water District (IRWD) and its contractors shall be required to comply with regional rules, which would assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires that air pollutant emissions not be a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with the best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source.</p>	<p>Verification of compliance with Rule 402 and Rule 403</p>	<p>Inclusion of requirements in contract specifications/ verify during construction</p>	<p>IRWD Construction Contractor</p>
BIOLOGICAL RESOURCES			
<p>BIO-1. Prior to construction activities for the ILP North Alignment near the Baker RWPS and the Santiago Hills C+ Reservoir site, IRWD will retain a qualified Biologist to conduct focused surveys for special status plant species in Project impact areas that have potential to provide habitat for special status plant species. The survey will be done during the peak blooming period in accordance with the most current protocols approved by the CDFW and the California Native Plant Society (CNPS). Per requirements in the NCCP/HCP, if less than 20 individuals of Catalina mariposa lily or intermediate mariposa lily are observed in the impact area, no mitigation would be required; if more than 20 individuals are observed, mitigation will be required. If federally or State-listed species, or CRPR List 1B or 2 species are observed, mitigation will be required. To the greatest extent practicable, efforts shall be made to avoid any special status plant species observed. If avoidance is not feasible, corms/bulbs/seeds will be collected from the Project impact area and will be translocated to a mitigation site with the appropriate habitat for the species. The collection of corms/bulbs/seeds will be conducted at the appropriate time of year to maximize potential for success depending on the species of plant. IRWD will retain a qualified Biologist to prepare a detailed Special Status Plant Mitigation Plan to describe the translocation. IRWD will implement the Mitigation Plan as approved and according to its specified materials, methods, and performance criteria. If thread-leaved brodiaea would be impacted, take authorization will be obtained from the USFWS and CDFW prior to impacting the species.</p>	<p>Conduct focused surveys for special status plant species</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>BIO-2. Direct impacts to scrub habitats and coastal California gnatcatchers for the ILP North Alignment near the Baker Raw Water Pump Station (RWPS) and indirect impacts for the ILP North Alignment near the Baker RWPS, Santiago Hills C+ Reservoir site, Rattlesnake Complex, and along the ILP North Alignment are fully mitigated through IRWD's participation and contribution in the Central Coastal Natural Communities Conservation Plan (NCCP)/Habitat Conservation Plan (HCP). The participation not only provides mitigation for coastal sage scrub and coastal California gnatcatcher, but also other special status species designated as "Covered Species" by the NCCP/HCP. IRWD will follow the Construction Minimization Measures that are required by the NCCP/HCP listed below.</p> <p>a. To the maximum extent practicable, no grading [removal] of coastal sage scrub habitat that is occupied by nesting gnatcatchers will occur during the breeding season (February 15 through July 15). It is expressly understood that this</p>	<p>Restriction on removal of occupied coastal sage scrub during the bird/raptor and California gnatcatcher breeding seasons (February 15 to September 15).</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>

Mitigation Program	Implementing Action(s)	Time of Verification	Responsible Party
<p>provision and the remaining provisions of these “construction-related minimization measures” are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion-control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of gnatcatchers, cactus wrens, and any other coastal sage scrub Identified Species that are not otherwise flushed and will carry out the following measures only to the extent as practicable in the context of the public health and safety considerations.</p> <p>b. Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of coastal sage scrub habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub [ILP North Alignment near the Baker RWPS and Santiago Hills C+ Reservoir site], a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities, and the locations of any such species will be clearly marked and identified on the construction/grading plans.</p> <p>c. A Monitoring Biologist that is familiar with the USFWS/CDFW requirements will be on site during any clearing of coastal sage scrub. The landowner or relevant public agency/utility will advise the USFWS/CDFW at least 7 calendar days (and preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow the USFWS/CDFW to work with the Monitoring Biologist in connection with bird-flushing capture activities. The Monitoring Biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the Monitoring Biologist’s responsibility to ensure that identified bird species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.</p> <p>d. Following the completion of initial grading/earth-movement activities [ILP North Alignment near the Baker RWPS, Santiago Hills C+ Reservoir site, Rattlesnake Complex, and ILP North Alignment], all areas of coastal sage scrub habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or equipment storage shall be permitted within such marked areas.</p>			

Mitigation Program	Implementing Action(s)	Time of Verification	Responsible Party
<p>e. In areas bordering the NCCP Reserve System [ILP North Alignment and ILP North Alignment near the Baker RWPS] or Special Linkage/Special Management areas containing significant coastal sage scrub identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with Project construction requirements. Waste dirt or rubble will not be deposited on adjacent coastal sage scrub identified in the NCCP/HCP for protection. Pre-construction meetings involving the Monitoring Biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.</p> <p>To the maximum extent practicable, IRWD will implement the following to minimize impacts:</p> <ol style="list-style-type: none"> 3. Impacts on coastal sage scrub habitat should be minimized through the design process; 4. Noise-intensive construction should occur outside the gnatcatcher breeding season (the breeding season is from February 15 to August 31). 			
<p>BIO-3. If construction activities for the ILP North Alignment near the Baker RWPS or ILP North Alignment would occur during the breeding season for the least Bell's vireo and southwestern willow flycatcher (i.e., March 15 to September 15) within 500 feet of potential habitat for this species (e.g., southern willow scrub, southern arroyo willow forest, mulefat scrub, or disturbed mulefat scrub), IRWD will retain a qualified Biologist to conduct a pre-construction focused survey to determine whether habitat adjacent to the impact area is occupied at the time of construction. If active nests are found during the surveys, a qualified Biologist, in consultation with IRWD, will determine whether construction activities have the potential to disturb the nest(s) and will determine the appropriate construction limitations, which may include but would not be limited to erecting sound barriers, monitoring by a qualified Biologist, or establishing no construction buffers (usually 300 feet for special status song birds, and 500 feet for listed song birds or raptors). In addition, a qualified Biologist will serve as construction monitor, in consultation with IRWD, during those periods that occur near active nest areas to ensure no inadvertent impacts to the nest occur. If necessary, the limits of construction to avoid an active nest will be established in the field with flagging, fencing, or other appropriate barriers, and construction personnel will be instructed on the sensitivity of nest areas.</p>	<p>Conduct a pre-construction focused survey/Monitor during construction activities</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>

Mitigation Program	Implementing Action(s)	Time of Verification	Responsible Party
<p>BIO-4. IRWD will retain a qualified Biologist to conduct a pre-construction survey for burrowing owl within seven days prior to construction activities to determine if there are any active burrowing owls within or adjacent to the impact area. If no active burrows are observed, construction work can proceed. If occupied burrowing owl habitat is detected on or adjacent to the Project impact area, measures to avoid, minimize, or mitigate impacts will be incorporated into the Project and may include the following:</p> <ul style="list-style-type: none"> • Construction monitoring will occur throughout the duration of ground-disturbing construction activities to ensure that no impacts occur on burrowing owl. The frequency of monitoring will be determined by IRWD through consultation with a qualified Biologist. • Construction exclusion areas will be established around the occupied burrows in which no disturbance will be allowed to occur while the burrows are occupied. Buffer areas will be determined by IRWD through consultation with a qualified Biologist based on the recommendations outlined in the <i>Staff Report on Burrowing Owl Mitigation</i> (CDFW 2012). <p>If burrow avoidance is infeasible, a qualified Biologist will implement a passive relocation program in accordance with the <i>Example Components for Burrowing Owl Artificial Burrow and Exclusion Plans</i> (CDFW 2012).</p>	<p>Conduct a pre-construction focused survey/Monitor during construction activities</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>BIO-5. IRWD will require the construction contractor to include Best Management Practices (BMPs) in the Stormwater Pollution Prevention Plan for the Project to minimize soil erosion and sedimentation from the Project sites.</p>	<p>Prepare Stormwater Pollution Prevention Plan to include Best Management Practices</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>BIO-6. If construction initiation occurs during the raptor nesting season (i.e., February 1 to June 30), IRWD will retain a qualified Biologist to conduct a pre-construction survey within 500 feet of the limits of Project disturbance for the presence of any active raptor nests (common or special status). Any nest found during survey efforts will be mapped on construction plans. If no active nests are found, no further mitigation will be required.</p> <p>If nesting activity is present at any raptor nest site, the following restrictions on construction will be required between February 1 and June 30 (or until nests are no longer active, as determined by IRWD, in consultation with a qualified Biologist): (1) clearing limits shall be established 500 feet in any direction from any occupied nest and (2) access and surveying shall be restricted to within 500 feet of any occupied nest. Any encroachment into the 500-foot buffer area around the known nest will only be allowed if IRWD, in consultation with a qualified Biologist, determines that the proposed activity will not disturb the nest occupants.</p>	<p>Conduct a pre-construction focused survey/Restrict construction activities</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>

Mitigation Program	Implementing Action(s)	Time of Verification	Responsible Party
<p>BIO-7. To the extent practicable, IRWD will plan vegetation removal efforts to occur between September 16 and February 14, which is outside the breeding season for nesting birds. If tree trimming or vegetation removal occurs during the breeding season for nesting birds (i.e., between February 15 and September 15), IRWD will retain a qualified Biologist to conduct a pre-construction nesting bird survey within three days prior to vegetation removal to ensure that no active bird nests would be impacted. If an active nest is observed within the proposed work area IRWD, in consultation with a qualified Biologist, will determine the appropriate size for a protective buffer around the nest based on the sensitivity of the species and the location of the nest. No construction activities will be allowed within the protective buffer until the nest is no longer active, as determined by a qualified Biologist.</p>	<p>Limit vegetation removal between September 16 and February 14/Conduct a pre-construction nesting bird survey</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>CULTURAL RESOURCES</p>			
<p>CULT-1. Archaeological Observation and Salvage. Prior to the initiation of construction, IRWD shall retain a qualified Archaeologist to be available “on-call” throughout the duration of the ground-disturbing activities. The Archaeologist shall be present at the pre-grade conference; shall, in consultation with IRWD, establish procedures for archaeological resource surveillance; and shall establish, in consultation with IRWD, procedures for temporarily halting or redirecting work to permit the sampling, identification, and evaluation of the artifacts as appropriate. If the archaeological resources are found to be significant, the Archaeological Observer shall determine appropriate actions, in consultation with IRWD, for exploration and/or salvage. Following the completion of all earth-disturbance activities, the Archaeologist’s Report will be provided to IRWD.</p>	<p>Conduct archaeological observation and salvage during construction activities</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>CULT-2. Paleontological Observation and Salvage. Prior to the initiation of construction, IRWD shall retain a qualified Paleontologist to be available “on-call” throughout the duration of grading activities. In the event that prehistoric or historic subsurface cultural resources are discovered during ground-disturbing activities, all work within 50 feet of the resources will be halted and IRWD will consult with the qualified archaeologist to assess the significance of the find according to <i>CEQA Guidelines</i> Section 15064.5. If any find is determined to be significant, IRWD and the archaeologist will meet to determine the appropriate avoidance measures or other appropriate mitigation. IRWD will make the final determination. All significant cultural materials recovered will be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards. The qualified paleontologist shall be retained to review project design plans and consult with IRWD to when and where monitoring is required during construction. Based on observations, monitoring may be reduced or discontinued if the qualified paleontologist determines that the possibility of encountering fossiliferous deposits is low. When onsite, the qualified paleontologist will prepare a final monitoring report to be submitted to IRWD.</p>	<p>Conduct paleontological observation and salvage during construction activities</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>

Mitigation Program	Implementing Action(s)	Time of Verification	Responsible Party
<p>CULT-3. In the unlikely event that human remains are encountered, CA Health and Safety 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 CA Public Resources Code Section 5097.98. The county coroner shall be notified immediately if any human remains are found. If the remains are determined to be prehistoric, the coroner will notify the Native American Heritage Commission, which will determine and notify the most likely descendant. With the permission of IRWD or an authorized representative, the most likely descendant may inspect the site of the discovery. IRWD will meet and confer with the most likely descendant regarding their recommendations prior to disturbing the site by further construction activity.</p>	<p>Notify County coroner if human remains are encountered</p>	<p>Implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>GEOLOGY AND SOILS</p>			
<p>GEO-1. Prior to approval of final plans and specifications for the proposed Project, the Engineer, or his/her designee, shall review the Project plans to confirm that all recommendations in the <i>Report of Geotechnical Investigation ILP North Conversion Proposed Santiago Hills Zone C+ Reservoir Irvine Ranch Water District Project No. 30496 (5407), City of Orange, Orange County, California</i> (dated May 14, 2015 and prepared by Kleinfelder) and any future geotechnical reports have been fully and appropriately incorporated.</p>	<p>Incorporate all geotechnical recommendations</p>	<p>Prior approval of final plans and specifications/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>HYDROLOGY AND WATER QUALITY</p>			
<p>HYDRO-1. Prior to initiation of construction, IRWD shall ensure that a Notice of Intent with the State Water Resources Control Board (SWRCB) has been filed in order to obtain coverage under the Construction General Permit. Pursuant to the permit requirements, the construction contractor shall develop a Storm Water Pollution Prevention Plan (SWPPP) that incorporates Best Management Practices for reducing or eliminating construction-related pollutants in the site runoff.</p>	<p>File Notice of Intent with State Water Resources Control Board/ Develop a SWPPP</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>
<p>HYDRO-2. Prior to initiation of construction, IRWD shall verify that the General Waste Discharge Requirements issued by the Santa Ana Regional Water Quality Control Board (R8-2015-0004, NPDES No. CAG998001, General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant [De Minimis] Threat to Water Quality) are in effect and shall govern discharges from construction dewatering and water line/sprinkler line testing should they occur during construction. The property owner/developer shall comply with these regulations, including provisions requiring notification, testing, and reporting of dewatering and testing-related discharges, which shall mitigate any impacts of such discharges.</p>	<p>Verify that the General Waste Discharge Requirements are in effect</p>	<p>Prior to initiation of construction/ verify implementation during construction</p>	<p>IRWD Construction Contractor</p>

Mitigation Program	Implementing Action(s)	Time of Verification	Responsible Party
NOISE			
NOISE-1. Project construction activities shall comply with the noise ordinances of the City of Irvine and the City of Orange, including any daily restrictions on construction hours.	Comply with the noise ordinances	Verify implementation during construction	IRWD Construction Contractor
NOISE-2. If warning signs and similar devices are required to operate between the hours of 8:00 PM and 7:00 AM on weekdays or Saturdays or at any time on Sunday or a federal holiday, IRWD and its contractors shall limit the noise from these devices such that it complies with the City noise ordinances.	Limit noise to comply with noise ordinances	Prior to initiation of construction/ verify implementation during construction	IRWD Construction Contractor
NOISE-3. In the event that blasting activities are required, IRWD shall ensure that a blasting plan is prepared and submitted to the City of Orange Fire Department for review and approval. The blasting plan shall be prepared in accordance with the United States Department of Interior, Office of Surface Mining (USOSM) standards.	Prepare and implement a blasting plan and conduct a pre-blast survey	Prior to commencement of any blasting/ verify implementation during blasting	IRWD Construction Contractor