

**MITIGATION MONITORING AND REPORTING PROGRAM  
FOR THE  
PIPELINES 3, 4, AND 5 RELINING PROJECT AT SAN LUIS REY RIVER  
FALLBROOK, CALIFORNIA**

***Prepared for:***

San Diego County Water Authority  
4677 Overland Avenue  
San Diego, California 92123

***Prepared by:***

AECOM  
1420 Kettner Blvd., Suite 500  
San Diego, California 92101

May 2014



The California Environmental Quality Act (CEQA) requires that public agencies adopting a Mitigated Negative Declaration (MND) take affirmative steps to determine that approved mitigation measures and project design features are implemented subsequent to project approval. The lead or responsible agency must adopt a monitoring and reporting program for the mitigation measures incorporated into a project or included as conditions of approval. The program must be designed to ensure compliance with the MND during project implementation (Public Resources Code, Section 20181.6; CEQA Guidelines, Section 15074(d)).

This Mitigation Monitoring and Reporting Program (MMRP) will be used by the San Diego County Water Authority (Water Authority) to ensure compliance with adopted mitigation measures and project design features associated with the implementation of the proposed Pipelines 3, 4, and 5 Relining Project at San Luis Rey River (project). The Water Authority, as Lead Agency pursuant to CEQA, will ensure that all design features and mitigation measures identified for the project are carried out in accordance with the adopted MMRP.

This MMRP consists of a checklist (Table 1) that identifies the project design features and mitigation measures, organized by environmental impact category discussed in the MND. The table identifies the mitigation monitoring and reporting requirements, including the timing of verification (prior to, during, or after construction) and the party responsible for implementing the measure. Space is provided for sign-off following completion/implementation of the design feature or mitigation measure.

This page intentionally left blank.

**Table 1. Mitigation Monitoring and Reporting Program**

**Pipelines 3, 4, and 5 Relining Project at San Luis Rey River, Fallbrook, California**

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
<b>AESTHETICS / VISUAL QUALITY</b>												
Design Feature 1	All areas cleared of vegetation for the construction and staging areas will be revegetated at the completion of the project. Areas currently used for agriculture will be returned to agriculture.			X	Water Authority Environmental Surveyor							
Design Feature 2	Any lighting used will be of the lowest illumination necessary to ensure safety of all construction personnel and security of the site, and will be shielded and directed away from adjacent habitat areas		X		Contractor							
<b>AIR QUALITY</b>												
Design Feature 1	All clearing and grading will be carried out with dust control measures adequate to prevent creation of a nuisance to persons or property.		X		Contractor							
Design Feature 2	Points of public street access will be cleaned daily of any "track-out" materials.		X		Contractor							
Design Feature 3	All paved access roads, parking areas, and staging areas at construction sites will be swept daily.		X		Contractor							
Design Feature 4	All unpaved access roads, parking areas, and staging areas at construction sites will be watered three times daily or treated with non-toxic soil stabilizers.		X		Contractor							
Design Feature 5	Gravel will be applied to all unpaved access roads prior to initiating construction activities.	X			Contractor							
Design Feature 6	Dirt storage piles will be stabilized by chemical binders, tarps, fencing, or other erosion control measures.		X		Contractor							
Design Feature 7	Soil stabilizers will be applied to inactive construction areas (disturbed areas inactive for 10 days or more).		X		Contractor							
Design Feature 8	Traffic speeds on unpaved roads will be limited to 15 miles per hour.		X		Contractor							
Design Feature 9	All trucks hauling soil, sand, and other loose materials will be covered or required to maintain at least 2 feet of freeboard.		X		Contractor							
<b>BIOLOGICAL RESOURCES</b>												
Mitigation Measure BIO-1	If the project will be conducted during the breeding and active foraging season for arroyo toad (March 1 through June 30), the Water Authority will conduct pre-activity surveys for arroyo toad. Surveys would include foraging habitat that is contiguous with potential breeding habitat. Surveys must occur under favorable conditions for detection by a permitted Environmental Surveyor.	X			Water Authority Environmental Surveyor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
Mitigation Measure BIO-2	<p>If work must occur in occupied arroyo toad habitat during the breeding season, the following measures would be employed to avoid or reduce impacts on this species:</p> <p>a. Tadpoles, toadlets, and toads would be moved to the nearest suitable habitat as determined by an Environmental Surveyor. Exclusionary toad fences would be installed at least 21 days prior to impact to keep toads out of construction areas. A permitted biologist experienced with the identification, handling, and ecology of the arroyo toad would implement and oversee proper execution of the toad exclusion fencing and relocation efforts. The exclusion fencing would be maintained until the completion of construction activities within or adjacent to occupied arroyo toad habitat. For the duration of construction, the enclosure would be surveyed on a daily basis early in the morning.</p> <p>b. To minimize injury to or mortality of individual arroyo toads, USFWS may authorize qualified project biologists to relocate individual arroyo toads to nearby suitable habitat. All proposed arroyo toad relocations must be approved by the Wildlife Agencies.</p>		X		Environmental Surveyor							
Mitigation Measure BIO-3	<p>If a project-related draindown must occur during the arroyo toad breeding season, the Water Authority will conduct pre-activity surveys for breeding activity within potentially impacted suitable habitat within 72 hours prior to the release. An Environmental Surveyor shall consider weather and stream conditions when assessing potential impacts within the water release areas. Negative survey results would allow for the release to commence immediately. Positive survey results (i.e., presence of calling males, egg strings, or larvae) may postpone the transfer until such time that toads are no longer breeding. Alternatively, the Water Authority would determine and implement the appropriate flow release rate, or divert flows, to avoid flushing egg masses, tadpoles, and toadlets downstream. A follow-up survey must be performed upon completion of the water transfer to investigate species and recruitment status.</p>		X		Water Authority Environmental Surveyor							
Mitigation Measure BIO-4	<p>If the project commences during the riparian avian breeding season (March 15 through September 15), the Water Authority will conduct nest surveys within 300 feet of all proposed activities. If active nests are encountered, no activities will be conducted within a minimum distance of 100 feet of the nest. A greater setback (up to 300 feet) may</p>	X	X		Water Authority Environmental Surveyor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
	be required, as determined by the Environmental Surveyor, based on the site specific considerations, phase of the nesting cycle, and species or other biological considerations.											
Mitigation Measure BIO-5	If construction activities must commence during the upland avian breeding season (February 15 through August 15), the Water Authority will conduct nest surveys within 300 feet of all proposed activities. If active nests are encountered, no Covered Activities will be implemented within a minimum distance of 100 feet of the nest. A greater setback (up to 300 feet) may be allowed, as determined by the Environmental Surveyor, based on the site-specific considerations, phase of the nesting cycle, and species or other biological considerations.	X	X		Water Authority Environmental Surveyor							
Mitigation Measure BIO-6	For temporary impacts to occupied California gnatcatcher habitat, the Water Authority will return the work site to preexisting contours, where feasible, and revegetate the site with appropriate locally native species.			X	Water Authority							
Mitigation Measure BIO-7	The Water Authority will conduct nest surveys in suitable habitat within 300 feet of all proposed activities during the breeding season (March 15 through September 15). If active nests are encountered and construction activities must occur during the least Bell's vireo breeding season, the Water Authority will erect a noise barrier at the work site to ensure that noise levels from human activities at the nest are restricted to less than 60 dB(A) $L_{eq}$ or the ambient noise level plus 3 dB (perceptible change threshold), whichever is greater. The Water Authority will monitor noise levels and incorporate the noise monitoring into their NCCP/HCP annual reports.	X			Water Authority Environmental Surveyor							
Design Feature 1	An Environmental Surveyor will conduct pre-activity surveys within suitable habitat to ensure that NCCP/HCP Covered Species are adequately addressed by impact avoidance, minimization, and mitigation measures. Surveys will be conducted during the appropriate field conditions for detection prior to any proposed impacts in the NCCP/HCP Plan Area.  If a covered plant species is observed, then an appropriate buffer would be established if feasible. If establishment of a buffer is not feasible, the plants to be impacted will be salvaged and transplanted to, or an equivalent quantity of locally sourced container stock will be planted in, adjacent suitable habitat.	X			Environmental Surveyor							
Design Feature 2	The Environmental Surveyor will prepare a Pre-activity Survey Form (PSF) within 30 days prior to project ground	X			Environmental Surveyor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
	disturbance. The Environmental Surveyor shall confirm location of sensitive biological resources and that the project Mitigation Monitoring and Reporting Program (MMRP) addresses current project conditions. The PSF shall include a description of any significant change compared to the biological resources documented in this IS/Mitigated Negative Declaration (MND). Also, the PSF shall include a conclusion that the measures in the MMRP will achieve NCCP/HCP compliance and, if not, what NCCP/HCP measures need to be added to achieve compliance.											
Design Feature 3	All equipment used in or near drainages within an approved construction zone will be clean and free of leaks and grease. Emergency provisions to contain and clean up unintentional fuel or oil spills will be in place prior to construction.		X		Contractor							
Design Feature 4	Fueling of equipment will occur in designated fueling zones located at least 100 feet from drainages and wetland habitat.		X		Contractor							
Design Feature 5	Construction personnel will park private vehicles in clearly marked areas, outside areas supporting sensitive habitat. Drivers of construction-related vehicles on unpaved roads in native habitats will not exceed a speed of 15 miles per hour in order to avoid injury to animals and minimize dust generation.		X		Contractor							
Design Feature 6	During construction, a Water Pollution Control Plan (WPCP) will be implemented to prevent erosion and siltation into sensitive habitats and natural drainages outside designated disturbance limits. The WPCP will identify erosion- and sediment-control best management practices (BMPs) tailored to specific site conditions including, but not limited to, silt fences, gravel bags, detention basins, and any other appropriate and effective measures.	X	X		Water Authority Environmental Surveyor							
Design Feature 7	Prior to the commencement of construction, including grubbing and clearing, the boundaries of approved construction zones adjacent to sensitive habitats will be clearly delineated with temporary flagging and/or fencing, and checked by the Environmental Surveyor. The Water Authority will confirm that fencing is in place prior to initiating any construction or clearing activity. In addition, implementation of water quality/erosion control measures (as described under Geology and Soils, below) will prevent sedimentation within areas of potential ponding.	X			Contractor Environmental Surveyor							
Design Feature 8	Initial clearing, grubbing, and construction of any sound walls as mitigation within or near areas with potential to support least Bell's vireo, coastal California gnatcatcher, and other sensitive avian species will be conducted outside the riparian breeding season (March 15 through September 15) and upland breeding season (February 15 through August	X			Water Authority Environmental Surveyor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
	15), as applicable. Areas restricted from noisy activities will be staked or fenced under the supervision of the Environmental Surveyor.											
Design Feature 9	A pre-construction meeting will be held wherein the Environmental Surveyor will provide information about sensitive resources. The Environmental Surveyor will brief the Water Authority Contractor on location of construction zone boundaries, the presence of sensitive species, and other required biological mitigation measures.	X			Environmental Surveyor							
Design Feature 10	Pre- and post-construction surveys will be completed by the Environmental Surveyor to determine the actual amount of sensitive habitat impacted by construction activities. If these surveys show that additional impacts to habitat have occurred, the additional impacts will be added to mitigation requirements.	X		X	Environmental Surveyor							
Design Feature 11	Monitoring by an Environmental Surveyor shall be provided by the Water Authority to ensure that avoidance, minimization, and mitigation measures are carried out and to ensure that inadvertent construction activities do not occur in sensitive areas outside the approved impact footprint. The Environmental Surveyor shall conduct random weekly inspections to ensure that mitigation measures are carried out.		X		Water Authority							
Design Feature 12	Disturbed areas that previously supported natural vegetation will be re-seeded with a native plant mix following completion of construction.			X	Water Authority							
Design Feature 13	The use of fertilizers and pesticides for revegetation efforts in the vicinity of wetland habitats will be limited to the maximum extent practicable.		X		Contractor							
<b>CULTURAL RESOURCES</b>												
Mitigation Measure CUL-1	The Water Authority, in consultation with representatives of the San Luis Rey Band, will develop and implement a cultural resources monitoring plan that will specify the roles of professional archaeological monitors and Native American monitors for the portal-excavation component of the project. The cultural resources monitoring plan will identify procedures for addressing discovery of artifacts, cultural resources sites, and Native American remains.	X			Water Authority Environmental Surveyor							
Design Feature 1	Based on the extent of previous disturbance of the project area (encompassing the entire ROW and proposed temporary easement areas), all excavation would occur in previously excavated, backfilled materials. As a result, no significant cultural resources are anticipated within the project disturbance area. As standard Water Authority procedure, in the event that buried cultural resources are encountered during any phase of construction, project activities in the		X		Environmental Surveyor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
	vicinity of the resources will be temporarily halted, and the Water Authority will consult a qualified archaeologist to assess the significance of the resource and to provide proper management recommendations.											
Design Feature 2	In the event of an unexpected discovery of human remains during any phase of construction, project activities in the vicinity of the discovery will be temporarily halted and the San Diego County Coroner contacted. In the event that the remains are determined to be of Native American origin, the Most Likely Descendent, as identified by the Native American Heritage Commission, will be contacted to determine proper treatment and disposition of the remains.		X		Environmental Surveyor							
<b>GEOLOGY AND SOILS</b>												
Design Feature 1	<p>Project construction activities will comply with existing regulatory requirements related to geology and soils, including applicable NPDES requirements. The Water Authority will implement a WPCP (including associated sedimentation BMPs) for the construction activities that are specific for project type, location, and characteristics. Typical control measures that may be implemented as part of the project WPCP include:</p> <p>a) Preparation and implementation of a “weather triggered” action plan during the rainy season to provide enhanced erosion or sediment control measures prior to predicted storm events (i.e., 40% or greater chance of rain).</p> <p>b) Use of erosion control/stabilizing measures in appropriate areas (including disturbed areas and graded slopes with grades of 3:1 [horizontal to vertical] or steeper), such as geotextiles, mats, fiber rolls, soil binders, or temporary hydroseeding established prior to October 1.</p> <p>c) Use of sediment controls to protect the site perimeter and prevent off-site sediment transport, including measures such as filtration devices (e.g., temporary inlet filters), silt fences, fiber rolls, gravel bags, temporary sediment basins, check dams, street sweeping, energy dissipaters, stabilizing construction access points (e.g., with temporary gravel or pavement) and sediment stockpiles (e.g., with silt fences and tarps), and use of properly fitted covers for sediment transport vehicles.</p> <p>d) Storage of BMP materials in applicable on-site areas to provide “standby” capacity adequate to provide complete</p>	X	X		Contractor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
	<p>protection of exposed areas and prevent off-site sediment transport.</p> <p>e) Provision of training by certified personnel (i.e., either a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer [QSD] or Qualified SWPPP Practitioner [QSP]) for the personnel responsible for BMP installation and maintenance.</p> <p>f) Installation of permanent native vegetation as soon as feasible after grading or construction.</p> <p>g) Implementation of appropriate monitoring and maintenance efforts (e.g., prior to and after storm events) to ensure proper BMP function and efficiency.</p> <p>h) Implementation of sampling/analysis, monitoring/reporting, and post-construction management programs per NPDES requirements.</p> <p>i) Implementation of additional BMPs as necessary (and required by appropriate regulatory agencies) to ensure adequate erosion and sediment control.</p>											
Design Feature 2	Actual BMPs for the proposed project will be determined during the WPCP development process, with such measures taking priority over the typical industry standard measures listed above.	X	X		Contractor							
<b>HAZARDS AND HAZARDOUS MATERIALS</b>												
Design Feature 1	<p>Standard BMPs will be implemented to prevent impacts to the public through the transport, use, or disposal of any hazardous materials. Standard industry measures include, but are not limited to:</p> <p>a) Hazardous materials used or stored on-site will be restricted to areas at least 50 feet from storm drains and watercourses.</p> <p>b) All hazardous materials will be covered or kept in enclosed facilities.</p> <p>c) A written inventory will be kept of all hazardous materials used or stored on-site.</p> <p>d) To prevent discharge in the event of a spill, berms, ditches, and/or impervious liners (or other applicable</p>		X		Contractor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
	<p>methods) will be provided in material storage and vehicle/equipment storage areas to provide a containment volume of 1.5 times the volume of the stored/used materials.</p> <p>e) Agency telephone numbers and a summary guide of cleanup procedures will be posted in a conspicuous location at or near the job site trailer.</p>											
Design Feature 2	Prior to authorization to proceed, the Water Authority will prepare a Fire Prevention and Response Plan. All construction crewmembers will be trained in the requirements of the plan. Fire safety information will be disseminated to construction crews during regular project safety meetings. Fire management techniques will be applied during project construction as deemed necessary, and depending on the on-site vegetation and the vegetation of surrounding areas		X		Contractor							
<b>HYDROLOGY / WATER QUALITY</b>												
Design Feature 1	A WPCP will be implemented to reduce or eliminate pollutants during construction of the proposed project. The WPCP will identify all pollutant sources, including sources of sediment, that may affect the quality of storm water discharges associated with construction activity (storm water discharges from the construction site); identify non-storm water discharges; identify structural and/or treatment control BMPs that are to be implemented in accordance with a time schedule to reduce or eliminate pollutants in storm water discharges and authorized non-storm water discharges from the construction site during construction; and develop a maintenance schedule for permanent or post-construction BMPs that will “to the maximum extent possible” reduce or eliminate pollutants after construction is completed. Detailed BMPs to prevent impacts to water quality will be included in the WPCP.	X	X		Contractor							
Design Feature 2	The grading/construction contractor will comply with the applicable NPDES permits for disposal of water from pipeline draindown and testing, and, if applicable, extracted groundwater. Dewatering will be conducted by a licensed operator, if required for NPDES permit conformance. While specific BMPs to address potential water quality concerns from disposal of drained water and extracted groundwater will be determined based on site-specific parameters, they will likely include the following types of standard industry measures: a) Use of erosion prevention and sediment control devices		X		Contractor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
	<p>for applicable conditions (e.g., when water is discharged onto graded or unstabilized areas).</p> <p>b) Dechlorination if treated water is to be drained from the pipeline.</p> <p>c) Filtering of pipeline water for Quagga mussels prior to discharge.</p> <p>d) Testing, filtering (e.g., with gravel and filter fabric media), and/or treating (e.g., by conveyance to a municipal wastewater treatment plant) of extracted groundwater prior to discharge, if required for NPDES permit conformance.</p> <p>e) Removal of groundwater for treatment and disposal by a licensed operator, if required for NPDES permit conformance.</p>											
<b>NOISE</b>												
Design Feature 1	Contractor will comply with the noise thresholds the Water Authority has established for this project. Noise levels associated with construction activities are not to exceed an average sound level of 75 decibels over an eight-hour period, between 7 a.m. and 7 p.m., and 45 decibels over a one-hour period between 7 p.m. to 7 a.m. at or beyond the property lines on any occupied property where the noise is being received.		X		Contractor							
Design Feature 2	All noise-producing project equipment and vehicles using internal combustion engines will be equipped with mufflers; air-inlet silencers, where appropriate; and any other shrouds, shields, or noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed package equipment (e.g., arc-welders, air compressors) will be equipped with shrouds and noise control features that are readily available for that type of equipment.		X		Contractor							
Design Feature 3	All mobile or fixed noise-producing equipment used on the project that is regulated for noise output by a local, state, or federal agency will comply with such regulation while in the course of project activity.		X		Contractor							
Design Feature 4	Electrically powered equipment will be used instead of pneumatic or internal combustion-powered equipment, where feasible.		X		Contractor							
Design Feature 5	Construction site and access road speed limits will be established and enforced during the construction period; speeds on unpaved roads will not exceed 15 miles per hour.		X		Contractor							
Design Feature 6	The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.		X		Contractor							
Design Feature 7	No project-related public address or music system will be audible at any adjacent noise-sensitive receptor.		X		Contractor							

Design Feature or Mitigation No.	Design Feature or Mitigation Measure	Timing of Verification			Responsible Party	Completed		Comments	Resp. Team Member	Spec Section or Dwg No.	Verified in Contract by	Comments
		Pre Const	During Const	Post Const		Initials	Date					
<b>TRAFFIC</b>												
Mitigation Measure TRA-1	Provide appropriate signage in both directions on SR 76, to warn traffic of the approaching construction site and potential for truck traffic.	X	X		Contractor							
Mitigation Measure TRA-2	Provide flagging at the access to the staging area #1 on SR 76 to warn traffic of construction truck traffic crossing SR 76.		X		Contractor							
Design Feature 1	To minimize disruption to communities from construction traffic, the Water Authority will prepare and implement a traffic control plan. The plan will be prepared in accordance with the latest edition of the Federal Highway Administration Manual of Uniform Traffic Control Devices, as modified by the most recent California Supplement.	X	X		Contractor							
Design Feature 2	The project will not unreasonably restrict access to any private property.		X		Contractor							
<b>UTILITIES AND SERVICE SYSTEMS</b>												
Design Feature 1	The Water Authority will notify and coordinate with all other utility providers that own easements, ROWs, or facilities within or adjacent to the area affected by the proposed project. Any need to connect with or relocate utilities will be presented to the appropriate utility provider prior to commencement of construction.	X	X		Water Authority							

