CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS IN CONNECTION WITH THE APPROVAL OF THE PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT

I. CERTIFICATION OF THE FINAL ENVIRONMENTAL IMPACT REPORT

The Palmdale Water District (District or PWD), as Lead Agency under the California Environmental Quality Act (CEQA), has prepared the Final Environmental Impact Report (Final EIR) for the Palmdale Regional Groundwater Recharge and Recovery Project (Project or proposed Project). The Final EIR, which incorporates the Draft Environmental Impact Report (Draft EIR) circulated for public review, assesses the potential environmental effects from implementation of the Project, identifies the means to eliminate or reduce potential significant adverse impacts, and evaluates a range of alternatives to the proposed Project. In addition, the Final EIR provides text changes to the Draft EIR; Responses to Comments on the Draft EIR from responsible agencies and interested groups; and the Mitigation Monitoring and Reporting Program (MMRP) for the Project.

The District Board of Directors (Board) certifies that the Final EIR for the Project has been completed in compliance with CEQA. The Board further certifies that the information contained in the Final EIR has been reviewed and considered by the Board prior to making the approvals set forth below in Section III, and that the Final EIR reflects the Board's independent judgment and analysis. The conclusions presented in these Findings are based upon the Final EIR and other evidence in the administrative record.

II. FINDINGS

The Board hereby adopts the following Findings pursuant to Title 14, California Code of Regulations, Section 15091, in conjunction with the approvals of the Project, which are set forth in Section III, below.

A. Environmental Review Process

1. *Preparation of the EIR*

On June 19, 2015, the District circulated a Notice of Preparation (NOP) announcing the preparation of a Draft EIR which described the proposed Project and the scope of the Draft EIR. A public scoping meeting for the proposed Project was held on July 11, 2015 to provide information on the Project, answer related questions, and solicit written and verbal comments. One set of written comments was provided during the scoping meeting. These comments were incorporated into the Draft EIR, as appropriate. All issues raised during the NOP public scoping period were reviewed by the District to determine the appropriate consideration and level of analysis.

The District issued the Draft EIR on November 24, 2015 and circulated it for public review and comment for a 45-day period ending on January 11, 2016. Nine comment letters on the Draft

EIR were received from various state and local agencies. The Palmdale Regional Groundwater Recharge and Recovery Project Final EIR contains all of the comments received during the November 24, 2015 to January 11, 2016 public comment period, together with written responses to those comments, prepared in accordance with CEQA and the CEQA Guidelines. The Board, having reviewed the comments received and responses thereto, finds that the Final EIR for the Project provides adequate, good faith, and reasoned responses to the comments.

2. *Absence of Significant New Information*

Section 15088.5 of the CEQA Guidelines requires a Lead Agency to recirculate an EIR for further review and comment when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR but before certification. New information includes: (i) changes to the project; (ii) changes in the environmental setting; or (iii) additional data or other information. Section 15088.5 further provides that:

> …new information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement.

Having reviewed the information contained in the Draft and Final EIRs and in the administrative record, as well as the requirements of CEQA Guidelines Section 15088.5 and interpretive judicial authority regarding recirculation of draft EIRs, in connection with their certification of the Final EIR, the Board finds that no new significant information was added to the EIR following public review and thus, recirculation of the EIR was not required by CEQA.

B. Significant and Unavoidable Impacts Associated with the Project

Based on the analysis contained in Chapter 3.0 of the Project Final EIR, implementation of the proposed Project would result in potentially significant impacts to biological resources, cultural resources, geology and soils, hydrology and water quality, and noise. All of the identified Project-level impacts, however, would be mitigated to below a level of significance through implementation of the mitigation measures identified in the associated EIR analyses.

The analysis in Chapter 4.0 addresses potential cumulative impacts from past, present, and probable future projects, including the proposed Project. As described therein, a project that has a less than significant direct effect on the environment may nonetheless make a considerable contribution to a cumulative effect. The analyses of cumulative impacts in Chapter 4.0, however, conclude that the proposed Project would either not contribute to potentially significant cumulative impacts, or that Project-related impacts would not be cumulatively considerable and are, therefore, less than significant.

From the above discussion, no significant and unavoidable environmental impacts would occur as a result of the proposed Project.

C. Project Impacts and Mitigation Measures

This section summarizes the direct and indirect environmental impacts of the Project identified in the Final EIR, and provides Findings as to those impacts, as required by CEQA and the CEQA Guidelines. Accordingly, the following discussion identifies Project-related impacts that are less than significant without mitigation, as well as impacts that are significant but would be mitigated to below a level of significance with identified mitigation measures. As noted above under item II.B, no significant and unavoidable environmental impacts would occur as a result of the proposed Project. All of the Project-specific mitigation measures identified below and in the Final EIR will be applied to the Project as a condition of approval. As previously noted and discussed in detail in the Final EIR for the Project, all potentially significant impacts from Project implementation will be fully mitigated by the identified Project-specific mitigation measures.

1. *Project Impacts that are Less Than Significant without Mitigation*

The Final EIR found that the following impacts would be less than significant without mitigation incorporated into the Project: aesthetics (*see* Final EIR pages 7-1 and 7-2); agriculture and forestry resources (*see* Final EIR page 7-2 and 7-3); air quality (*see* Final EIR pages 3.1-5 through 3.1-10); greenhouse gas emissions (*see* Final EIR pages 3.5-3 through 3.5-5); hazards and hazardous materials (*see* Final EIR pages 7-3 and 7-4); land use and planning (*see* Final EIR pages 7-4 through 7-6); mineral resources (*see* Final EIR page 7-6); population and housing (*see* Final EIR pages 7-6 and 7-7); public services (*see* Final EIR page 7-7); recreation (*see* Final EIR page 7-7); transportation/traffic (*see* Final EIR page 7-8); and utilities and service systems (*see* Final EIR pages 7-8 and 7-9).

2. *Project Impacts that would be Mitigated to Less-Than-Significant Levels*

The following section discusses potentially significant impacts of the Project identified in the Final EIR. Implementation of the Project-specific mitigation measures identified in the Final EIR would reduce all potentially significant impacts to below a level of significance.

Biological Resources

1. Implementation of the proposed Project would have the potential to cause direct, adverse and significant effects to sensitive species (burrowing owl and nesting birds) during construction.

No direct impacts to sensitive plant species are expected to occur from implementation of the proposed Project (*see* Final EIR page 3.2-7). A burrowing owl and an occupied burrow (a concrete pipe in the ground) were found along the Potable Water and Raw Water/Return Water Pipeline alignments. Other, similar concrete pipes were found in the immediate vicinity that may be connected to the occupied pipe and form a burrow complex. Additionally, other burrows with potential to support the burrowing owl are present in the proposed Project impact area. If burrowing owls occupy burrows in the proposed Project impact area, or within 500 feet of the proposed Project impact area, prior to construction, the proposed Project has potential to have a

substantial adverse effect on this sensitive species. Potential direct impacts to nesting birds protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code could result if clearing of vegetation or construction occurs during the breeding season (generally February through August and, for raptors, January through August). Clearing of vegetation or construction activities could cause destruction or abandonment of active nests or mortality of adults, young, or eggs. Impacts to nesting birds would be considered a significant impact. Significant potential impacts to biological resources will be mitigated through implementation of the mitigation measures described below.

MM BIO-1 A pre-construction take avoidance survey shall be conducted for each phase of construction at the Recharge and Distribution Sites, Recovery Wells, Well Collection Pipeline, temporary Percolation Pond parcels, and the undeveloped portion of 105th Street East. The survey shall be completed no more than 14 days prior to ground-disturbing activities and shall cover the proposed Project impact area and all potential burrowing owl habitat within 500 feet, as feasible. More specifically, the survey shall cover all Project features except: (1) where the 30-inch Potable Water Pipeline would occur in East Palmdale Boulevard and (2) where the 36-inch Raw Water/Return Water Pipeline would be constructed between East Avenue R2 in the north and East Avenue S in the south. If there is no sign of burrowing owl occupation (as defined in the Staff Report on Burrowing Owl Mitigation [California Department of Fish and Wildlife (CDFW) 2012]), then no further mitigation is required. If sign of occupation is present, the following measures shall be implemented.

- Direct impacts to occupied burrowing owl burrows shall be avoided during the breeding period from February 1 through August 31 (CDFW 2012). "Occupied" is defined as a burrow that shows sign of burrowing owl occupancy within the last three years.

- Direct impacts to occupied burrows shall also be avoided during the non-breeding season. If present, burrowing owls may be excluded from their burrows. Burrow exclusion is a technique of installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owl, or permanently exclude burrowing owl and close burrows after verifying burrows are empty by site monitoring and scoping. Eviction of burrowing owl during the non-breeding season would require prior CDFW approval of a Burrowing Owl Exclusion Plan (CDFW 2012).

- The burrowing owl and its habitat adjacent to, but outside of, Project impact areas, if present, shall be protected in place, and disturbance impacts shall be minimized through the use of buffer zones, visual screens, or other measures (CDFW 2012) as deemed necessary by a qualified biologist.

- Mitigation for direct, permanent impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat shall be required such that the habitat acreage and number of burrows and burrowing owls impacted are replaced based on the burrowing owl life history information provided in Appendix A of the Staff Report on Burrowing Owl Mitigation (CDFW 2012), site-specific analysis, and consultation

with the CDFW. A Burrowing Owl Mitigation Plan shall be prepared and submitted to the CDFW for approval prior to impacts to the burrowing owl and/or its habitat.

MM BIO-2 Vegetation clearing shall take place outside the general avian breeding season (which generally occurs from February through August). Tree removal/trimming shall take place outside the raptor breeding season (which generally occurs from January through August). If vegetation clearing and/or tree removal/trimming cannot occur outside the general avian and raptor breeding seasons, then a pre-construction survey for avian nesting shall be conducted by a qualified biologist within 7 calendar days prior to vegetation clearing and tree removal/trimming. If nests are not observed, work may proceed. If nests are found, work may proceed provided that construction activity is: (1) located at least 500 feet from raptor nests; (2) located at least 300 feet from listed bird species' nests; and (3) located at least 100 feet from non-listed bird species' nests. A qualified biologist shall conspicuously mark the buffer so that vegetation clearing does not encroach into the buffer until the nest is no longer active (i.e., the nestlings fledge, the nest fails, or the nest is abandoned, as determined by a qualified biologist).

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.2-7 through 3.2-9), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects to sensitive species in the Project site vicinity. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Specifically, implementation of mitigation measures MM BIO-1 and MM BIO-2 would reduce potentially significant direct impacts to applicable sensitive species below a level of significance. All other sensitive species impacts are less than significant and no mitigation is required.

Cultural Resources

2. Construction of the proposed Project could result in significant impacts to archaeological resources.

Fourteen archaeological sites and three archaeological isolates are located within the proposed Project Area of Potential Effects (APE). None of the archaeological sites or isolates within the proposed Project APE are eligible for listing on the National Register of Historic Places or the California Register of Historical Resources. As such, the proposed Project would not result in significant impacts to these resources. However, there is potential for impacts to unknown archaeological resources during Project construction. If unknown archaeological resources are affected, such impacts could be significant (*see* Final EIR pages 3.3-7 and 3.3-8). Significant potential impacts to archaeological resources will be mitigated through implementation of the mitigation measure described below.

MM CUL-1 If potentially significant buried archaeological materials are encountered during construction activities, all work must be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological resource. If the find is identified as significant, appropriate treatment as determined by the archaeologist shall be implemented prior to

the recommencement of ground disturbance in the area. A report documenting the methods and results of the treatment shall be prepared and submitted to PWD and filed with the local repository.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.3-7 and 3.3-8), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects to archaeological resources in the Project site vicinity. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM CUL-1 would reduce potentially significant direct impacts to archaeological resources below a level of significance.

3. Construction of the proposed Project could result in significant impacts to paleontological resources.

The portion of the proposed Project site north of Avenue L within the City of Lancaster, which includes two Recovery Wells, is located within an area identified as having moderate to high potential for paleontological resources. The Antelope Valley Area Plan EIR indicates that fossil localities are found throughout the Antelope Valley, including in southeast Palmdale. Based on the potential for fossil localities to be located within the proposed Project area, and the potential for impacts to unknown paleontological resources during proposed Project construction activities, the proposed Project would result in a potentially significant impact to paleontological resources (*see* Final EIR pages 3.3-8). Significant potential impacts to paleontological resources will be mitigated through implementation of the mitigation measure described below.

MM CUL-2 In the event fossil materials are exposed during ground disturbing activities, work (within 100 feet of the discovery) shall be halted until a qualified paleontologist meeting the criteria established by the Society for Vertebrate Paleontology is retained to assess the find. If the find is identified as significant, appropriate treatment as determined by the paleontologist shall be implemented prior to the recommencement of ground disturbance in the area. A report documenting the methods and results of the treatment shall be prepared and submitted to PWD and filed with the local repository.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.3-8), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects to paleontological resources in the Project site vicinity. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM CUL-2 would reduce potentially significant direct impacts to paleontological resources below a level of significance.

4. Construction of the proposed Project could potentially result in significant impacts related to the disturbance of human remains, including those interred outside of formal cemeteries.

There is no record of previously recorded human remains in the proposed Project APE and no human remains were observed during the cultural survey. The archaeological sites observed during surveys conducted for the Project are surface refuse scatters with little potential for subsurface deposits and the archaeological isolates are either architectural in nature or lacking context. None of the archaeological resources are expected to contain subsurface human remains. However, the potential for unearthing unknown human remains would result in potentially significant impacts (*see* Final EIR page 3.3-9). Significant potential impacts related to disturbance of human remains will be mitigated through implementation of the mitigation measure described below.

MM CUL-3 In the event that human remains are discovered during construction activities in a location other than a dedicated cemetery, the Los Angeles County Coroner must be notified within 24 hours of the discovery, in accord with Health and Safety Code §7050.5, State CEQA Guidelines 15064.5(e), and Public Resources Code (PRC) §5097.98. The Coroner must then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she must contact the NAHC by phone within 24 hours, in accordance with PRC §5097.98. The NAHC then designates a Most Likely Descendant (MLD) with respect to the human remains within 48 hours of notification. The MLD will then have the opportunity to recommend to the proposed Project proponent means for treating or disposing, with appropriate dignity, the human remains and associated grave goods within 24 hours of notification.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.3-9), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to the disturbance of human remains in the Project site vicinity. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM CUL-3 would reduce potentially significant direct impacts to human remains below a level of significance.

Geology and Soils

5. Construction of the proposed Project could result in potentially significant impacts related to the rupture of an earthquake fault.

Ground rupture from fault displacement and related effects such as lurching (i.e., the rolling motion of surface materials associated with passing seismic waves) can adversely affect surface and subsurface facilities such as structures, pipelines and wells. As previously described, no known active/potentially active faults or associated California Geological Survey (CGS) Earthquake Fault Zones are located within or adjacent to the proposed Project site. Accordingly,

the potential for earthquake-related ground rupture and/or related effects to impact proposed facilities/operations is considered generally low. Because the site and vicinity could encompass currently unknown active or potentially active faults and has not been subject to Project-specific geotechnical investigation, however, associated impacts are considered potentially significant (*see* Final EIR pages 3.4-7). Significant potential impacts related to rupture of an earthquake fault will be mitigated through implementation of the mitigation measure described below.

MM GEO-1 Conduct Site-specific Geotechnical Investigation. A site-specific geotechnical investigation shall be completed for the proposed Project prior to final Project design approval. This investigation shall identify appropriate site-specific criteria related to considerations such as grading, excavation, fill, and structure/facility design. Applicable results and recommendations from the geotechnical investigation (including on-the-ground geotechnical observations and testing to be conducted during the proposed Project excavation, grading and construction activities) shall be incorporated into the associated proposed Project design documents to address identified potential geologic and soil hazards. Specifically, this shall include, but is not necessarily limited to, the following potential hazards: ground rupture; ground acceleration (ground shaking); soil liquefaction (and related issues such as dynamic settlement and lateral spreading); landslides; geologic and soil instability (including manufactured slopes, trench excavations, compressible/collapsible soils, subsidence [based on review/verification or, if applicable, modification of the conclusions in the proposed Project updated groundwater model], and corrosive soils); and expansive soils. The final proposed Project design documents shall also encompass applicable standard design and construction practices from sources including the California Building Code (CBC), International Building Code (IBC)/Greenbook, and (as appropriate) City/County standards, along with the results and recommendations of plan review by the PWD and on-the-ground geotechnical observations and testing (with related requirements to be included in applicable engineering/design drawings and construction contract specifications). A summary of the types of remedial measures typically associated with identified potential geologic and soil hazards, pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific geotechnical investigation shall take priority over the more general types of standard regulatory/industry measures listed below.

- Ground Rupture: (1) locate (or relocate) applicable facilities away from known active (or potentially active) faults and outside of associated California Geological Survey (CGS) Earthquake Fault Zones; and (2) require appropriate (typically 50-foot) building exclusion buffers on either side of applicable fault traces.

- Ground Acceleration (Ground Shaking): (1) incorporate applicable seismic loading factors (e.g., IBC/CBC criteria) into the design of facilities such as structures, pavement, pipelines, manufactured slopes, and drainage facilities; (2) use remedial grading techniques where appropriate (e.g., removing/replacing and/or reconditioning unsuitable soils); and (3) use properly engineered fill per applicable industry/regulatory standards (e.g., IBC/CBC), including criteria such as appropriate fill composition, placement methodology, compaction levels, and moisture content.

- Liquefaction and Related Effects: (1) remove unsuitable soils and replace with engineered fill (as previously described), per applicable regulatory/industry standards (e.g., IBC/CBC); (2) employ measures such as deep soil mixing (i.e., introducing cement to consolidate loose soils) or use of subsurface structures (e.g., stone columns or piles) to provide support (i.e., by extending structures into competent underlying units); (3) install subdrains in appropriate areas to avoid or reduce near-surface saturation; and (4) design for potential settlement of liquefiable materials through means such as use of post-tensioned foundations and/or flexible couplings for pipeline connections.

- Landslides: (1) replace susceptible deposits with stabilized fill where appropriate; and (2) incorporate structures such as retaining walls and buttresses where appropriate to provide support.

- Geologic and Soil Instability: (1) use standard efforts such as over-excavation and recompaction or replacement of unsuitable soils with engineered fill; (2) employ applicable slope grade and/or height limitations, landscaping/irrigation design, and slope drainage controls per established regulatory/industry standards (e.g., IBC/CBC); (3) limit trench slope grades as appropriate to reflect local conditions (e.g., dry or cohesive soils, and seepage); (4) use appropriate trench shoring per applicable regulatory requirements (CBC, Occupational Safety and Health Administration [OSHA] and/or California Division of Occupational Safety and Health [Cal-OSHA]); (5) use engineered fill, subdrains, surcharging (i.e., loading prior to construction to induce settlement) and/or settlement monitoring (e.g., through the use of settlement monuments) in appropriate areas (e.g., areas of identified subsidence potential); (6) implement groundwater withdrawal monitoring/ restrictions per established legal/regulatory/industry standards (if applicable); and (7) remove unsuitable (corrosive) deposits and replace with non-corrosive fill, use corrosion-resistant construction materials (e.g., corrosion-resistant concrete and coated or non-metallic facilities), and install cathodic protection devices (e.g., use of a more easily corroded "sacrificial metal" to serve as an anode and draw current away from the structure to be protected) per established regulatory/industry standards (e.g., IBC/CBC).

- Expansive Soils: (1) replace and/or mix expansive materials with non-expansive fill; and (2) cap expansive soils in place with an appropriate thickness of non-expansive fill per established regulatory/industry standards (e.g., IBC/CBC).

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.4-7), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to the rupture of an earthquake fault. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM GEO-1 would reduce potentially significant direct impacts related to rupture of an earthquake fault below a level of significance.

6. Construction of the proposed Project could result in potentially significant impacts related to seismic ground shaking.

The proposed Project site could potentially experience peak ground shaking values of up to approximately 0.7g in association with large earthquake events along major faults (particularly the nearby San Andreas Fault Zone). This level of ground shaking could potentially result in significant impacts to proposed facilities such as structures and pipelines (*see* Final EIR pages 3.4-7 and 3.4-8). Significant potential impacts related to seismic ground shaking will be mitigated through implementation of mitigation measure MM GEO-1 as outlined above under Geology and Soils, Issue 5.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.4-7 and 3.4-8), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to seismic ground shaking. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM GEO-1 would reduce potentially significant direct impacts related to seismic ground shaking below a level of significance.

7. Construction of the proposed Project could result in potentially significant impacts related to seismic related ground failure, including liquefaction.

Many of the alluvial and fluvial deposits present in the proposed Project site and vicinity are susceptible to liquefaction under appropriate seismic and groundwater conditions. Specifically, while shallow groundwater was not observed in on-site areas subject to exploratory borings, local levels in other portions of the site may vary, particularly if perched groundwater is present. Based on the stratigraphic and seismic conditions in the proposed Project site vicinity, as well as the fact that the presence/level of groundwater in much of the site has not been verified, potential impacts from liquefaction and related effects would be potentially significant (*see* Final EIR pages 3.4-8). Significant potential impacts related to seismic related ground failure, including liquefaction, will be mitigated through implementation of mitigation measure MM GEO-1 as outlined as outlined above under Geology and Soils, Issue 5.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.4-8), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to seismic related ground failure, including liquefaction. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM GEO-1 would reduce potentially significant direct impacts related to seismic related ground failure, including liquefaction, below a level of significance.

8. Construction of the proposed Project could result in potentially significant impacts related to unstable geologic units or soil.

Implementation of the proposed Project could potentially result in impacts associated with geologic and soil instability. Specifically, this could involve issues related to manufactured slopes, trench excavations, compressible/collapsible soils, subsidence, and corrosive soils (*see* Final EIR pages 3.4-9 through 3.4-11), resulting in a potentially significant impact. Significant potential impacts related to unstable geologic units or soil will be mitigated through implementation of mitigation measure MM GEO-1 as outlined as outlined above under Geology and Soils, Issue 5.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.4-7), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to unstable geologic units or soil. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM GEO-1 would reduce potentially significant direct impacts related to unstable geologic units or soil below a level of significance.

9. Construction of the proposed Project could result in potentially significant impacts related to expansive soils.

While mapped alluvial soils in the proposed Project site and vicinity are generally identified as exhibiting low expansion potential, a number of these materials (as well as lacustrine deposits) may locally exhibit higher clay content and related expansion potential (*see* Final EIR page 3.4-11), resulting in a potentially significant impact. Significant potential impacts related to expansive soils will be mitigated through implementation of mitigation measure MM GEO-1 as outlined as outlined above under Geology and Soils, Issue 5.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.4-11), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to expansive soils. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM GEO-1 would reduce potentially significant direct impacts related to expansive soils below a level of significance.

Hydrology and Water Quality

10. Construction and operation of the proposed Project could result in potentially significant impacts associated with drainage patterns and flow directions.

Implementation of the proposed Project would have the potential to result in some modification of the existing on-site drainage patterns and directions through proposed grading and

construction. These modifications are generally not anticipated to be substantial, however, based on the nature and extent of the proposed development. Specifically, proposed Project development would consist largely of subsurface pipelines, with surface features limited to the proposed State Water Project (SWP) Turnout, recharge basins and associated berms, Recovery Wells and related temporary percolation ponds, and the 2-acre Distribution Site. Accordingly, overall drainage patterns within the site and vicinity (i.e., north to the vicinity of Rosamond and Rogers dry lakes) are not anticipated to be substantially altered by proposed development. Because a detailed hydrology study has not been conducted, however, the associated site-specific effects to drainage patterns and flow directions within and from the proposed Project site cannot be determined. As a result, while overall drainage and flow pattern alterations are not anticipated to be substantial, proposed Project implementation could potentially result in significant impacts related to drainage patterns/directions, as well as associated erosion and/or flooding issues (*see* Final EIR pages 3.6-13). Significant potential impacts related to hazards and hazardous materials will be mitigated through implementation of the mitigation measure described below.

MM HYD-1 Conduct a Site-specific Hydrologic Investigation. A site-specific hydrologic investigation shall be completed for the proposed Project prior to approval of final design. All applicable results and recommendations from this investigation shall be incorporated into the associated final design documents to address identified potential hydrologic concerns, including, but not necessarily limited to, drainage alteration, runoff rates/amounts and storm water management, and flood hazards. The final Project design documents shall also encompass applicable standard design and construction practices from sources including National Pollutant Discharge Elimination System (NPDES) and local standards (with related requirements to be included in applicable engineering/design drawings and/or construction contract specifications). A summary of the types of remedial measures typically associated with identified potential hydrologic concerns, pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific hydrologic investigation will take priority over the more general types of standard regulatory/industry measures listed below.

- Drainage Alteration: (1) locate applicable facilities outside of surface drainage courses and drainage channels; (2) re-route surface drainage around applicable facilities, with such re-routing to be limited to the smallest area feasible and re-routed drainage to be directed back to the original drainage course at the closest feasible location (i.e., the closest location to the point of diversion); and (3) use drainage structures to convey flows within/through development areas and maintain existing drainage patterns, where appropriate and feasible.

- Runoff Rates/Amounts and Storm Water Management: (1) minimize the installation of new impervious surfaces (e.g., by surfacing with pervious pavement, gravel or decomposed granite); (2) use flow regulation facilities (e.g., detention/retention basins) and velocity control structures (e.g., riprap dissipation aprons at drainage outlets), to maintain pre-development runoff rates and amounts, if applicable; and (3) utilize additional and/or enlarged drainage facilities to ensure adequate on- and off-site storm drain system capacity, if applicable.

- Flood Hazards: (1) locate proposed facilities outside of mapped 100-year floodplain boundaries wherever feasible; (2) based on technical analyses such as Hydrologic Engineering Center-River Analysis System (HEC-RAS) studies, restrict facility locations to avoid adverse impacts related to impeding or redirecting flood waters; (3) based on HEC-RAS studies, use measures such as raised fill pads to elevate proposed structures above calculated flood levels, and/or utilize protection/containment structures (e.g., berms, barriers or water-tight doors) to avoid flood damage; and (4) if Project-related activities/facilities result in applicable proposed changes to mapped FEMA floodplains, obtain an approved Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) from FEMA, as applicable.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.6-13), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to drainage patterns and flow directions. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM HYD-1 would reduce potentially significant direct impacts related to drainage patterns and flow directions below a level of significance.

11. Construction and operation of the proposed Project could result in potentially significant impacts associated with runoff rates and storm water management.

Proposed Project development is not expected to substantially increase the rate or amount of surface runoff within or from the site. This conclusion is based on the relatively small extent of proposed on-site development, as well as the nature of associated facilities. Specifically, new impervious surfaces (which increase runoff rates and amounts), would generally be limited to the SWP Turnout structure and the two-acre Distribution Site, with some additional areas (e.g., well pads/support facilities) to encompass minor areas of impervious surfaces and/or surface compaction. Based on the noted conclusions and assumptions, potential impacts related to runoff rates/amounts and storm drain capacity from proposed Project development are expected to be less than significant; however, an assessment of pre- and post-development runoff rates is required to evaluate these conditions and pending completion of a detailed site-specific hydrology study, these impacts are conservatively assessed as potentially significant (*see* Final EIR pages 3.6-13 and 3.6-14). Significant potential impacts related to runoff rates and storm water management will be mitigated through implementation of mitigation measure MM HYD-1 as outlined above under Hydrology and Water Quality, Issue 10.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.6-13 and 3.6-14), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to runoff rates and storm water management. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure

MM HYD-1 would reduce potentially significant direct impacts related to runoff rates and storm water management below a level of significance.

12. Construction and operation of the proposed Project could result in potentially significant impacts associated with flooding and floodplain hazards.

Several mapped 100-year floodplains are located within or adjacent to the Project site. Based on the subsurface location of most proposed facilities (i.e., pipelines and the Distribution Box), the proposed elevation of other applicable facilities within mapped floodplains (i.e., Recovery Wells, pumps and related surface structures) above identified flood water levels (i.e., through grading), and the relatively minor extent of proposed surface development within the noted floodplains, no associated substantial impacts are anticipated in relation to flood-related hazards and impeding or redirecting flood flows. Because detailed studies have not been conducted, however, site-specific effects related to flood flow movements and directions from proposed surface facilities are considered potentially significant (*see* Final EIR page 3.6-14). Significant potential impacts related to flooding and floodplain management will be mitigated through implementation of mitigation measure MM HYD-1 as outlined above under Hydrology and Water Quality, Issue 10.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR page 3.6-14), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to flooding and floodplain hazards. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM HYD-1 would reduce potentially significant direct impacts related to flooding and floodplain hazard below a level of significance.

13. Construction and operation of the proposed Project could result in potentially significant impacts associated with water quality standards or waste discharge requirements.

Impacts to groundwater quality are potentially significant due to lack of site-specific water quality modeling and septic system evaluation. As a result, Project impacts related to groundwater quality are considered potentially significant (*see* Final EIR pages 3.6-16 through 3.6-26). Significant potential impacts related to water quality standards or waste discharge requirements will be mitigated through implementation of mitigation measures MM HYD-2 and MM HYD-3 as outlined below.

MM HYD-2 Conduct a Site-specific Groundwater Quality Investigation. A site-specific groundwater quality investigation shall be completed for long-term operations associated with the proposed Project, prior to the Regional Water Quality Control Board (RWQCB) issuing a permit to operate. This investigation shall include detailed, numerical modeling to assess potential proposed Project-related effects to groundwater quality in proposed Project Recovery Wells and other applicable wells in the site vicinity. All applicable

results and recommendations from this investigation shall be incorporated into the associated individual final Project design documents to address identified potential long-term groundwater quality issues related to proposed recharge and recovery efforts, including the use of recycled water. The described modeling/investigative efforts and the final Project design documents shall also encompass applicable regulatory standards from sources including the State Water Resources Control Board (SWRCB)/RWQCB, California Code of Regulations (CCR) Titles 17 and 22 (including a Project-specific Title 22 Engineering Report per Article 7, Section 60323), Title 22 Water Code Section 13562.5 for Groundwater Replenishment Using Recycled Water, and pertinent local standards, with related requirements to be included in associated engineering/design drawings and construction/operation contract specifications. Depending on the results of the noted modeling/investigative efforts, standard remedial measures that could potentially be used to address identified concerns may include: (1) reduction (e.g., through blending) or elimination of recycled water as a recharge source; (2) implementation of applicable source water treatment (e.g., to reduce total dissolved solids [TDS] levels) prior to recharge; and (3) modification of the proposed Project elements such as the location and/or configuration of Recovery Wells (e.g., to increase the residence time and/or recovery percentage of recharged water), and/or the location/capacity of recharge basins. The measures identified/recommended as part of the described site-specific groundwater quality investigation shall take priority over the more general types of standard efforts identified above.

MM HYD-3 Conduct a Site-specific Septic System Investigation. A site-specific septic system investigation shall be completed for the proposed Project, prior to final Project design approval, to assess related potential impacts to groundwater quality. This investigation shall include appropriate analysis of the proposed septic system, pursuant to applicable regulatory requirements from sources including the SWRCB/RWQCB, Los Angeles County, and the City of Palmdale. Specific elements of the septic system analysis may include: (1) system design adequacy (e.g., septic tank/leach field locations and dimensions, and provision of adequate separation from groundwater aquifers); (2) soil/percolation testing; (3) assessment of potential groundwater quality impacts from nitrates and other applicable contaminates; and (4) identification of appropriate operation and maintenance requirements to ensure proper system function. Applicable results and recommendations from this investigation shall be incorporated into the final septic system design to address potential groundwater quality issues related to proposed septic system operation. Depending on the results of the noted evaluation, standard remedial measures that could potentially be used to address identified concerns may include: (1) redesign/relocation of proposed septic system facilities; (2) use of alternative septic system design (e.g., disinfection systems); (3) use of alternative waste disposal systems (e.g., composting or incinerator toilets); and (4) connection to a municipal sewer system. The measures identified/recommended as part of the described septic system investigation shall take priority over the more general types of efforts identified above.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.6-16 through 3.6-26), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant direct effects related to

water quality standards or waste discharge requirements. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measures MM HYD-2 and MM HYD-3 would reduce potentially significant direct impacts related to water quality standards or waste discharge requirements below a level of significance.

Noise

14. Operation of the proposed Project could potentially result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Operational noise associated with Recovery Wells within the City of Lancaster and unincorporated Los Angeles County would result in noise levels in excess of the respective standards for each jurisdiction at the nearest property lines. This is a potentially significant impact (*see* Final EIR pages 3.7-10 through 3.7-15). Significant potential impacts related to operational noise associated with the Recovery Wells will be mitigated through implementation of the mitigation measure described below.

MM NOI-1 Recovery Well Pump Building Design. If the PWD does not own all of the land within 750 feet of a planned Recovery Well pump and building outside the City of Palmdale limits, the Recovery Well building shall be designed and built to provide noise control reduction to the less-than-significant level of 45 A-weighted decibels (dBA) at 50 feet. Specifically, this could potentially include standard industry measures such as providing appropriately designed noise-control louvers or in-line duct silencers for the well building ventilation to reduce external noise levels.

FINDING: For the reasons stated in the Final EIR (*see* Final EIR pages 3.7-12 through 3.7-15), the Board finds that implementation of the Palmdale Regional Groundwater Recharge and Recovery Project would result in the potential for significant impacts related to a permanent increase in ambient noise levels in the Project vicinity. Changes or alterations have been required in or incorporated into the Project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR. Implementation of mitigation measure MM NOI-1 would reduce potentially significant Project impacts related to the permanent increase in ambient noise levels below a level of significance.

3. *Project Impacts that would be Significant and Unavoidable*

As described above in Section II.B, no significant and unavoidable environmental impacts would occur as a result of the proposed Project.

D. Cumulative Impacts and Mitigation Measures

Section 15130(a) of the CEQA Guidelines requires that an EIR discuss the cumulative impacts of a project when the project's incremental effect is determined to be cumulatively considerable. The discussion of cumulative impacts must evaluate whether the impacts of the project will be significant when considered in combination with past, present, and future reasonably foreseeable projects, and whether the project would make a cumulatively considerable contribution to those impacts. As described above in Section II.B, the proposed Project would either not contribute to potentially significant cumulative impacts, or Project-related impacts would not be cumulatively considerable and are therefore less than significant (*see* Final EIR Chapter 4.0).

E. Alternatives

Chapter 6.0 of the Final EIR evaluates a reasonable range of potential alternatives to the Palmdale Regional Groundwater Recharge and Recovery Project to determine if these alternatives could meet the Project objectives, while avoiding or substantially lessening its significant impacts per CEQA Guidelines Section 15126.6. This analysis identifies a number of alternatives that were considered and rejected during the proposed Project's scoping process, including linear recovery wells, a reduced Project scale, recharge directly into Littlerock Creek, and alternatives of off-stream recharge, including in the Buttes subbasin only and within the Buttes and Lancaster subbasins. Brief summaries of these alternatives and the associated reasons for rejection are provided in Subchapter 6.3 of the Final EIR, followed by more detailed assessments of the alternatives carried forward in the analysis. Specifically, the alternatives carried forward include Off-Site 10A Alternative and Off-Site 9R Alternative, and, in compliance with CEQA and the CEQA Guidelines, the No Project Alternative. The Final EIR alternatives analysis examined the feasibility of each of these alternatives, the associated environmental impacts, and the ability of each alternative to meet the project objectives identified in Section 2.2 of the Final EIR. Finally, pursuant to requirements in CEQA and the CEQA Guidelines, the analysis identifies and discusses the Environmentally Superior Alternative. Of the two build alternatives analyzed in detail in Chapter 6.0 of the Final EIR, Off-Site 10A Alternative would result in some reduced impacts, but would also have new, potentially significant impacts. Off-Site 9R Alternative would also result in new, potentially significant impacts. As described above in Section II.B, implementation of the proposed Project would not result in any significant and unavoidable impacts. Accordingly, findings pursuant to Section 15091(a)(3) of the CEQA Guidelines are not required.

F. Statement of Overriding Considerations

As described above in Section II.B, implementation of the proposed Project would not result in any significant and unavoidable impacts. Accordingly, pursuant to Section 15093(a) of the CEQA Guidelines, a Statement of Overriding Considerations is not required.

G. Additional Findings

1. These Findings incorporate by reference the text of the Final EIR prepared for the Palmdale Regional Groundwater Recharge and Recovery Project in its

entirety. Without limitation, this incorporation is intended to elaborate on the scope and nature of Project and cumulative development impacts, related mitigation measures, and the basis for determining the significance of such impacts.

2. CEQA requires the Lead Agency approving a project to adopt a monitoring program for changes to the project that it adopts or makes a condition of project approval in order to mitigate or avoid significant effects on the environment and ensure compliance during project implementation. The MMRP for the proposed Project has been prepared to serve this purpose, and is hereby adopted by the Board.

H. Record of Proceedings

The record of proceedings upon which the Board has based these Findings consists of all the documents and evidence relied upon by the District in preparing the Palmdale Regional Groundwater Recharge and Recovery Project Final EIR. The custodian of the record of proceedings is the District Office, 2029 East Avenue Q, Palmdale, CA 93550.

I. Summary

Based on the foregoing Findings and the information contained in the record, the Board has made the following Finding with respect to the significant environmental effects of the Project as described in the Final EIR:

(1) Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant environmental effects on the environment.

Based on the foregoing Finding and the information contained in the record, it is hereby determined that all significant effects on the environment due to approval of the Project have been eliminated or substantially lessened.

III. APPROVALS

The Board hereby takes the following actions:

A. The Board certifies the Final EIR, as described in Section I, above.

B. The Board adopts as conditions of approval all mitigation measures within the responsibility and jurisdiction of the District set forth in Section II.D of the Findings, above.

C. The Board adopts the MMRP for the Project described in Section II.G(2) of the Findings, above.

D. The Board adopts the Findings in their entirety as set forth in Section II, above.

E. Having certified the Final EIR, independently reviewed and analyzed the Final EIR, incorporated mitigation measures into the Project, and adopted the MMRP and the foregoing Findings, the Board hereby approves the design of the Palmdale Regional Groundwater Recharge and Recovery Project.

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MITIGATION MONITORING AND REPORTING PROGRAM

PROJECT NAME: Palmdale Regional Groundwater Recharge and Recovery Project
PROJECT DESCRIPTION: Groundwater banking programs with new spreading grounds to recharge imported water and recycled water, as well as recovery facilities to help meet future water demands and improve reliability
PROJECT LOCATION: The northeastern portion of the City of Palmdale in Los Angeles County and surrounding unincorporated Los Angeles County and City of Lancaster

APPROVAL BODY: Board of Directors
APPROVAL DATE: July 13, 2016
CONTACT PERSON: Matthew Knudson
PHONE NO.: (661)947-4111

Table 1
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL/DATE
Biological Resources				
The proposed Project has the potential to cause direct, adverse effects to sensitive animal species (burrowing owl and nesting birds) during construction.	**MM BIO-1:** A pre-construction take avoidance survey shall be conducted for each phase of construction at the Recharge and Distribution Sites, Recovery Wells, Well Collection Pipeline, temporary Percolation Pond parcels, and the undeveloped portion of 105th Street East. The survey shall be completed no more than 14 days prior to ground-disturbing activities and shall cover the proposed Project impact area and all potential burrowing owl habitat within 500 feet, as feasible. More specifically, the survey shall cover all Project features except: (1) where the 30-inch Potable Water Pipeline would occur in East Palmdale Boulevard and (2) where the 36-inch Raw Water/Return Water Pipeline would be constructed between East Avenue R2 in the north and East Avenue S in the south. If there is no sign of burrowing owl occupation (as defined in the Staff Report on Burrowing Owl Mitigation [California Department of Fish and Wildlife (CDFW) 2012]), then no further mitigation is required. If sign of occupation is present, the following measures shall be implemented. • Direct impacts to occupied burrowing owl burrows shall be avoided during the breeding period from February 1 through August 31 (CDFW 2012). "Occupied" is defined as a burrow that shows sign of burrowing owl occupancy within the last three years. • Direct impacts to occupied burrows shall also be avoided during the non-breeding season. If present, burrowing owls may be excluded from their burrows. Burrow exclusion is a technique of installing one-way doors in burrow openings during the non-breeding season to temporarily exclude burrowing owl, or permanently exclude burrowing owl and close burrows after verifying burrows are empty by site monitoring and scoping. Eviction of burrowing owl during the non-breeding season would require prior CDFW approval of a Burrowing Owl Exclusion Plan (CDFW 2012).	Palmdale Water District and Construction Contractor	Prior to and during construction	

Exhibit C

Table 1 (cont.)
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL / DATE
Biological Resources (cont.)				
	• The burrowing owl and its habitat adjacent to, but outside of, Project impact areas, if present, shall be protected in place, and disturbance impacts shall be minimized through the use of buffer zones, visual screens, or other measures (CDFW 2012) as deemed necessary by a qualified biologist. • Mitigation for direct, permanent impacts to nesting, occupied, and satellite burrows and/or burrowing owl habitat shall be required such that the habitat acreage and number of burrows and burrowing owls impacted are replaced based on the burrowing owl life history information provided in Appendix A of the Staff Report on Burrowing Owl Mitigation (CDFW 2012), site-specific analysis, and consultation with the CDFW. A Burrowing Owl Mitigation Plan shall be prepared and submitted to the CDFW for approval prior to impacts to the burrowing owl and/or its habitat.			
	MM BIO-2: Vegetation clearing shall take place outside the general avian breeding season (which generally occurs from February through August). Tree removal/trimming shall take place outside the raptor breeding season (which generally occurs from January through August). If vegetation clearing and/or tree removal/trimming cannot occur outside the general avian and raptor breeding seasons, then a pre-construction survey for avian nesting shall be conducted by a qualified biologist within 7 calendar days prior to vegetation clearing and tree removal/trimming. If nests are not observed, work may proceed. If nests are found, work may proceed provided that construction activity is: (1) located at least 500 feet from raptor nests; (2) located at least 300 feet from listed bird species' nests; and (3) located at least 100 feet from non-listed bird species' nests. A qualified biologist shall conspicuously mark the buffer so that vegetation clearing does not encroach into the buffer until the nest is no longer active (i.e., the nestlings fledge, the nest fails, or the nest is abandoned, as determined by a qualified biologist).	Palmdale Water District and Construction Contractor	Prior to and during construction	
Cultural Resources				
The proposed Project has the potential to impact unknown archaeological resources during the proposed Project construction.	**MM CUL-1:** If potentially significant buried archaeological materials are encountered during construction activities, all work must be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological resource. If the find is identified as significant, appropriate treatment as determined by the archaeologist shall be implemented prior to the recommencement of ground disturbance in the area. A report documenting the methods and results of the treatment shall be prepared and submitted to PWD and filed with the local repository.	Palmdale Water District and Construction Contractor	During construction	

Table 1 (cont.)
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL / DATE
Cultural Resources (cont.)				
The proposed Project has the potential to impact unknown paleontological resources during the proposed Project construction.	**MM CUL-2:** In the event fossil materials are exposed during ground disturbing activities, work (within 100 feet of the discovery) shall be halted until a qualified paleontologist meeting the criteria established by the Society for Vertebrate Paleontology is retained to assess the find. If the find is identified as significant, appropriate treatment as determined by the paleontologist shall be implemented prior to the recommencement of ground disturbance in the area. A report documenting the methods and results of the treatment shall be prepared and submitted to PWD and filed with the local repository.	Palmdale Water District and Construction Contractor	During construction	
The proposed Project has the potential to unearth unknown human remains during the proposed Project construction.	**MM CUL-3:** In the event that human remains are discovered during construction activities in a location other than a dedicated cemetery, the Los Angeles County Coroner must be notified within 24 hours of the discovery, in accord with Health and Safety Code §7050.5, State CEQA Guidelines 15064.5(e), and Public Resources Code (PRC) §5097.98. The Coroner must then determine within two working days of being notified if the remains are subject to his or her authority. If the Coroner recognizes the remains to be Native American, he or she must contact the NAHC by phone within 24 hours, in accordance with PRC §5097.98. The NAHC then designates a Most Likely Descendant (MLD) with respect to the human remains within 48 hours of notification. The MLD will then have the opportunity to recommend to the proposed Project proponent means for treating or disposing, with appropriate dignity, the human remains and associated grave goods within 24 hours of notification.	Palmdale Water District and Construction Contractor	During construction	
Geology and Soils				
The proposed Project site and vicinity could encompass currently unknown active or potentially active faults and has not been subject to the proposed Project-specific geotechnical investigation. The proposed Project site could potentially experience peak ground shaking values of up to approximately 0.7 g in association with large earthquake events along major faults. This level of ground	**MM GEO-1:** A site-specific geotechnical investigation shall be completed for the proposed Project prior to final Project design approval. This investigation shall identify appropriate site-specific criteria related to considerations such as grading, excavation, fill, and structure/facility design. Applicable results and recommendations from the geotechnical investigation (including on-the-ground geotechnical observations and testing to be conducted during the proposed Project excavation, grading and construction activities) shall be incorporated into the associated proposed Project design documents to address identified potential geologic and soil hazards. Specifically, this shall include, but is not necessarily limited to, the following potential hazards: ground rupture; ground acceleration (ground shaking); soil liquefaction (and related issues such as dynamic settlement and lateral spreading); landslides; geologic and soil instability (including manufactured slopes, trench excavations, compressible/collapsible soils, subsidence [based on review/verification or, if applicable, modification of the conclusions in the	Palmdale Water District	Prior to final Project design approval	

Table 1 (cont.)
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL / DATE
Geology and Soils (cont.)				
shaking could potentially result in significant impacts to proposed facilities such as structures and pipelines. Based on the stratigraphic and seismic conditions in the proposed Project site vicinity, as well as the fact that the presence/level of groundwater in much of the site has not been verified, potential impacts from liquefaction and related effects would be potentially significant. Implementation of the proposed Project could potentially result in impacts associated with geologic and soil instability, including manufactured slopes, trench excavations, compressible/ collapsible soils, subsidence, and corrosive soils. While mapped alluvial soils in the proposed Project site and vicinity are generally identified as exhibiting low expansion potential, a number of these materials may locally exhibit higher clay content and related expansion potential.	proposed Project updated groundwater model], and corrosive soils); and expansive soils. The final proposed Project design documents shall also encompass applicable standard design and construction practices from sources including the CBC, IBC/Greenbook, and (as appropriate) City/County standards, along with the results and recommendations of plan review by the PWD and on-the-ground geotechnical observations and testing (with related requirements to be included in applicable engineering/design drawings and construction contract specifications). A summary of the types of remedial measures typically associated with identified potential geologic and soil hazards, pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific geotechnical investigation shall take priority over the more general types of standard regulatory/industry measures listed below. • Ground Rupture: (1) locate (or relocate) applicable facilities away from known active (or potentially active) faults and outside of associated CGS Earthquake Fault Zones; and (2) require appropriate (typically 50-foot) building exclusion buffers on either side of applicable fault traces. • Ground Acceleration (Ground Shaking): (1) incorporate applicable seismic loading factors (e.g., IBC/CBC criteria) into the design of facilities such as structures, pavement, pipelines, manufactured slopes, and drainage facilities; (2) use remedial grading techniques where appropriate (e.g., removing/replacing and/or reconditioning unsuitable soils); and (3) use properly engineered fill per applicable industry/regulatory standards (e.g., IBC/CBC), including criteria such as appropriate fill composition, placement methodology, compaction levels, and moisture content. • Liquefaction and Related Effects: (1) remove unsuitable soils and replace with engineered fill (as previously described), per applicable regulatory/industry standards (e.g., IBC/CBC); (2) employ measures such as deep soil mixing (i.e., introducing cement to consolidate loose soils) or use of subsurface structures (e.g., stone columns or piles) to provide support (i.e., by extending structures into competent underlying units); (3) install subdrains in appropriate areas to avoid or reduce near-surface saturation; and (4) design for potential settlement of liquefiable materials through means such as use of post-tensioned foundations and/or flexible couplings for pipeline connections.			

Table 1 (cont.)
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL / DATE
Geology and Soils (cont.)				
	• Landslides: (1) replace susceptible deposits with stabilized fill where appropriate; and (2) incorporate structures such as retaining walls and buttresses where appropriate to provide support. • Geologic and Soil Instability: (1) use standard efforts such as over-excavation and recompaction or replacement of unsuitable soils with engineered fill; (2) employ applicable slope grade and/or height limitations, landscaping/irrigation design, and slope drainage controls per established regulatory/industry standards (e.g., IBC/CBC); (3) limit trench slope grades as appropriate to reflect local conditions (e.g., dry or cohesive soils, and seepage); (4) use appropriate trench shoring per applicable regulatory requirements (CBC, OSHA and/or Cal-OSHA); (5) use engineered fill, subdrains, surcharging (i.e., loading prior to construction to induce settlement) and/or settlement monitoring (e.g., through the use of settlement monuments) in appropriate areas (e.g., areas of identified subsidence potential); (6) implement groundwater withdrawal monitoring/ restrictions per established legal/regulatory/ industry standards (if applicable); and (7) remove unsuitable (corrosive) deposits and replace with non-corrosive fill, use corrosion-resistant construction materials (e.g., corrosion-resistant concrete and coated or non-metallic facilities), and install cathodic protection devices (e.g., use of a more easily corroded "sacrificial metal" to serve as an anode and draw current away from the structure to be protected) per established regulatory/industry standards (e.g., IBC/CBC). • Expansive Soils: (1) replace and/or mix expansive materials with non-expansive fill; and (2) cap expansive soils in place with an appropriate thickness of non-expansive fill per established regulatory/industry standards (e.g., IBC/CBC).			
Hydrology and Water Quality				
Overall drainage patterns within the site and vicinity are not anticipated to be substantially altered by proposed development; however, the associated site-specific effects to drainage patterns and flow directions within and from the proposed Project site cannot be determined due to lack of a detailed hydrology study.	**MM HYD-1: Conduct a Site-specific Hydrologic Investigation.** A site-specific hydrologic investigation shall be completed for the proposed Project prior to approval of final design. Applicable results and recommendations from this investigation shall be incorporated into the associated final design documents to address identified potential hydrologic concerns, including, but not necessarily limited to, drainage alteration, runoff rates/amounts and storm water management, and flood hazards. The final proposed Project design documents shall also encompass applicable standard design and construction practices from sources including NPDES and local standards (with related requirements to be included in applicable engineering/design drawings and/or construction contract specifications). A summary of the types of remedial measures typically associated with identified potential hydrologic concerns,	Palmdale Water District	Prior to final Project design approval	

Table 1 (cont.)
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL / DATE
Hydrology and Water Quality (cont.)				
Potential impacts related to runoff rates/amounts and storm drain capacity from proposed Project development are expected to be less than significant; however, an assessment of pre- and post-development runoff rates is required to evaluate these conditions and pending completion of a detailed site-specific hydrology study, these impacts are conservatively assessed as potentially significant. Based on the subsurface location of most proposed facilities (i.e., pipelines) and the relatively minor extent of proposed surface development within the noted floodplains, no associated substantial impacts are anticipated in relation to structures impeding or redirecting flood flows. However, because detailed studies have not been conducted, site-specific effects related to flood flow movements and directions from proposed surface facilities are considered potentially significant.	pursuant to applicable regulatory and industry standards (as noted), is provided below. The remedial measures identified/recommended as part of the described site-specific hydrologic investigation will take priority over the more general types of standard regulatory/industry measures listed below. • Drainage Alteration: (1) locate applicable facilities outside of surface drainage courses and drainage channels; (2) re-route surface drainage around applicable facilities, with such re-routing to be limited to the smallest area feasible and re-routed drainage to be directed back to the original drainage course at the closest feasible location (i.e., the closest location to the point of diversion); and (3) use drainage structures to convey flows within/through development areas and maintain existing drainage patterns, where appropriate and feasible. • Runoff Rates/Amounts and Storm Water Management: (1) minimize the installation of new impervious surfaces (e.g., by surfacing with pervious pavement, gravel or decomposed granite); (2) use flow regulation facilities (e.g., detention/retention basins) and velocity control structures (e.g., riprap dissipation aprons at drainage outlets), to maintain pre-development runoff rates and amounts, if applicable; and (3) utilize additional and/or enlarged drainage facilities to ensure adequate on- and off-site storm drain system capacity, if applicable. • Flood Hazards: (1) locate proposed facilities outside of mapped 100-year floodplain boundaries wherever feasible; (2) based on technical analyses such as Hydrologic Engineering Center-River Analysis System (HEC-RAS) studies, restrict facility locations to avoid adverse impacts related to impeding or redirecting flood waters; (3) based on HEC-RAS studies, use measures such as raised fill pads to elevate proposed structures above calculated flood levels, and/or utilize protection/containment structures (e.g., berms, barriers or water-tight doors) to avoid flood damage; and (4) if Project-related activities/facilities result in applicable proposed changes to mapped FEMA floodplains, obtain an approved Conditional Letter of Map Revision (CLOMR) and/or Letter of Map Revision (LOMR) from FEMA, as applicable.			
Impacts to groundwater quality are potentially significant due to lack of site-specific water quality modeling and septic system evaluation.	**MM HYD-2: Conduct a Site-specific Groundwater Quality Investigation.** A site-specific groundwater quality investigation shall be completed for long-term operations associated with the proposed Project, prior to the RWQCB issuing a permit to operate. This investigation shall include detailed, numerical modeling to assess potential proposed Project-related effects to	Palmdale Water District	Prior to final Project design approval	

Table 1 (cont.)
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL / DATE
Hydrology and Water Quality (cont.)				
	groundwater quality in the proposed Project Recovery Wells and other applicable wells in the site vicinity. Applicable results and recommendations from this investigation shall be incorporated into the associated individual final Project design documents to address identified potential long-term groundwater quality issues related to proposed recharge and recovery efforts, including the use of recycled water. The described modeling/investigative efforts and the final Project design documents shall also encompass applicable regulatory standards from sources including the SWQCB/RWQCB, CCR Titles 17 and 22 (including a Project-specific Title 22 Engineering Report per Article 7, Section 60323), Title 22 Water Code section 13562.5 for Groundwater Replenishment Using Recycled Water, and pertinent local standards, with related requirements to be included in associated engineering/design drawings and construction/operation contract specifications. Depending on the results of the noted modeling/investigative efforts, standard remedial measures that could potentially be used to address identified concerns may include: (1) reduction (e.g., through blending) or elimination of recycled water as a recharge source; (2) implementation of applicable source water treatment (e.g., to reduce TDS levels) prior to recharge; and (3) modification of the proposed Project elements such as the location and/or configuration of Recovery Wells (e.g., to increase the residence time and/or recovery percentage of recharged water), and/or the location/capacity of recharge basins. The measures identified/recommended as part of the described site-specific groundwater quality investigation shall take priority over the more general types of standard efforts identified above.			
	MM HYD-3: Conduct a Site-specific Septic System Investigation. A site-specific septic system investigation shall be completed for the proposed Project, prior to final Project design approval, to assess related potential impacts to groundwater quality. This investigation shall include appropriate analysis of the proposed septic system, pursuant to applicable regulatory requirements from sources including the SWQCB/RWQCB, Los Angeles County, and the City of Palmdale. Specific elements of the septic system analysis may include: (1) system design adequacy (e.g., septic tank/leach field locations and dimensions, and provision of adequate separation from groundwater aquifers); (2) soil/percolation testing; (3) assessment of potential groundwater quality impacts from nitrates and other applicable contaminates; and (4) identification of appropriate operation and maintenance requirements to ensure proper system function. Applicable results and recommendations from this investigation shall be incorporated into the final septic system design to address potential groundwater quality issues related to proposed	Palmdale Water District	Prior to final Project design approval	

Table 1 (cont.)
PALMDALE REGIONAL GROUNDWATER RECHARGE AND RECOVERY PROJECT MITIGATION MONITORING AND REPORTING PROGRAM

POTENTIALLY SIGNIFICANT IMPACT	MITIGATION MEASURE	MITIGATION RESPONSIBILITY	MITIGATION TIMING	CERTIFIED INITIAL / DATE
Hydrology and Water Quality (cont.)				
	septic system operation. Depending on the results of the noted evaluation, standard remedial measures that could potentially be used to address identified concerns may include: (1) redesign/relocation of proposed septic system facilities; (2) use of alternative septic system design (e.g., disinfection systems); (3) use of alternative waste disposal systems (e.g., composting or incinerator toilets); and (4) connection to a municipal sewer system. The measures identified/ recommended as part of the described septic system investigation shall take priority over the more general types of efforts identified above.			
Noise				
Operational noise associated with Recovery Wells within the City of Lancaster and unincorporated Los Angeles County would result in noise levels in excess of the respective standards for each jurisdiction at the nearest property lines.	**MM NOI-1: Recovery Well Building Design.** If the PWD does not own all of the land within 750 feet of a planned well pump and pump building outside the City of Palmdale limits, the well building shall be designed and built to provide noise control reduction to the less-than-significant level of 45 dBA at 50 feet. Specifically, this could potentially include standard industry measures such as providing appropriately designed noise-control louvers or in-line duct silencers for the well building ventilation to reduce external noise levels.	Palmdale Water District	Prior to final Project design approval	