Final Initial Study/Mitigated Negative Declaration

Rancho Murieta
Recycled Water System Expansion Project

Prepared for:

Rancho Murieta Community Services District

AECOM

June 2014

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Prepared for:

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ACRONYMS AND OTHER ABBREVIATIONS

µin/sec	microinches per second
AB	Assembly Bill
ADWF	average dry weather flow
AF	acre-feet
AFB	Air Force Base
AFY	acre-feet per year
ALUC	Airport Land Use Commission
ARB	Air Resources Board
ATCM	Air Toxic Control Measure
B.P.	Before Present
Basin Plan	Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin
BAAQMD	Bay Area Air Quality Management District
bgs	below ground surface
Board	District's Board of Directors
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CALFIRE	California Department of Forestry and Fire Protection
Cal-OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CAP	climate action plan
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Standards Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CE	State endangered
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	California Geological Survey
CLUP	Comprehensive Land Use Plan
CO_2	carbon dioxide
CO_2e	CO_2 equivalents
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Ranks
CSC	species of special concern
CT	State threatened
CWC	California Water Code
CWRS	California Waste Recovery Systems
dB	decibels
dBA	A-weighted decibel

dbh	diameter at breast height
District	Rancho Murieta Community Services District
DOF	Department of Finance
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EIR	environmental impact report
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FE	Federal endangered
FP	Fully protected
FT	Federal threatened
FTEs	full time employees
General Plan	*Sacramento County General Plan of 2005–2030*
GHGs	greenhouse gases
gpm	gallons per minute
GWP	global warming potential
HDD	horizontal directional drilling
SR 16	Jackson Road
in/sec	inches per second
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
IWMP	Integrated Water Management Plan
L_{dn}	day-night average level
L_{eq}	equivalent sound level
L_{max}	maximum sound level
L_n	sound level exceeded “n” percent of the time
LOS	level of service
LRA	Local Responsibility Area
MBTA	Migratory Bird Treaty Act
MG	million gallons
MGD	million gallons per day
MLD	Most Likely Descendant
MMP	mitigation and monitoring plan
MRP	Master Reclamation Permit
MRZ	Mineral Resource Zone
msl	mean sea level
MT	metric tons
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NOA	naturally occurring asbestos
NO_X	nitrogen oxide

NPDES	National Pollution Discharge Elimination System
oz/ton	ounces per ton
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM_{10}	less than 10 micrometers in diameter
$PM_{2.5}$	less than 2.5 micrometers in diameter
PPV	peak particle velocity
PRC	Public Resources Code
proposed project	Rancho Murieta Recycled Water System Expansion Project
RCRA	Resource Conservation and Recovery Act
RMCC	Rancho Murieta Country Club
RMS	root-mean-square
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Governments
Scoping Plan	Climate Change AB 32 Scoping Plan
SIP	state implementation plan
SMARA	Surface Mining and Reclamation Act
SMUD	Sacramento Municipal Utility District
SR	State Route
SRA	State Responsibility Area
SSCHCP	South Sacramento County Habitat Conservation Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
UCMP	University of California Museum of Paleontology
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibels
WDR	Waste Discharge Requirements
WWRP	Wastewater Reclamation Plant

MITIGATED NEGATIVE DECLARATION

Project: Rancho Murieta Recycled Water System Expansion Project

Lead Agency: Rancho Murieta Community Services District (District)

PROJECT DESCRIPTION

The District is proposing to consolidate Waste Discharge Requirements (WDR) R5-01-124 and WDR R5-2007-0109 into a renewed Waste Discharge Requirement for the District's Wastewater Reclamation Plant (WWRP) and a new Master Reclamation Permit (MRP) to expand its approved recycled water use areas to serve new development within the District's service area and to serve adjacent pasture lands. Current use areas consist of two golf courses managed by the Rancho Murieta Country Club and specific areas within the Van Vleck Ranch managed by the District. New recycled water use areas would include residential front and backyards; parks; athletic fields; commercial and street landscaping; and dust control. The proposed project would also involve upgrading and installing the infrastructure necessary to produce and deliver the recycled water to the expanded use areas.

FINDINGS

An initial study (IS) has been prepared to assess the project's potential effects on the environment and the significance of those effects. Based on the IS, it has been determined that the proposed project would not have any significant adverse effects on the environment after implementation of mitigation measures. This conclusion is supported by the following findings:

1. The proposed project would have no impacts on agriculture and forestry resources, land use and planning, or population and housing.

2. The proposed project would have less-than-significant impacts on greenhouse gas emissions, and mineral resources.

3. The proposed project would have potentially significant impacts on aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, recreation, and transportation/traffic, and utilities and service systems, but mitigation measures are proposed to reduce these effects to less-than-significant levels.

   Following are the mitigation measures that would be implemented by the District to avoid or minimize environmental impacts. Implementation of these mitigation measures would reduce the environmental impacts of the proposed project to a less-than-significant level.

   Mitigation Measure AES-1: Replace Landscaping.

   The District will coordinate with affected landowners to restore or replace plantings consistent with pipeline safety, maintenance, and easement requirements in affected landscaped areas. Implementing Mitigation Measure AES-1 would reduce the potentially significant impact associated with vegetation

removal to a less-than-significant level because, where appropriate, vegetation would be restored or replaced.

Mitigation Measure AQ-1: Implement applicable SMAQMD Basic Construction Emission Control Practices.

The project applicant shall comply with the following measures to reduce fugitive dust and construction equipment exhaust emissions:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speed on unpaved roads to 15 mph.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. Have the equipment checked by a certified mechanic and determined to be running in proper condition before it is operated.

Mitigation Measure AQ-2: Implement SMAQMD Requirements to Reduce Construction-Related NOx Emissions.

The project applicant and/or contractor shall submit to SMAQMD a comprehensive inventory of all off-road diesel construction equipment, equal to or greater than 50 horsepower, that will be used in aggregate of 40 or more hours during any portion of the construction project. SMAQMD's Equipment List Form can be used to submit this information. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

- The project applicant and/or contractor shall demonstrate that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NO_X reduction and 45% PM reduction compared to the most recent ARB fleet average. This information shall be submitted in conjunction with the equipment inventory. The SMAQMD Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.

- If the projected construction-related emissions do not exceed the NOx threshold of significance based on the equipment inventory, including the use of equipment that achieves a project wide fleet-average 20% NOx reduction compared to the most recent ARB fleet average, no further mitigation is required.

- If the projected construction-related emissions exceed the NOx threshold of significance based on the equipment inventory, including the use of equipment that achieves a project wide fleet-average 20% NOx reduction compared to the most recent ARB fleet average, the project applicant shall pay an emission mitigation fee into the SMAQMD's off-site mitigation program. The emission mitigation fee shall be sufficient to offset the amount by which the proposed project's NOx emissions exceed the threshold of 85 lbs per day.

- The determination of the final mitigation fee shall be conducted in coordination with SMAQMD before any ground disturbance occurs for any phase of project construction. If there are changes to construction activities (e.g., equipment lists, increased equipment usage or schedules), the project applicant shall work with the District and the SMAQMD to ensure emission calculations and fees are adjusted appropriately.

Mitigation Measure BIO-1: Protect Special-status Plant Species.

The District and its primary construction contractor shall implement the following measures to reduce impacts on special-status plant habitat in the biological study area:

- Minimize loss of special-status plant habitat (i.e., drainages) to the greatest extent feasible by avoiding removal of or disturbance to habitat during construction.

- Implement Mitigation Measures HYD-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices and HYD-3: Prepare and Implement a Frac-Out and Undercrossing Contingency Plan to ensure no construction area erosion, sedimentation, or pollution enters any special-status plant habitat (i.e., drainages) within or adjacent to the biological study area.

- Implement Mitigation Measure BIO-7: Protect Wetlands and Drainages.

Mitigation Measure BIO-2: Protect Valley Elderberry Longhorn Beetle.

The District and its primary construction contractor shall implement the following measures to reduce impacts on valley elderberry longhorn beetles in the biological study area:

- Before the commencement of construction activity, a focused survey shall be conducted by a qualified biologist, in accordance with current U.S. Fish and Wildlife Service (USFWS) guidelines (USFWS 1999), to identify elderberry shrubs and exit holes of valley elderberry longhorn beetles where elderberry shrubs could occur within 100 feet of construction areas, including the known elderberry shrub sites within and adjacent to the riparian vegetation near Murieta Gardens. The preconstruction surveys shall be conducted no more than 30 days prior to the start of construction, regardless of the time of year in which construction occurs.

- For all shrubs that are to be retained in the biological study area, a setback of 20 feet from the dripline of each elderberry shrub found during the survey shall be established. Brightly colored flags or

fencing shall be used to demarcate the 20-foot setback area and shall be maintained until project construction in the vicinity is complete. No construction activities shall occur within the setback area.

- For all shrubs without evidence of valley elderberry longhorn beetle exit holes that cannot be retained on the project site, all stems of 1 inch or greater in diameter at ground level shall be counted. The USFWS shall be consulted regarding compensation for removal of these stems.

- All shrubs with evidence of valley elderberry longhorn beetle exit holes that cannot be retained in the biological study area shall be transplanted to elderberry mitigation sites during the dormant period for elderberry shrubs (November 1 to February 15). For elderberry shrubs displaying evidence of beetle occupation that cannot be transplanted, the USFWS service shall be consulted regarding compensation for removal of shrubs.

Mitigation Measure BIO-3: Protect Western Pond Turtle.

The District and its primary construction contractor shall implement Mitigation Measures HYD-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices and HYD-3: Prepare and Implement a Frac-Out and Undercrossing Contingency Plan to ensure no construction area erosion, sedimentation, or pollution enters any western pond turtle habitat (i.e., adjacent lakes or ponds, such as Bass Lake, and tributaries to these water bodies).

Mitigation Measure BIO-4: Conduct Pre-Construction Surveys for Swainson's Hawk and Implement Avoidance and Minimization Measures.

The District and its primary contractor shall implement the following measures to protect nesting Swainson's hawks:

- No tree removal is anticipated during project construction. However, if project plans change and the District needs to remove trees suitable for Swainson's hawk nesting, trees shall be removed when trees are not likely to be occupied, between September 16 and March 1, outside of the nesting season.

- If construction in proposed during the Swainson's hawk nesting season (March 1 - September 15) a qualified biologist shall conduct preconstruction surveys to search for active Swainson's hawk nests in and within 0.5 mile of the boundaries of the proposed construction activities. The surveys shall be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance. To the extent feasible, guidelines provided in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) shall be followed for surveys for Swainson's hawk. If no nests or breeding behavior are observed, no further mitigation is required.

- If active nests of Swainson's hawks are observed during surveys, impacts on nesting Swainson's hawks shall be avoided by establishing appropriate buffers around active nest sites. No project activity shall commence within the buffer areas until a qualified biologist has determined in coordination with California Department of Fish and Wildlife (CDFW) that the young have fledged, the nest is no longer active, or that reducing the buffer would not result in nest abandonment. CDFW guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers, but the size of the buffer

may be adjusted if a qualified biologist and the District, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during construction activities may be required if the activity has potential to adversely affect the nest.

Mitigation Measure BIO-5: Conduct Pre-Construction Surveys for Nesting Raptors and Other Migratory Birds and Implement Avoidance and Minimization Measures.

The District and its primary contractor shall implement the following measures to protect nesting raptors and other nesting migratory birds:

- If project activity would commence during the nesting season (February 15 to September 15), preconstruction surveys shall be conducted in areas of suitable nesting habitat within 500 feet of project activity. Surveys shall be conducted within 10 days prior to commencement of project activity. If no active nests are found, no further mitigation shall be required.

- If active nests are found within 500 feet of proposed construction activities, disturbance to nesting birds shall be avoided by establishment of appropriate protective buffers that are sufficiently large to avoid construction-related disturbance to nesting activities, as determined by a qualified biologist. No project activity shall occur within the buffer area until the biologist confirms that the nest is no longer active. Monitoring of the nest by a qualified biologist may be required if the activity has potential to adversely affect nesting activities.

- If trees will be removed, then the following mitigation measures shall be implemented:

- Tree removal shall be done in accordance with the Sacramento County Tree Ordinance and the Rancho Murieta Tree Preservation Policy;

- Trees shall be removed during the nonbreeding season (September 16 to February 14);

- If any construction activities, including tree or vegetation removal, take place between February 15 and September 15, preconstruction surveys for active nests shall be conducted prior to the beginning of construction as described above. If any active nests are identified in trees or other areas slated for removal, those nest trees or areas shall be protected and an associated protective buffer shall be established and maintained as described above until the biologist confirms that the nest is no longer active.

Mitigation Measure BIO-6: Worker Environmental Awareness Program.

Before the start of each new construction season, a worker environmental awareness training program shall be conducted by a qualified biologist. The training shall include instruction regarding species identification, natural history, habitat, and protection needs of the following species: valley elderberry longhorn beetle, western pond turtle, Swainson's hawk, white-tailed kite, nesting raptors and other migratory birds.

Mitigation Measure BIO-7: Protect Wetlands and Drainages.

The District and its primary contractor shall implement the following measures to reduce impacts to wetlands and drainages in the biological study area:

- Implement Mitigation Measures HYD-1, "Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices" and HYD-3, "Prepare and Implement a Frac-Out and Undercrossing Contingency Plan."

- Minimize impacts on wetlands and drainages by avoiding removal of or disturbance to these features during construction to the greatest extent feasible.

- For wetlands and drainages that cannot be avoided during construction, authorization for fill of jurisdictional waters of the United States shall be secured from U.S. Army Corps of Engineers (USACE) via the Section 404 permitting process before project implementation. Avoidance, minimization and mitigation measures that are required as for the 404 permit shall be implemented during project construction. These measures would likely include, but not be limited to, installation of temporary erosion control measures such as silt fences and silt/sediment traps, protection of storm drain inlets at the site and in downstream offsite areas, and dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment.

- The CDFW shall be consulted to determine if a Streambed Alteration Agreement is required for trenchless pipeline crossings under canals, Arkansas Creek, and other potential waters of the State within the biological study area. Any avoidance and minimization measures required as part of the CDFW Streambed Alteration Agreement (SAA) shall be implemented during project construction. These measures would likely include, but not be limited to, installation of temporary erosion control measures such as silt fences and silt/sediment traps, protection of storm drain inlets at the site and in downstream offsite areas, and preparation and implementation of a frac-out and undercrossing contingency plan.

- If wetlands or drainages would be filled as a result of the project, a qualified wetland biologist shall develop and implement a conceptual wetlands mitigation and monitoring plan (MMP) to compensate for the loss of jurisdictional wetlands, including appropriate wetland replacement ratios as determined by USACE. The mitigation plan shall quantify the total jurisdictional acreage lost; and describe creation/replacement ratios for acres filled, annual success criteria, mitigation sites, and monitoring and maintenance requirements. The habitat MMP for jurisdictional wetland features shall be consistent with USACE's and the U.S. Environmental Protection Agency's (EPA) April 10, 2008 Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Parts 325 and 332 and 40 CFR Part 230). Plan implementation shall compensate for any loss of wetlands resulting from project construction activities and shall result in no net loss of wetland function.

- Water quality certification pursuant to Section 401 of the CWA shall be required as a condition of issuance of the 404 permit. Therefore, if a 404 permit is required, water quality certification or a waiver from the Central Valley Regional Water Quality Control Board (RWQCB) shall be obtained before starting project construction. Any measures required as part of the issuance of water quality certification shall be implemented. These measures would likely include, but not be limited to,

installation of temporary erosion control measures such as silt fences and silt/sediment traps, protection of storm drain inlets at the site and in downstream offsite areas, and dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment.

Mitigation Measure BIO-8: Comply with Tree Preservation Ordinance.

The District and its primary contractor shall implement the following measures to reduce impacts to protected oaks and other native trees in the biological study area:

- An International Society of Arboriculture-certified (ISA) arborist shall conduct a survey prior to removal of oaks and other native trees in all areas of the biological study area where tree removal is being considered. The arborist shall identify to species, measure the diameter and breast height (dbh), and determine exact locations of oaks and other native trees.

- Dripline avoidance areas shall be established and flagged or marked according to measures in Title 19.12 of the Ordinance.

- Minimization of impacts to oaks, such as prohibiting attachment cables to oaks, soil disturbance, or driving construction equipment within the dripline of the oak, as stated in Title 19.12 shall be followed.

- Removal or pruning of native trees shall comply with the permit conditions described in the Rancho Murieta Tree Preservation Policy.

- The District shall mitigate for loss of trees according to Title 19.12 of the Ordinance.

- If a native oak tree must be removed, it shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed. In addition, a provision for a comparable on-site area for the propagation of oak trees may substitute for replacement of tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary in accordance with existing policy.

- If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all of the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity.

Mitigation Measure CUL-1: Immediately Halt Construction Activities if Any Cultural Materials Are Discovered.

- If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, flaked stone, bottle glass, ceramics, structure/building remains, etc.) is encountered during project-related construction activities, ground disturbances in the area of the find shall be halted immediately and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the California Register of Historical Resources (CRHR) and develop appropriate mitigation. Appropriate mitigation may include no action, avoidance of the resource, and potential additional data recovery.

Mitigation Measure CUL-2: Conduct Construction Personnel Education, Stop Work if Paleontological Resources are Discovered, Assess the Significance of the Find, and Prepare and Implement a Recovery Plan as Required.

To minimize potential adverse impacts on previously unknown potentially unique, scientifically important paleontological resources, the project applicant for all project phases where construction would occur along or in the immediate vicinity of Stonehouse Road shall do the following:

- Before the start of any earthmoving activities along Stonehouse Road, the project applicant shall retain a qualified paleontologist to train all construction personnel involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils likely to be seen during construction, and proper notification procedures should fossils be encountered.

- If paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the Sacramento County Planning and Community Development Department. The project applicant shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology (SVP) guidelines (1996). The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the District to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.

Mitigation Measure CUL-3: Immediately Halt Construction Activities if Any Human Remains Are Discovered.

The procedures for the treatment of discovered human remains are contained in Sections 7050.5 and 7052 of the California Health and Safety Code and Section 5097 of the California Public Resources Code.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground disturbing activities, all such activities within 75 feet of the find shall be halted immediately and the District or its designated representative shall be notified. The District or its designated representative shall immediately notify the county coroner and a qualified professional archaeologist. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code, Section 7050[c]). The District's responsibilities for acting upon notification of a discovery of Native American human remains are identified in detail in Section 5097.9 of the California Public Resources Code. The District or its designated representative and the professional archaeologist shall consult with a Most Likely Descendant (MLD) determined by the NAHC regarding the removal or preservation and avoidance of the remains and shall determine whether additional burials could be present in the vicinity.

Assuming that an agreement can be reached between the MLD and the District or their representative with the assistance of the archaeologist, these steps would minimize or eliminate adverse impacts on the uncovered human remains.

Mitigation Measure GEO-1: Prepare a Site-Specific Landslide Hazard Evaluation and Implement Engineering Recommendations.

The District shall hire a licensed geotechnical or civil engineer to perform a site-specific evaluation of the landslide potential in areas of moderate or steep slopes where each of the proposed water storage tanks would be placed. The District shall follow all recommendations made by the engineer to ensure stabilization of steep slopes, which may include, but is not limited to, the following:

- corrective grading including soil removal and recompaction with engineered fill;
- construction of soil embankments;
- construction of surface and subsurface drainage systems; and/or
- installation of catchment basins and berms to contain potential debris flows that may occur.

Implementation of Mitigation Measure GEO-1 would reduce the potentially significant impact from landslide hazards to a less-than-significant level because a site-specific landslide hazard evaluation would be prepared by a licensed engineer, and recommendations made by the engineer to reduce the landslide hazard (such as corrective grading and installation of soil embankments) would be implemented.

Mitigation Measure GEO-2: Prepare and Implement a Grading and Erosion Control Plan.

Before the start of earthmoving activities for each project phase encompassing greater than one acre of disturbance, the project applicant shall prepare a grading and erosion control plan. The grading and erosion control plan shall be submitted to the Sacramento County Planning and Development Department for review before issuance of any grading permit for on-site work. The plan shall be consistent with the county's Land Grading and Erosion Control Ordinance and the state's National Pollutant Discharge Elimination System permit, and shall include the site-specific grading associated with development for each project phase.

The plan referenced above shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, a description of measures designed to control dust and stabilize the construction-site road and entrance, and a description of the location and methods of storage and disposal of construction materials. Erosion and sediment control measures could include the use of detention basins, berms, swales, wattles, and silt fencing, and covering or watering of stockpiled soils to reduce wind erosion.

Mitigation Measure HAZ-1: Implement a Site Investigation to Determine the Presence of Naturally Occurring Asbestos (NOA) and, if necessary, Prepare and Implement an Asbestos Dust Control Plan.

The District will conduct a site investigation to determine whether and where NOA is present in the construction area. The site investigation shall include the collection of soil and rock samples by a qualified geologist. If the site investigation determines that NOA is present within the proposed construction area then the District will prepare an Asbestos Dust Control Plan for approval by SMAQMD as required in Section 93105 of the California Health and Safety Code, "Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations." The Asbestos Dust Control Plan shall specify measures, such as periodic watering to reduce airborne dust and ceasing construction during high winds, that will be taken to ensure that no visible dust leaves the construction

area. The District shall submit the plan to SMAQMD for review and approval prior to construction. SMAQMD approval of the plan must be received before any asbestos-containing rock (serpentinite) can be disturbed. Upon approval of the Asbestos Dust Control Plan by SMAQMD, the District will ensure that construction contractors implement the terms of the plan throughout the construction period.

Mitigation Measure HAZ-2: Prepare and Implement a Construction Traffic Control Plan.

The project applicant shall prepare and implement a traffic control plan for construction activities that may affect road rights-of-way, in order to facilitate travel of emergency vehicles on affected roadways. The traffic control plan must follow applicable Sacramento County, California Department of Transportation (Caltrans), private, and any other responsible party's standards and must be approved and signed by a professional engineer. Measures typically used in traffic control plans include advertising of planned lane closures, warning signage, a flag person to direct traffic flows when needed, and methods to ensure continued access by emergency vehicles. During project construction, access to the existing surrounding land uses shall be maintained at all times, with detours used, as necessary, during road closures. The traffic control plan shall be submitted to the Sacramento County Public Works Department for review and approval before the approval of all project plans or permits.

Mitigation Measure HYD-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices.

For all activities disturbing 1 or more acres (including phased construction of smaller areas that are part of this larger project), the District will obtain coverage under the SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ, "Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities"), including preparation and submittal of a SWPPP at the time the notice of intent is filed. The SWPPP shall address pollutant sources, non-stormwater discharges resulting from construction dewatering, best management practices, and other requirements specified in the Order. The BMPs shall include any measures included in the erosion and sediment control plans developed for the project to minimize disturbance after grading or construction. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment. The District will be responsible for overall compliance with the SWPPP, and will ensure that a copy of the approved SWPPP is maintained and available at all times at each construction site, and visual inspections and sampling and analysis are conducted in accordance with the SWPPP.

The BMPs should include, but may not be limited to:

- Temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other groundcover shall be employed for disturbed areas, including re-seeding the pipeline alignments with native grass seed to prevent pollutants or sediment from entering stormwater runoff.

- Protection of storm drain inlets on the site and in downstream offsite areas.

- Sweeping dirt and debris from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events.

- No disturbance of surfaces without erosion control measures in place between October 15 and April 15.

Mitigation Measure HYD-2: Evaluate and Implement Construction Site Dewatering Controls.

If construction dewatering is required, the District will evaluate reasonable options for dewatering management and ensure that controls on construction site dewatering are implemented during all construction dewatering activities. If possible, water generated as part of construction dewatering shall be discharged onsite such that there is no discharge to surface waters. This may be achieved by reusing the water on-site for dust control, compaction, or irrigation, and/or retaining the water on-site in a grassy or porous area to allow infiltration/evaporation. If discharge to surface waters is unavoidable, the District will obtain coverage under the SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ, "Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities"), prior to commencement of construction.

Mitigation Measure HYD-3: Prepare and Implement a Frac-Out and Undercrossing Contingency Plan.

If drilling mud is needed during construction, the District will develop and follow procedures to prevent the mix that is used during drilling from being discharged onto the ground surface when installing pipelines using trenchless construction methods. The plan shall address how the contractor would manage pressures and the volume of lubricant used to prevent frac-out. The plan shall also address procedures to follow in the event a frac-out occurs. Drilling activities shall be visually monitored for any sign of lubricant frac-out and should frac-out occur, the contractor shall complete the following:

- Stop pumping lubrication.
- Locate the point and cause of the frac-out.
- Contain the spill to the maximum extent possible.
- Clean up the spill to the maximum extent possible.
- Wait at least two hours before pumping lubrication near the frac-out point to allow the ground to seal.
- Reduce pumping pressure and volume in the area of the frac-out.
- Notify all designated authorities that a frac-out occurred, including but not limited to CDFW.

Mitigation Measure NOI-1: Provide Noise Shielding for Pump Stations.

The District will design the proposed pump stations with shielding, as needed, to achieve noise levels below 55 dBA at 50 feet.

Mitigation Measure NOI-2: Implement Feasible Noise Abatement Measures for Construction Equipment.

The District will require its contractors to implement feasible noise abatement measures for noise-producing equipment. These may include, but may not be limited to the following actions:

- Plan noisier operations during times of highest ambient noise levels.

- Keep noise levels relatively uniform; avoid excessive and impulse noises. Operate equipment so as to minimize banging, clattering, buzzing, and other annoying types of noises, especially near residential and other noise sensitive areas.

- Turn off idling equipment.
- Provide upgraded mufflers, acoustical lining or acoustical paneling for noisy equipment, including internal combustion engines.
- To the extent feasible, configure the construction site in a manner that keeps noisier equipment and activities as far as possible from noise sensitive locations and nearby buildings.
- Use construction equipment manufactured or modified to reduce noise and vibration emissions, such as electric instead of diesel-powered equipment.

Mitigation Measure REC-1: Coordinate with Rancho Murieta Country Club (RMCC) Prior to Construction.

The District shall coordinate with RMCC at least 30 days prior to construction activities that could affect golf course operations, including access to the course and course play. Measures to minimize disruption to golf course operations could include, but may not be limited to:

- Providing notification of scheduled construction activities in highly visible locations within the golf courses (e.g., clubhouse, pro shop) at least 15 days prior to initiation of the work.
- When construction is taking place on the golf course, conducting daily preconstruction meetings between the District contractor and the RMCC manager to minimize disruptions to golf course operations.

Written comments regarding the IS/MND must be received by Friday, June 13, 2014, and addressed to:

Paul Siebensohn
Director of Field Operations
Rancho Murieta Community Services District
P.O. Box 1050
Rancho Murieta, CA 95683
Fax: (916) 354-3736
E-mail: psiebensohn@ranchomurietacsd.com

ADOPTION OF INITIAL STUDY/MITIGATED NEGATIVE DECLARATION AND APPROVAL OF INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Certification by Those Responsible for Preparation of This Document. The Rancho Murieta Community Services District has been responsible for the preparation of this mitigated negative declaration and the incorporated initial study. I believe this document meets the requirements of the California Environmental Quality Act and provides an accurate description of the proposed project, and that the lead agency has the means and commitment to implement the project design measures that will assure the project does not have any significant, adverse effects on the environment. I recommend approval of this document.

_____ _____

Paul Siebensohn, Director of Field Operations Date
Rancho Murieta Community Services District

*(*To be signed upon completion of the public review process and preparation of a final project approval package including responses to comment, if any, on the environmental document and any necessary modifications to project design measures.)*

Approval of the Project by the Lead Agency: To meet Section 21082.1 of the California Environmental Quality Act, Rancho Murieta Community Services District has independently reviewed and analyzed the initial study and mitigated negative declaration for the proposed project and finds that the initial study and mitigated negative declaration reflect the independent judgment of Rancho Murieta Community Services District. The lead agency finds that the project design features will be implemented as stated in the mitigated negative declaration.

I hereby approve this project:

_____ _____

Gerald Pasek, Board President Date
Rancho Murieta Community Services District

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INITIAL STUDY

Rancho Murieta Recycled Water System Expansion Project

1. Project Title	Rancho Murieta Recycled Water System Expansion Project
2. Lead Agency Name and Address	Rancho Murieta Community Services District 15160 Jackson Road Rancho Murieta, CA 95683
3. **Contact Person and Phone Number**	Paul Siebensohn Director of Field Operations Rancho Murieta Community Services District P.O. Box 1050 Rancho Murieta, CA 95683 Fax: (916) 354-3736 E-mail: psiebensohn@ranchomurietacsd.com
4. Project Location	The project is located in the Community of Rancho Murieta approximately 25 miles east of Sacramento within the Carbondale and Folsom Southeast U.S. Geological Survey (USGS) 7.5-minute quadrangle in Sacramento County, California
5. Project Sponsor's Name	Rancho Murieta Community Services District
6. General Plan Designation	Low Density Residential, Public and Quasi-Public, Recreation, & General Agriculture
7. Zoning	A-2 (Agricultural-Residential) and AG-80 (Agricultural, 80-acre minimum)
8. Description of Project	The District is proposing to consolidate Waste Discharge Requirements (WDR) R5-01-124 and WDR R5-2007-0109 into a renewed Waste Discharge Requirement for the District's Wastewater Reclamation Plant (WWRP) and a new Master Reclamation Permit (MRP) to expand its approved recycled water use areas to serve new development within the District's service area and to serve adjacent pasture lands. Current use areas consist of two golf courses managed by the Rancho Murieta Country Club and specific areas within the Van Vleck Ranch managed by the District. New recycled water use areas would include residential front and backyards; parks; athletic fields; commercial and street landscaping; and dust control. The proposed project would also involve upgrading and installing the infrastructure necessary to produce and deliver the recycled water to the expanded use areas.

9. Surrounding Land Uses and Setting	The community is surrounded by open space and agricultural lands. See Environmental Setting discussion under each issue area in Chapter 3, "Environmental Checklist."
10. Other Public Agencies Whose Approval May Be Required	California Department of Fish and Wildlife, California Central Valley Regional Water Quality Control Board, Sacramento County, Sacramento Metropolitan Air Quality Management District, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service.

1 INTRODUCTION

The Rancho Murieta Community Services District (District) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) in compliance with the California Environmental Quality Act (CEQA) to address the environmental consequences of the proposed Rancho Murieta Recycled Water System Expansion Project (proposed project) in the Community of Rancho Murieta, Sacramento County, California. The District is the lead agency under CEQA.

Rancho Murieta has an estimated population of approximately 6,000. The number of residential homes within Rancho Murieta is expected to increase from 2,500 to approximately 4,400 in the next 15 years which will result in substantially increased potable and non-potable water demands. Because the community currently relies solely on surface water supplied from the Cosumnes River to meet potable water demands, the District's Integrated Water Management Plan (IWMP) has identified recycled water as a viable supplemental source of water to augment its surface water supplies to meet non-potable water demands. Thus, the District is seeking to consolidate Waste Discharge Requirements (WDR) R5-01-124 and WDR R5-2007-0109 into a renewed Waste Discharge Requirement for the District's Wastewater Reclamation Plant (WWRP) and a new Master Reclamation Permit (MRP) to expand its approved recycled water use areas within and adjacent to the District's service area. Current use areas consist of two golf courses managed by the Rancho Murieta Country Club and specific areas within the Van Vleck Ranch managed by the District. New recycled water use areas would include residential front and back yards; parks; athletic fields; commercial and street landscaping; and dust control. The District is also seeking to upgrade and install the infrastructure necessary to produce and deliver the recycled water to the expanded use areas.

This document includes:

- an IS (Initial Study) to satisfy CEQA requirements,
- a MND to satisfy CEQA requirements, and

After the required public review of this document is complete, the District will consider adopting the MND and a mitigation monitoring and reporting program, and will decide whether to proceed with the proposed project.

1.1 PURPOSE OF THE INITIAL STUDY

This document is an IS/MND prepared in accordance with CEQA (Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations). The purpose of this IS/MND is to (1) determine whether project implementation would result in potentially significant or significant effects on the environment; and (2) incorporate mitigation measures into the project design, as necessary, to eliminate the project's potentially significant or significant project effects or reduce them to a less-than-significant level.

An IS/MND presents environmental analysis and substantial evidence in support of its conclusions regarding the significance of environmental impacts. Substantial evidence may include expert opinion based on facts, technical studies, or reasonable assumptions based on facts. An IS/MND is neither intended nor required to include the level of detail provided in an environmental impact report (EIR).

CEQA requires that all state and local government agencies consider the environmental consequences of projects they propose to carry out or over which they have discretionary authority, before implementing or approving those projects. The public agency that has the principal responsibility for carrying out or approving a project is the lead agency for CEQA compliance (State CEQA Guidelines, Section 15367). The District has principal responsibility for carrying out the proposed project and is therefore the CEQA lead agency for this IS/MND.

If there is substantial evidence (such as the findings of an IS) that a project, either individually or cumulatively, may have a significant effect on the environment, the lead agency must prepare an EIR (State CEQA Guidelines, Section 15064[a]). If the IS concludes that impacts would be less than significant, or that mitigation measures committed to by the applicant would clearly reduce impacts to a less-than-significant level, a negative declaration or MND can be prepared.

The District has prepared this IS to evaluate the potential environmental effects of the proposed project and has incorporated mitigation measures to reduce or eliminate any potentially significant project-related impacts. Therefore, an MND has been prepared for this project.

1.2 SUMMARY OF FINDINGS

Chapter 3 of this document contains the analysis and discussion of potential environmental impacts of the proposed project. Based on the issues evaluated in that chapter, it was determined that the proposed project would result in no impacts on the following issue areas:

- Agriculture and forestry resources
- Population and housing
- Land use and planning

The proposed project would result in less-than-significant impacts on the following issue areas:

- Mineral resources
- Greenhouse gas emissions

The proposed project would result in less-than-significant impacts *after* mitigation on the following issue areas:

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Geology and soils
- Hazards and hazardous materials
- Utilities and service systems
- Noise
- Hydrology and water quality
- Public services
- Recreation
- Transportation/traffic
- Mandatory findings of significance

1.3 DOCUMENT ORGANIZATION

This document is divided into the following sections:

MND. The MND, which precedes the IS analysis, summarizes the environmental conclusions and identifies mitigation measures that would be implemented in conjunction with the proposed project.

Chapter 1, "Introduction." This chapter briefly summarizes the proposed project and describes the purpose of the IS/MND, summarizes findings, and describes the organization of this IS/MND.

Chapter 2, "Project Description." This chapter describes the purpose of and need for the proposed project, general background, and project elements.

Chapter 3, "Environmental Checklist." This chapter presents an analysis of environmental issues identified in the CEQA environmental checklist and determines whether project implementation would result in a beneficial impact, no impact, less-than-significant impact, less than significant with mitigation incorporated, potentially significant impact, or significant impact on the environment in each issue area. Should any impacts be determined to be potentially significant or significant, an EIR would be required. For this project, however, mitigation measures have been incorporated as needed to reduce all potentially significant and significant impacts to a less-than-significant level.

Chapter 4, "References Cited." This chapter lists the references used in preparation of this IS/MND.

Chapter 5, "Report Preparers." This chapter identifies report preparers.

Chapter 6, "IS/MND Distribution." This chapter lists the people to whom this IS/MND will be distributed.

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2 PROJECT DESCRIPTION

This chapter describes the Rancho Murieta Recycled Water System Expansion Project (proposed project). The project location and background are described along with project objectives, project characteristics, construction phases and methods, project operations, and discretionary actions and approvals that may be required.

2.1 PROJECT LOCATION AND BACKGROUND

2.1.1 PROJECT AREA

The proposed project is located in Rancho Murieta, a 3,500-acre planned community located off Jackson Road (State Route [SR] 16) along the eastern border of Sacramento County approximately 25 miles east of the City of Sacramento (Exhibit 2-1). The Cosumnes River runs east to west through the south-central portion of the community.

2.1.2 RANCHO MURIETA COMMUNITY SERVICES DISTRICT

The Rancho Murieta Community Services District (District) is an independent special district formed in 1982 to provide essential services to the community. The District's service area is nearly contiguous with the boundaries of the Rancho Murieta community (see Exhibit 2-1). Services provided by the District include water supply collection, treatment and distribution; wastewater collection, treatment, and reuse; storm drainage collection and disposal; flood control; security; and solid waste collection and disposal (RMCSD 2014).

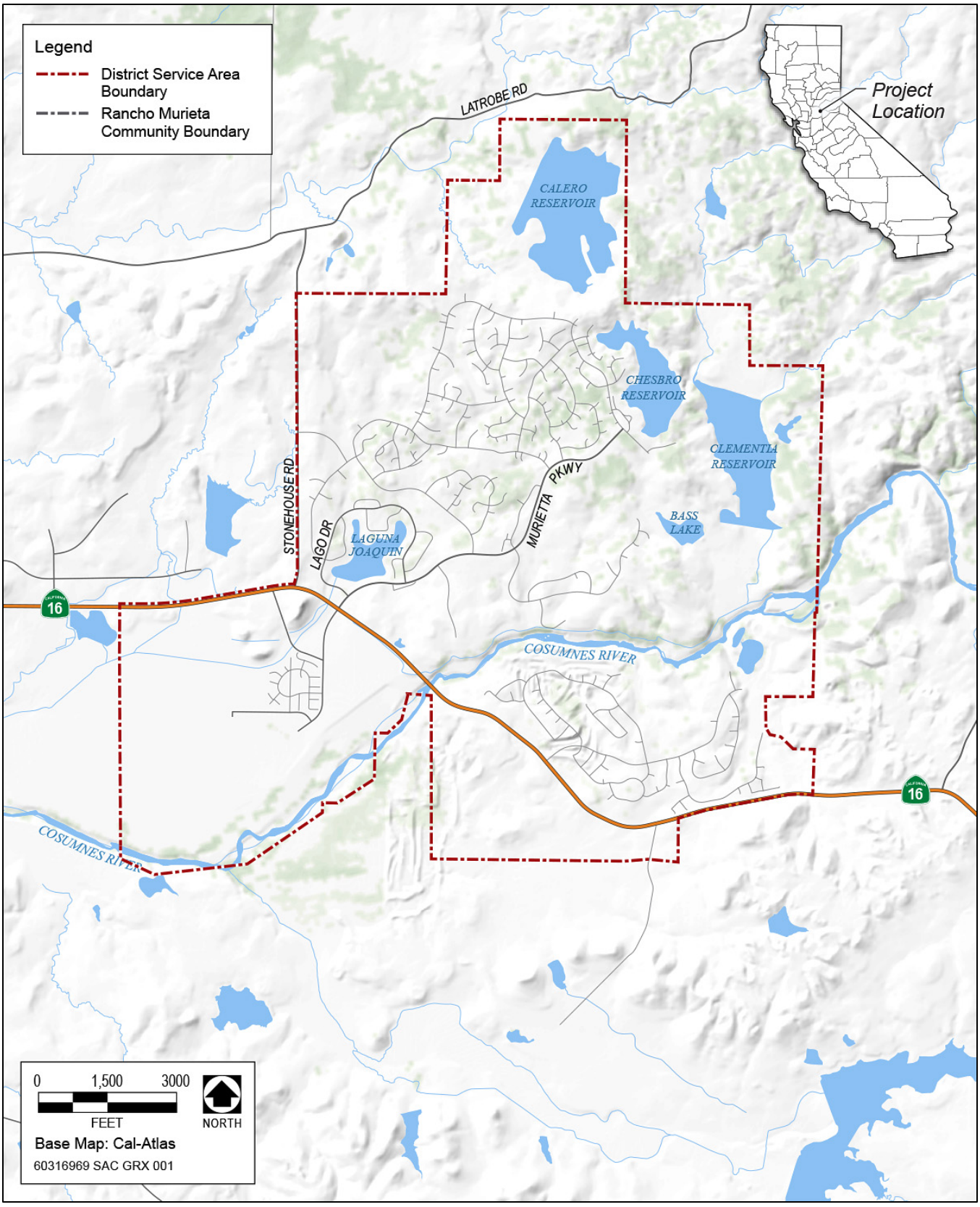
Of the 3,500 acres within the District service area, approximately 2,000 acres are developed, mostly with residential housing, including the developments of Rancho Murieta North, located east of Stonehouse Road and north of the Cosumnes River; Rancho Murieta South, located south of the Cosumnes River and northeast of SR 16; and Murieta Village Association, a mobile home community in the southwestern corner of the community (Exhibit 2-2). Also located within the District are the Rancho Murieta Country Club (RMCC), including two golf courses; a retail complex; the Rancho Murieta Airport and Business Park; a fire station; equestrian center; Home Owner's Association; Operating Engineers & Teamsters Union training yard and dorms; wastewater reclamation plant (WWRP); three water supply reservoirs, Calero, Chesbro, and Clementia; and various park facilities and open space.

2.1.3 EXISTING WATER SUPPLY

The community's water supplies consist of surface water diverted from the Cosumnes River, under Water Rights Permit 16762, and recycled water.

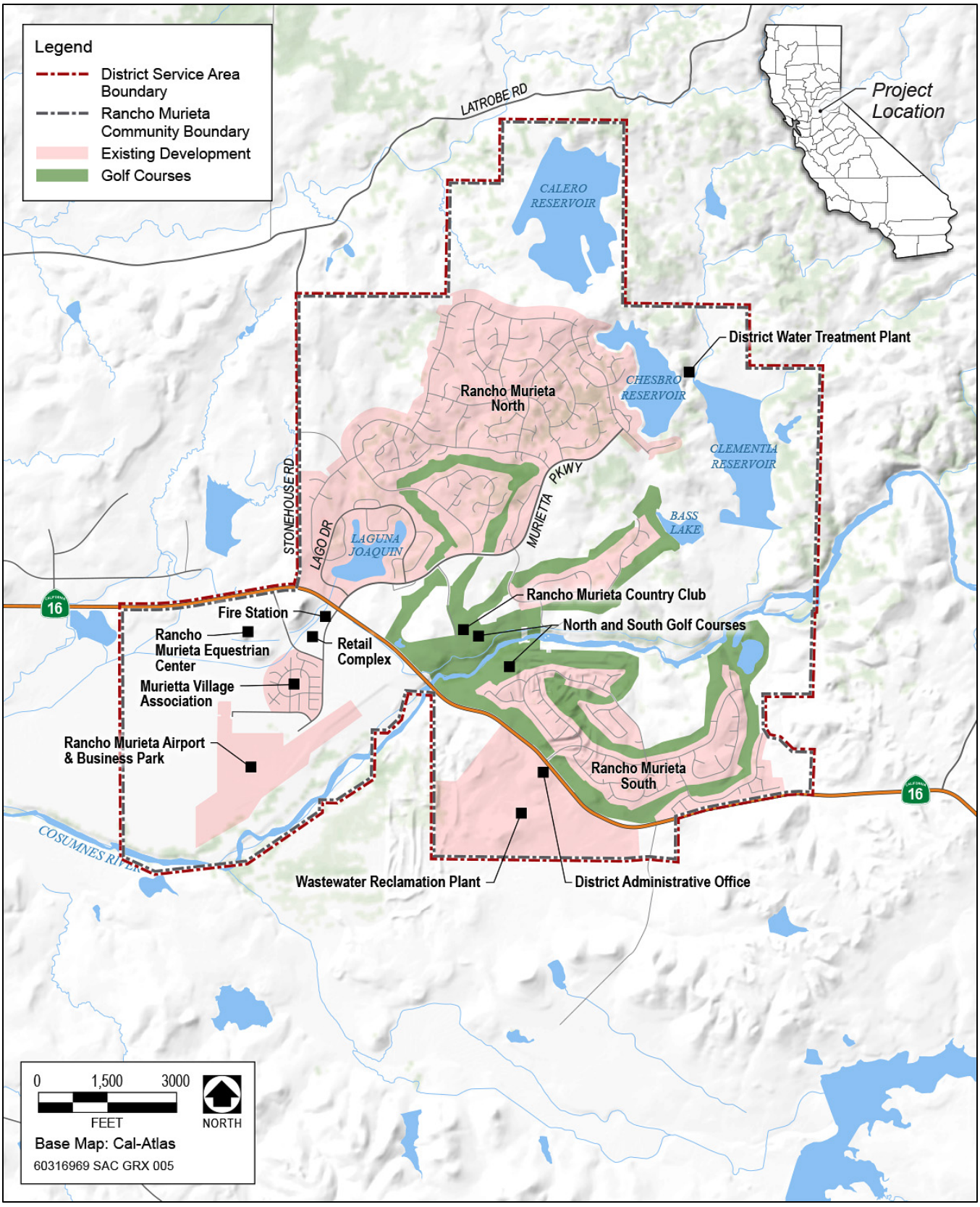
POTABLE WATER

The potable water supply is derived solely from surface water diverted directly from the Cosumnes River. This water is stored in three surface storage reservoirs (Calero, Chesbro, and Clementia) and then treated at the District's Water Treatment Plant prior to distribution (see Exhibit 2-1). The three reservoirs have an estimated total combined storage volume of 5,107 AF, of which 4,707 AF is considered to be usable for domestic and commercial potable water supply purposes.



Source: RMCSD 2014, adapted by AECOM 2014.

Exhibit 2-1 **Site Vicinity and Location**



Source: RMCSD 2014, adapted by AECOM 2014.

Exhibit 2-2 **Project Location**

RECYCLED WATER

The California Department of Public Health (CDPH) has established uniform statewide criteria for the various uses of recycled water to assure protection of public health where recycled water use is involved (California Water Code [CWC] section 13521). These recycled water regulatory criteria are promulgated in Title 22, Division 4, Chapter 3, section 60301 et seq. of the California Code of Regulations (CCR), and include specified approved uses of recycled water, numerical limitations and requirements, treatment method requirements, and performance standards. The Regional Water Quality Control Boards (RWQCB) are responsible for issuing wastewater reclamation and recycled water user requirements in consultation with CDPH to protect the public health and water quality.

The District falls within the jurisdiction of the Central Valley RWQCB, whose mission is to preserve, enhance, and restore the quality of California's water resources and to ensure their proper allocation and efficient use for the benefit of present and future generations. A specific goal of the Central Valley RWQCB is to promote and expand the beneficial use of recycled water. In an effort to support this goal, the District has chosen to offer recycled water to customers to protect, preserve, and conserve ground and surface water resources in Sacramento County as well as surrounding counties as part of the District's water augmentation supply and wastewater disposal portfolio.

The District recently adopted Recycled Water Standards (October 16, 2013) and the Recycled Water Code (January 18, 2012). District Code, Chapter 17 (Recycled Water Code) sets forth rules and regulations regarding the use of recycled water in Rancho Murieta. The Recycled Water Standards define District procedures, design, work, materials, capacities, facilities and other improvements pertaining to recycled water facilities or connections.

Together the Recycled Water Code and Recycled Water Standards establish and provide the means to enforce rules and regulations for recycled water users, design and construction of recycled water facilities, and the use of recycled water in accordance with federal and state reclamation criteria.

Existing Wastewater Reclamation Facilities

The District owns and operates the Rancho Murieta Wastewater Reclamation Plant (WWRP), located on the south side of SR 16 east of the airport and the Cosumnes River, and south of the Rancho Murieta South development (see Exhibit 2-2). All wastewater generated in the District's service area is treated at the WWRP which is regulated under Waste Discharge Requirements (WDRs) Order No. 5-10-124 issued by the Central Valley RWQCB. Operations and maintenance of the WWRP is conducted in accordance with the *Wastewater Reclamation Plant Operations and Maintenance Manual* (RMCSD 2013b).

The WWRP currently serves approximately 2,500 residences, 41 commercial facility connections, such as stores and restaurants, and a handful of parks (RMCSD 2013a). There are no industrial dischargers in the District service area.

The WWRP consists of a secondary wastewater treatment facility and a tertiary treatment plant. The secondary treatment facility, which comprises five secondary treatment (aerated facultative) ponds, is designed to treat an average dry weather flow (ADWF) of 1.5 million gallons per day (MGD) and a peak flow of 3.0 MGD. Seasonal

storage (October to March) of the secondary treated wastewater is provided in two storage reservoirs, which have a combined capacity of approximately 238 million gallons (MG) or 728 acre-feet (AF).

The tertiary treatment facilities consist of chemical feed and coagulation equipment, two dissolved air flotation units, two rapid sand filters, a chlorine contact chamber and pipeline, and concrete lined equalization basin which treat the secondary effluent to meet statewide water recycling criteria for Disinfected Tertiary Recycled Water under Title 22. The capacity of the tertiary filtration facilities is 3.0 MGD. However, the capacity of the overall tertiary treatment process is limited to 2.3 MGD due to limitations associated with the existing disinfection system.

The tertiary treatment plant is generally operated each year from April through November. After the secondary effluent undergoes tertiary treatment, the recycled water is stored in the equalization basin located at the WWRP prior to conveyance for recycled water use. This basin has a capacity of 1.8 MG or 5.47 AF.

Existing Recycled Water Use Areas

The District, in conjunction with the RMCC, has been successfully using recycled water for golf course irrigation for over 30 years. As shown in Exhibit 2-3, the District's current designated recycled water use areas include the two, 18-hole golf courses owned by the RMCC (North and South golf courses), and pastureland and unimproved areas south of the WWRP owned by Van Vleck Ranching and Resources, Inc. (Van Vleck Ranch).

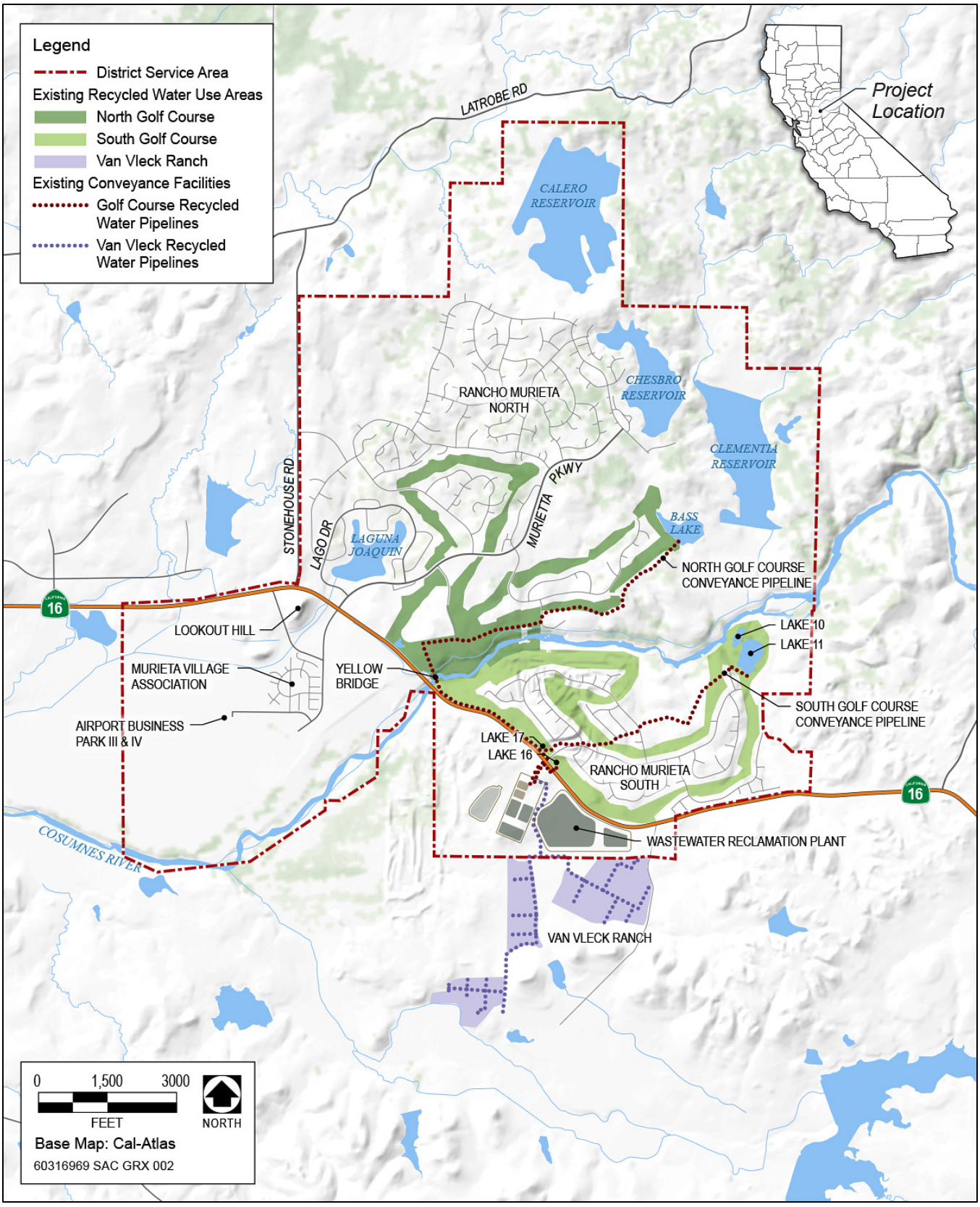
Golf Course Irrigation

Requirements for the use of tertiary disinfected recycled water from the WWRP on the North and South golf courses operated by the RMCC, are prescribed in WDRs Order No. R5-01-124 issued by the Central Valley RWQCB, and operations are conducted in accordance with *Delivery and Use of Recycled Water at the Rancho Murieta Country* (RMCSD 2010). After undergoing tertiary treatment, the majority of recycled water produced by the WWRP is pumped to five reservoirs situated around the two golf courses for storage until reuse. The total existing combined irrigation area and demand of the North and South golf courses is estimated to be 250 acres and 550 acre-feet per year (AFY), respectively. Golf course irrigation demands are the highest during summer, with the last month of significant irrigation typically occurring in October. However, irrigation is occasionally required during the month of November due to weather conditions. Currently recycled water deliveries provide approximately 455 AFY of the average 550 AFY required, and the remaining 95 AFY is met through raw water diversions from the Cosumnes River.

The District owns, operates, and maintains the South Golf Course conveyance system up to Lakes 16/17, and up to the Yellow Bridge for the North Golf Course conveyance system (Exhibit 2-3). Beyond these locations, the RMCC owns and operates the golf course conveyance system, and is responsible for routine maintenance and monitoring of the distribution system, and for required water quality monitoring and reporting.

Van Vleck Ranch Spray Field Irrigation

After undergoing tertiary treatment, recycled water may also be pumped to spray fields on Van Vleck Ranch to irrigate pasturelands just south of the District boundary and the WWRP. Requirements for the use of tertiary disinfected recycled water from the WWRP on pasturelands at Van Vleck Ranch are prescribed in WDRs Order No. R5-2007-0109 issued by the Central Valley RWQCB, and operations are conducted in accordance with the *Operations and Management Plan for Temporary Spray Fields* (RMCSD 2007). The current total spray field



Source: RMCSD 2014, adapted by AECOM 2014.

Exhibit 2-3 **Existing Recycled Water Facilities and Use Areas**

irrigation area and demand at Van Vleck Ranch is estimated to be 97 acres and 215 AFY, respectively. The District coordinates recycled water use in the designated use areas with the Van Vleck Ranch manager to allow for movement of the K-line irrigation lines to accommodate periodic grass cutting and cattle rotation. The District is also responsible for maintenance of the recycled water pipeline up to the Van Vleck Ranch property line; beyond that point, the Van Vleck Ranch is responsible for system maintenance. When in service, the District is responsible for daily visual monitoring of the Van Vleck Ranch recycled water use areas to prevent run-off, ponding, and over spray during the application of recycled water.

Existing Recycled Water Program Staffing

Operations staff for the District share their time between water, sewer, reclamation, and drainage services. The District employs five plant operators, including the Chief Operator, as well as a Director of Field Operations, an equipment mechanic, and a Utility Supervisor and three utility workers who provide WWRP and recycled water system maintenance and monitoring. The WWRP is open seven days a week from 7 a.m. to 6 p.m. when in operation, and is staffed Monday thru Friday by five operators and on the weekends by two operators. One utility worker and one operator are also on call after normal working hours for emergencies.

2.2 PROJECT PURPOSE AND OBJECTIVES

In the next 15 years, the number of residential homes within Rancho Murieta is expected to increase from 2,500 to approximately 4,400. As a result, drinking water and landscape irrigation water supply demands are expected to increase substantially. Because the community relies solely on surface water supplied from the Cosumnes River to meet potable water demand, the District's Integrated Water Management Plan (IWMP) identified recycled water as a viable supplemental source of water to augment its surface water supply to help meet non-potable water supply needs.

Rules and regulations for the end use of recycled water are established and/or enforced by the Regional Water Quality Control Board (RWQCB), CDPH, and the local county health department. Currently, District water recycling operations are regulated under WDRs (Orders R5-01-124 and R5-2007-0109) issued by the Central Valley RWQCB in consultation with CDPH and a Use Permit approved by Sacramento County, which allow recycled water from the Rancho Murieta WWRP to be used for golf course irrigation within the District and spray irrigation of pastureland owned by Van Vleck Ranching and Resources, Inc.

On July 20, 2011, the District adopted Policy 2011-07 which mandates the use of recycled water in new developments for non-domestic purposes, wherever economically and physically feasible as determined by the District's Board of Directors (Board). In general, the lands subject to this policy are defined as undeveloped residential parcels located within the District's service area as well as existing parks, median landscaping, and commercial landscaping areas.

Accordingly, the primary purpose of the proposed project is to expand the District's approved recycled water use areas. The District is requesting a Master Reclamation Permit (MRP) be approved by the Central Valley RWQCB and CDPH to allow the use of recycled water for residential front and backyard irrigation for new development; irrigation of parks, greenbelts, playgrounds, athletic fields, common areas, and commercial and street landscaping; as well as for dust control throughout the District's service area (RMCSD 2013c). An MRP combines the waste discharge requirements pursuant to Water Code Sections 13260 et seq. and water recycling requirements, and may be issued to a supplier or distributor, or both, of recycled water. The procedures for

adoption by the RWQCBs are the same as for water recycling requirements and include the same consultation with the CDPH (Water Code Section 13523.1).

Specifically, the objectives of the proposed project are as follows:

- Consolidate WDR R5-01-0124 and WDR R5-2007-0109 into a renewed WDR for the WWRP and acquire a new MRP to allow the expanded use of Title 22 tertiary treated recycled water within and adjacent to the District's service area.

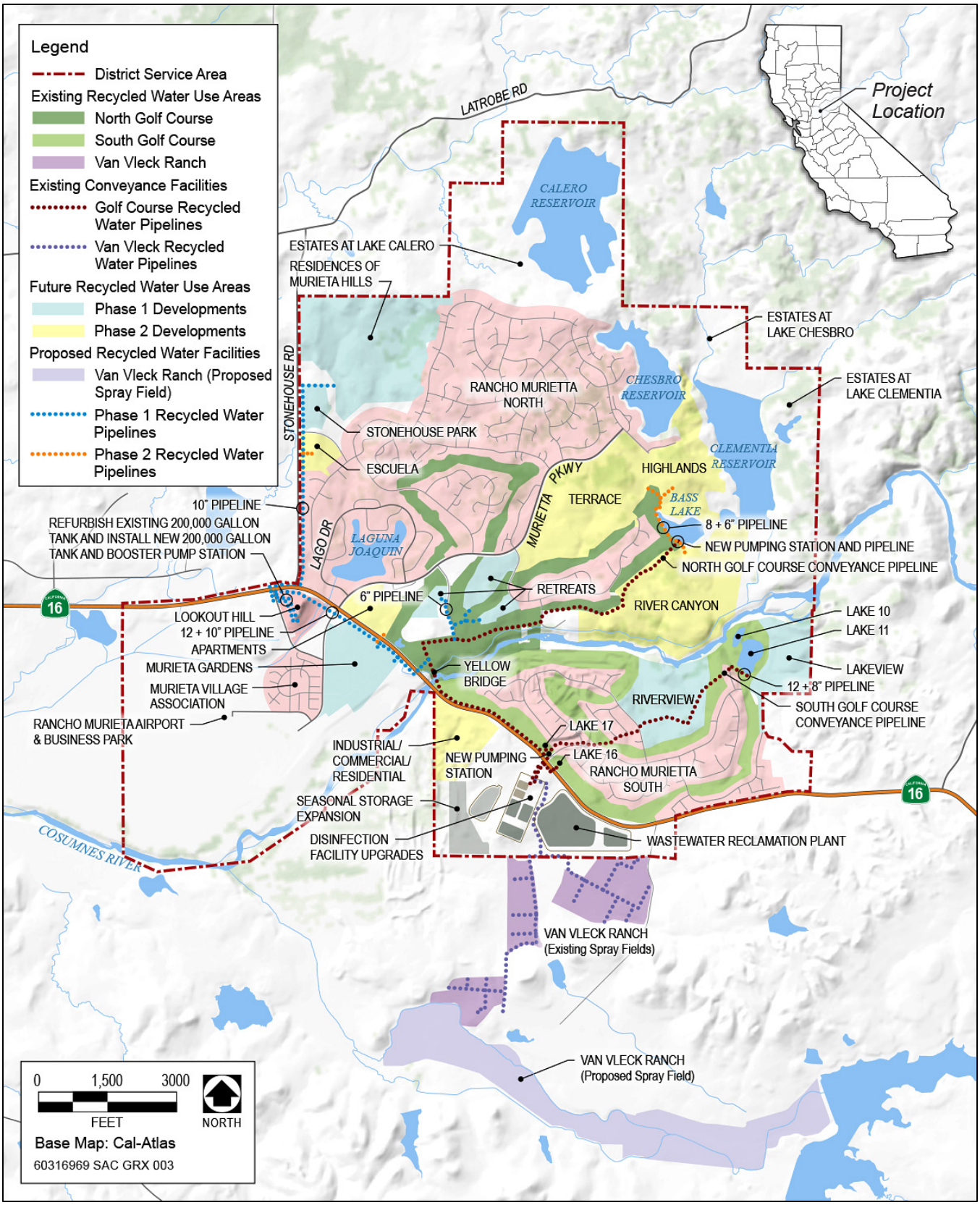
- Install the infrastructure necessary to produce and deliver the recycled water necessary to serve the expanded use areas.

2.3 PROPOSED PROJECT

The proposed project would include expansion of approved recycled water use areas to include residential landscaping for the proposed new developments of Murieta Gardens, Residences at Murieta Hills, Retreats, Lakeview, Riverview, Terrace, Highlands, River Canyon, Apartments, and Escuela as well as the proposed Industrial/Commercial/ Residential development northeast of the WWRP; irrigation of Stonehouse Park; and irrigation of another 187 acres of pastureland on Van Vleck Ranch. The maximum demand from the Van Vleck Ranch is assumed to be 625 AFY (RMSCD 2013a). Although the Rancho Murieta Master Plan caps development at 5,000 units, future residential build out is currently estimated at 4,400 dwellings units, which translates to a residential irrigation demand of approximately 370 AFY (RMCSD 2013a).

To support recycled water use in the expanded use areas would require improvements to the WWRP disinfection system, installation of additional seasonal storage and pumping capacity, and construction of conveyance facilities (Exhibit 2-4). Individual improvements would be implemented in two phases to correspond with development. Phase 1 improvements would include the WWRP plant improvements and other facilities needed to serve the Murieta Gardens, Residences at Murieta Hills, Retreats, Lakeview, and Riverview developments, Stonehouse Park, and the additional pastureland on Van Vleck Ranch. Phase 2 improvements would include facilities needed to serve the Terrace, Highlands, River Canyon, Apartments, Escuela Industrial/Commercial/Residential developments.

This Initial Study (IS) evaluates the potential impacts to water quality associated with the application of recycled water within the proposed new use areas, along with the potential construction- and operations-related impacts of proposed facilities required to treat, store, and convey recycled water to the new reuse areas. This IS does not address the potential construction- and operations-related impacts associated with the distribution systems that would need to be constructed within the new recycled water use areas. It is assumed that the impacts associated with construction and operation of the distribution systems within these expanded recycled water use areas will be addressed in later CEQA documents.



Source: RMCSD 2014, adapted by AECOM 2014.

Exhibit 2-4 **Proposed Recycled Water Facilities and Use Areas**

2.3.1 PHASE 1 IMPROVEMENTS

Phase 1 recycled water system improvements would include the following elements:

- upgrading the existing disinfection system to include approximately 195,000 gallons of additional chlorine contact basin capacity by adding concrete walls within the existing 1.8 MG equalization basin, and thereby increasing the rated tertiary treatment capacity from 2.3 to 3.0 MGD in accordance with Title 22 requirements;

- refurbishing an existing 200,000 gallon water storage tank and installing a new 200,000 gallon storage tank along with a 700 gallon per minute (gpm) booster pump station on approximately ½ acre at Lookout Hill to store and deliver recycled water to the developments located in the northwest corner of Rancho Murieta. Booster pumping stations are required to increase the operating pressure downstream of recycled water storage tanks. Storage tanks are intended to supplement recycled water supply during the peak month of the irrigation season and to provide a backup supply;

- reconfiguring the existing Recycled Water Pump Station at the WWRP to serve the proposed Van Vleck Ranch irrigation site and constructing a new pump station at the WWRP to serve the North Golf Course;

- installing approximately 12,000 linear feet of new 12- and 10-inch diameter transmission main along existing roadways to serve the Murieta Gardens and Residences at Murieta Hills developments and Stonehouse Park; and connecting the transmission main to the existing 12-inch North Golf Course conveyance pipeline immediately north of the Yellow Bridge. It is assumed that both the highway undercrossing and transmission main up to the Murieta Gardens development would be a 12-inch pipeline, and beyond this point, the transmission main would be reduced to a 10-inch pipeline;

- installing approximately 2,000 linear feet of 6-inch diameter service pipeline along existing roadways to serve the Retreats, Riverview and Lakeview developments. These pipelines would be connected to either the existing 8-inch North Golf Course conveyance pipeline or 8-inch South Golf Course conveyance pipeline;

- installing a new 1,040 gpm pump station at Bass Lake to convey recycled water to the Terrace, Highlands, and River Canyon developments for residential landscape irrigation, and possibly one 500,000 gallon or two 250,000 gallon storage tanks at an as yet to be determined location within one of these developments to provide up to 500,000 gallons of new recycled water storage; and

- installing a new 1,000 gpm pump station at Lakes 16/17 to convey recycled water to the Lakeview and Riverview developments for residential landscape irrigation, and then discharge the remaining recycled water into Lakes 10/11.

2.3.2 PHASE 2 IMPROVEMENTS

Phase 2 recycled water system improvements would include the following elements:

- constructing approximately 240 AF of additional seasonal storage at the WWRP;

- installing approximately 1,000 linear feet of new 6-inch diameter recycled water pipeline to serve the Terrace, Highlands, River Canyon, Apartments, and Escuela developments and the proposed Industrial/Commercial/Residential development northeast of the WWRP. These pipelines would be connected to the existing 8-inch North Golf Course conveyance pipeline.

2.4 CONSTRUCTION ACTIVITIES, HOURS, AND LABOR FORCE

Construction would involve activities such as site preparation, grading, excavation, and site restoration. The activities would vary with project components (e.g., treatment plant upgrades, storage tanks and pump stations, and pipelines). Staging areas would be located at the WWRP and immediately adjacent to construction disturbance areas within the District's existing easements. All project-related construction activities would be conducted during daylight hours in compliance with construction noise exempt hours identified in the Sacramento County Noise Ordinance. In addition, any construction proposed in residential areas would comply with construction hours outlined in the current Rancho Murieta Association Non-Architectural Rules. Typical construction equipment necessary to implement improvements to the WWRP facilities and to construct new facilities and transmission pipelines needed to store and convey recycled water to the new use areas would include backhoes, graders, trenchers, cranes, haul trucks, water trucks, compactors, excavators, side-booms, and pipe bending machines. The proposed project would require multiple professionals to operate this heavy equipment. While the source of the construction labor force is unknown at this time, workers would likely come from the local labor pool and union hiring halls.

For the purposes of this Initial Study analysis, it has been assumed that earthmoving at each local construction site would be balanced. Other materials, such as bedding sand, aggregate base, drilling slurry, etc., would need to be imported to the site. It is assumed that these materials would come from a permitted source within 30 miles of the site.

Based on conversations with the District (Paul Siebensohn, pers. comm. 2014), no tree removal is anticipated to be necessary to accomplish the proposed recycled water system improvements. However, in case there is a need for tree removal with changes to project plans, removal of the trees must be in compliance with the Sacramento County General Plan Tree Ordinance (see Chapter 3.4).

2.4.1 PIPELINE CONSTRUCTION

New pipelines would be installed using open trench construction methods, except where under-crossings would be required. Under-crossings would use trenchless construction methods.

OPEN TRENCH PIPELINE INSTALLATION ALONG ROADWAYS

Installation of the pipelines along roadways would require a 22-inch wide by 48-inch deep trench (minimum). Dewatering of the trench would be required if groundwater is encountered during excavation. Once the trench is excavated, shored (if necessary), and dewatered (if necessary), bedding material (i.e. sand) would be placed in the bottom of the trench, and the pipe sections would be installed. Native material would be reused to backfill the trench where feasible based on the geotechnical recommendations. Engineered aggregate base material would also be used for backfill. The amount of pipe bedding material and backfill required for pipeline installation during Phases 1 and 2 are provided in Table 2-1. Following compaction, the work surface area would be restored to its preconstruction, or close to preconstruction, condition.

Table 2-1 Volume of Material to be Imported during Construction		
Material	Volume (cy)	
	Phase 1	Phase 2
Initial Backfill[a]	2,000	100
Pipe Bedding[a]	600	35

Note:

[a] See Standard Detail RW-1 for recycled water pipe trenching requirements.

TRENCHLESS PIPELINE INSTALLATION AT UNDER-CROSSINGS

Installation of pipeline crossings would be conducted using trenchless construction methods that would involve either horizontal directional drilling (HDD) or jack and bore installation. These processes are described below.

Horizontal Directional Drilling

HDD is a process that uses a laser-guided and remotely controlled boring machine and auger that is driven from a sending pit to a receiving pit. HDD would involve the use of bentonite drilling slurry, which is a fine clay material. The work areas around the pits would require adequate space to accommodate auger separation and associated equipment and slurry waste management practices. The sending and receiving pits would require a work area approximately 5–10 feet deep with an area of 75 square feet (5 feet wide by 15 feet long). The pits would be sized to accommodate drilling equipment, support equipment, and a sump for drilling slurry. Sump areas would be required to contain the drilling slurry/fluids used during the construction process and to capture the slurry/fluid once the initial hole is excavated.

Jack and Bore Installation

Jack and bore installation is a multi-stage tunneling process that would install the pipeline simultaneously with the excavation process in sending and receiving pits located on either side of the crossing. A temporary horizontal jacking platform and a starting alignment track in an entrance pit would be constructed at the desired elevation. A steel casing pipe would then be jacked by manual control along the starting alignment track with simultaneous excavation of the soil being accomplished by a rotating cutting head. This process may require the use of drilling slurry. The ground up soil (spoil) would be transported back to the entrance pit by a drill rotating inside the pipe. After the casing pipe is installed, the new pipeline would be installed through the casing and the ends of the casing would be sealed.

2.4.2 STORAGE AND PUMP STATION CONSTRUCTION

A new 200,000 gallon recycled water storage tank would be installed at Lookout Hill next to the existing above-ground 200,000 gallon tank. The existing tank, which is currently not in service, would be rehabilitated, then repurposed to serve as a recycled water storage tank. Both tanks would be located within the existing asphalt concrete located at the top of Lookout Hill. The new tank would be similar in diameter (approximately 40 feet) and height (approximately 22 feet) to the existing tank. A new pumping station would be installed between the new and existing storage tanks to provide the pressure necessary to serve the developments located to the north and west of Lookout Hill. The existing asphalt concrete located at the top of Lookout Hill, in conjunction with the

WWRP site, would be used as contractor staging areas. The grading needed to install the new storage tank would be approximately 250 cy based on 5 feet of excavation. The new tank would be similar to the existing welded steel tank and would sit atop a concrete foundation. A maximum of five new emergency lights would be installed at the Lookout Hill storage tank/pump station site; this lighting would be manually controlled (as opposed to motion sensing).

2.5 CONSTRUCTION SEQUENCING

Occupancy of the Phase 1 developments (Lakeview, Murieta Gardens, Retreats, Residences of Murieta Hills, and Riverview) is assumed in the 2016-2019 timeframe, and occupancy of the Phase 2 developments (Escuela, Apartments, Industrial/Commercial/Residential, Terrace, Highlands, and River Canyon) is assumed in the 2020 to 2026 timeframe (RMCSD 2013a). The disinfection facility upgrade must be complete prior to occupancy of these developments. Therefore, it is assumed that construction of the disinfection facility upgrades would be initiated in late 2014 and completed by the end of 2015. The additional seasonal storage is required to accommodate projected growth within the community. Therefore, based on the assumed timing for occupancy of the Phase 1 and 2 developments and associated increased flows to the WWRP, it is assumed that the expansion of seasonal storage would be initiated in mid- to late-2018 and completed by the end of 2019. Completion of other Phase 1 improvements would coincide with the occupancy of the Phase 1 developments, and completion of Phase 2 improvements would coincide with the occupancy of the Phase 2 developments. **Table 2-2** summarizes the estimated length of time required to construct individual components of each Phase.

Table 2-2
Construction Duration of Proposed Phase 1 and 2 Improvements

Improvements	Maximum Duration (months)
Phase 1	
WWRP Disinfection System	12
North Golf Course and Van Vleck Pump Stations	12
Lakes 16 and 17 Pump Station	12
Lookout Hill Storage Tanks and Booster Pump Station	18
Transmission Mains to Murieta Gardens, Lookout Hill, Stonehouse Park, and Residences of Murieta Hills	6 (each)
Transmission Mains to the Retreats, Riverview, and Lakeview	6 (each)
Phase 2	
Seasonal Storage Expansion at WWRP	18
Transmission Mains to Industrial/Commercial/Residential, Apartments, Escuela, River Canyon, Highlands, and Terrace	6 (each)

Source: Data compiled by AECOM in 2014.

2.6 RECYCLED WATER PROGRAM OPERATIONS AND STAFFING

2.6.1 PROPOSED OPERATIONS

The District would be responsible for the production, distribution, operation, and maintenance of its recycled water system up to the point of connection for all recycled water use areas except for the golf courses. In addition, the District would conduct periodic cross-connection, backflow prevention, and coverage inspections. Each use area, including individual residential homes using recycled water for front and backyard irrigation, would be required to obtain a Recycled Water Permit from the District prior to receiving recycled water. The user would be responsible for maintaining its recycled water system downstream of the point of connection, and for ensuring that the recycled water is used on the site according to all the rules and regulations regarding such use. Any site using separate piping systems for recycled water and potable water, including residences using recycled water for irrigation, is considered dual plumbed and all dual plumped systems would undergo formal testing for cross-connections prior to receiving recycled water service and every four years thereafter in accordance with Title 22, Section 60316(a).

Operations and maintenance of the WWRP would be conducted in accordance with the approved WDR and the *Wastewater Reclamation Plant Operations and Maintenance Manual* (RMCSD 2013b). The existing two golf courses and four (3 existing plus 1 new) Van Vleck spray fields would be operated in accordance with approved the WDR, the MRP, and the *Delivery and Use of Recycled Water at the Rancho Murieta Country* (May, 2010) and the *Operations and Management Plan for Temporary Spray Fields* (August, 2007), respectively. Operation of the recycled water landscape irrigation system would be conducted in accordance with approved WDR, the MRP, and with the requirements set forth in the Title 22 Engineering Report (RMSCD 2013b).

The WWRP would continue to operate in the same manner as it currently operates. Secondary effluent would be stored in the two seasonal storage reservoirs during the winter months (typically, November through February) when the tertiary treatment plant would not be in operation and recycled water would not be produced. During the remaining months (March through October), the tertiary treatment plant would be used to further treat the wastewater prior to storage in the 1.8 MG equalization basin located at the WWRP.

Estimated residential recycled water irrigation demand is 160 AFY for Phase 1 developments and 250 AFY for Phase 2 developments. Based on the occupancy schedule described above, and satisfying golf course irrigation demands first, recycled water would not become available for residential landscape irrigation until 2018 when recycled water production is estimated to exceed 550 AFY on average (RMSCD 2013a). Prior to recycled water being available for the Phase 1 developments, potable water would be supplied by the District in lieu of recycled water via the recycled water distribution system and service pipelines. An approved air gap separation between the potable and recycled water systems would be provided to prevent cross contamination.

2.6.2 PROPOSED STAFFING

The District would require up to four additional full time employees (FTEs) to support the expanded recycled water program. WWRP hours and staffing would not change. The additional FTEs would likely include two program coordinators and two inspectors. The two coordinators would be responsible for providing information packets to new homeowners regarding recycled water use, planning mandatory new resident orientation meetings, and accepting and processing recycled water permit applications. The two inspectors would monitor recycled water use to ensure compliance, conduct initial inspections to ensure compliance with standards and requirements,

and conduct annual inspections of every customer's recycled water system every 4 years thereafter. Individual homeowners would be responsible for installing and maintaining front and back yard irrigation systems and obtaining a Recycled Water Permit prior to use.

2.7 REGULATORY REQUIREMENTS, PERMITS, AND APPROVALS

As the lead agency under CEQA, the District has the principal responsibility for approving and carrying out the proposed project and for ensuring that CEQA requirements and all other applicable regulations are met. Other permitting agencies that may have permitting approval or review authority over portions of the proposed project are listed below.

- California Department of Fish and Wildlife—Section 1602 streambed alteration agreement; California Endangered Species Act compliance
- Central Valley RWQCB—Clean Water Act Section 401 Certification; Clean Water Act Section 402 NPDES stormwater permit for general construction; and WDRs pursuant to the Porter-Cologne Water Quality Control Act
- Sacramento Metropolitan Air Pollution Control District—Title V permit for general construction
- U.S. Army Corps of Engineers—Clean Water Act Section 404 Permit for discharge of fill to Waters of the U.S.
- U.S. Fish and Wildlife Service—federal Endangered Species Act (ESA) compliance; Section 7 consultation
- Sacramento County—grading permit; tree removal and pruning permit

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3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION		
1.	Project Title:	Rancho Murieta Recycled Water System Expansion Project
2.	Lead Agency Name and Address:	Rancho Murieta Community Services District, 15160 Jackson Road, Rancho Murieta, CA 95683
3.	Contact Person and Phone Number:	Paul Siebensohn, Director of Field Operations, (916) 354-3700
4.	Project Location:	Community of Rancho Murieta approximately 25 miles east of Sacramento in Sacramento County, California.
5.	Project Sponsor's Name and Address:	Rancho Murieta Community Services District (See above address.)
6.	General Plan Designation:	Low Density Residential, Public and Quasi-Public, Recreation, & General Agriculture
7.	Zoning:	A-2 (Agricultural-Residential) and AG-80 (Agricultural, 80-acre minimum

8. Description of Project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

The District is proposing to consolidate Waste Discharge Requirements (WDR) R5-01-124 and WDR R5-2007-0109 into a renewed Waste Discharge Requirement for the District's Wastewater Reclamation Plant (WWRP) and a new Master Reclamation Permit (MRP) to expand its approved recycled water use areas to serve new development within the District's service area and to serve adjacent pasture lands. Current use areas consist of two golf courses managed by the Rancho Murieta Country Club and specific areas within the Van Vleck Ranch managed by the District. New recycled water use areas would include residential front and backyards; parks; athletic fields; commercial and street landscaping; and dust control. The proposed project would also involve upgrading and installing the infrastructure necessary to produce and deliver the recycled water to the expanded use areas.

9.	Surrounding Land Uses and Setting: (Briefly describe the project's surroundings)	Rancho Murieta is a 3,500-acre planned community bisected by the Cosumnes River that includes residences, a mobile home park, parks and open space, a country club with two golf courses, retail establishments, a small business park, an equestrian center, and an airport. The community is surrounded by open space and agricultural lands.
10:	Other public agencies whose approval may be required: (e.g., permits, financing approval, or participation agreement)	CDFW, RWQCB, SMAQMD, Sacramento County, USACE, USFWS

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:		
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.		
☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation / Traffic	☐ Utilities / Service Systems	☐ Mandatory Findings of Significance
		☒ None With Mitigation

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project **COULD NOT** have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.

☒ I find that although the proposed project COULD have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.

☐ I find that the proposed project **MAY** have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.

☐ I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier **EIR** or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier **EIR** or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

	June 18, 2014
Signature	Date
Gerald Pasek	Board President
Printed Name	Title
Rancho Murieta Community Services District	
Agency	

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9. The explanation of each issue should identify:
   the significance criteria or threshold, if any, used to evaluate each question; and
   the mitigation measure identified, if any, to reduce the impact to less than significance.

3.1 AESTHETICS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 ENVIRONMENTAL SETTING

As shown in Exhibits 2-1 and 2-2 in Chapter 2 "Project Description," most of the project area is located within the District boundary; Van Vleck Ranch is located outside of the District boundary to the south. The project area includes various land uses, including single-family residential, commercial, agricultural, municipal (water supply reservoirs, WTP, and WWRP), and recreational (e.g., RMCC and its two golf courses, parks).

The terrain in the project area and vicinity is generally flat with some rolling hills, and the Sierra Nevada is located farther east. Lookout Hill, located just south of the intersection of SR 16 and Stonehouse Road, is a topographic high point in the community and is readily visible throughout the project area. The top of Lookout Hill includes a paved flat area with a gazebo. Just below the gazebo is a water storage tank owned by the District. This tank is visible from the adjacent roadways (e.g. Lone Pine Drive, Murieta Drive, and SR 16), but it is not visible from Stonehouse Road. The other hills and mountains are distant, and visibility is sometimes limited from the project area because of the terrain and development in the project area.

Views of the project area are characterized by existing residential, commercial, agricultural, and recreational development. Notable features in the project area within the community limits include two golf courses, water features, and some oak trees. Water features include small lakes, ponds, and reservoirs. The oak trees are characterized by relatively evenly spaced, individual oak trees along roadways, along the Cosumnes River, and interspersed throughout the existing and future development areas. Landscaping along the golf course greenbelts consist of nonnative shrubs and trees, as well as hardscape features, such as curbs, gutters, and sidewalks.

As discussed in Section 3.4, "Biological Resources," native oak trees on public and private land in Sacramento County are protected under the Sacramento County Tree Preservation Ordinance (Title 19.12, "Tree Preservation and Protection"). Any removal of native oak trees, and any work conducted within the dripline of native oak trees, must be authorized by Sacramento County. Native oaks are defined as valley oak, interior live oak, blue oak, or oracle oak. Many of the oak trees in the oak woodlands in the project area meet these criteria.

3.1.2 DISCUSSION

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

No impact. A scenic vista is generally considered a view of an area that has remarkable scenery or a natural or cultural resource that is indigenous to the area. Although views of the project area include oak trees, rolling hills, and lakes, it does not meet the definition of a scenic vista because most of the area is dominated by residential development, and there are no designated scenic vistas in the project area. Therefore, no impact would occur.

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

No Impact. No designated state scenic highways are located within the project vicinity (Caltrans 2011); therefore, implementing the project would not affect related views, and there would be no impact.

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

Less than Significant with Mitigation Incorporated. Implementing the proposed project would involve short-term construction, which would temporarily change the existing visual character of the project area. Temporary alterations would include the presence of construction equipment, traffic safety cones and fencing, and staging areas. Construction activities, especially along public roadways, (i.e., SR 16, Stonehouse Road, and Lone Pine Drive) would be visible to bicyclists, pedestrians, motorists, and nearby residents. However, these changes would be temporary and would cease upon completion of construction.

The additional recycled water storage tank on Lookout Hill would be placed adjacent to an existing water storage tank which will be repaired and rehabilitated to serve as a second recycled water storage tank. The second tank would not cause a substantial change to the visual character of the hill because the second tank would be the same height as the original tank, the new tank would be visible only from areas that currently have views of the existing tank, and no excavation of the hillside would be required.

It is expected that most of the construction activity would take place in already disturbed or paved areas and that trees would not be removed as part of implementing the proposed project. However, if vegetation interferes with the required work space, construction activities could also require the removal of some trees, shrubs, and other landscaping from within the District's existing easements. This may include vegetation in or near backyards of residences along Stonehouse Road, at the North Golf Course or South Golf Course, and along SR 16 and Lone Pine Drive. For this reason, this impact would be potentially significant.

Mitigation Measure AES-1: Replace Landscaping.

The District will coordinate with affected landowners to restore or replace plantings consistent with pipeline safety, maintenance, and easement requirements in affected landscaped areas. Implementing Mitigation Measure AES-1 would reduce the potentially significant impact associated with vegetation removal to a less-than-significant level because, where appropriate, vegetation would be restored or replaced.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less-than-Significant Impact. Because no new lighting is proposed, implementing the project would not create permanent sources of substantial light or glare and would not have a long-term effect on day or nighttime views in the area. Construction activities would occur primarily during daylight hours. If nighttime construction work is necessary, the use of lighting to accommodate this work would be temporary and short term and would be confined to a small area within the project footprint. Beyond minor glare from the use of limited construction equipment—which would be similar to the existing glare from vehicles on local roads—no new sources of glare would be associated with project construction. Project operation would not require the use of lighting. Therefore, this impact would be less than significant.

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3.2 AGRICULTURE & FORESTRY RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forestry Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 ENVIRONMENTAL SETTING

AGRICULTURAL RESOURCES

Within the District's boundaries, agricultural land uses are located in the southwestern corner of the community, south of SR 16 and west of the equestrian center, Murieta Village Association, and Rancho Murieta Airport and Business Park. This area includes active and fallow agricultural fields and grazing lands. No other agricultural land uses are present within the District's boundaries.

The Van Vleck Ranch is characterized by irrigated pasture used for cattle grazing. Other agricultural land uses occur adjacent to the District's western boundary, south of SR 16 and west of the WWRP in the vicinity of the Cosumnes River. Most of these agricultural lands are designated as Important Farmland (Exhibit 3.2-1).

Agricultural Zoning

The WWRP, Lookout Hill, and lands adjacent to Lakes 16/17 and Bass Lake are zoned by Sacramento County as A-2 (Agricultural-Residential, 2-acre parcel). The A-2 zoning code is an interim agricultural holding zone. The purpose of the A-2 zone is to provide for agricultural uses for the present while reserving areas for possible future urban, recreational, or industrial uses. It is anticipated that the A-2 zone would ultimately be converted to new zoning in the future to accommodate planned land uses.

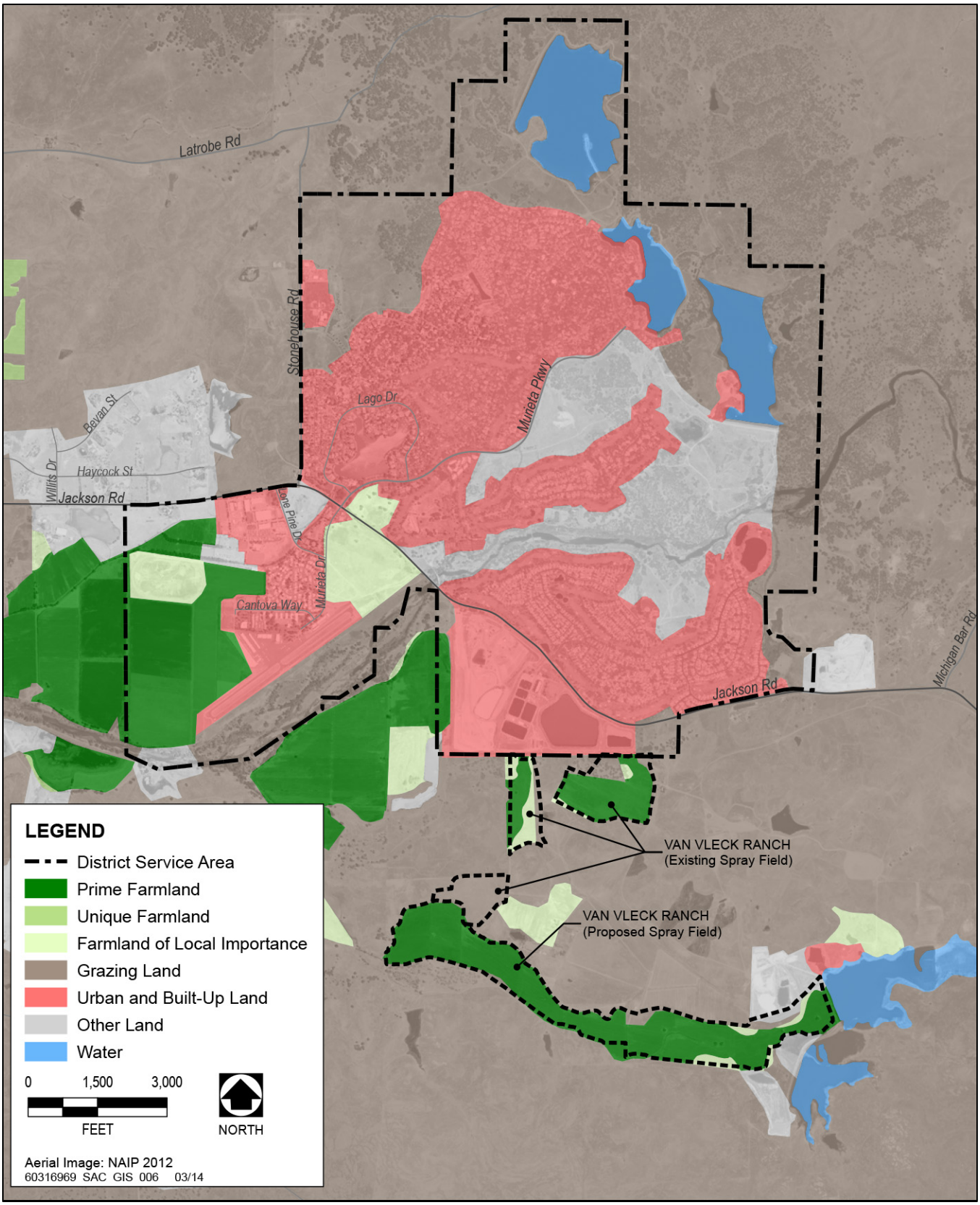
The land surrounding the District's boundaries, including the Van Vleck Ranch and spray field, are zoned by Sacramento County as AG-80 (Agricultural, 80-acre minimum). The AG-80 zoning code is used to promote long-term agricultural use, to discourage the premature and unnecessary conversion of agricultural land to urban uses, and to encourage the retention of sufficiently large agricultural lots to assure maintenance of viable agricultural units.

Farmland Mapping and Monitoring Program

The DOC's Important Farmland classifications—Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance—recognize the land's suitability for agricultural production by considering physical and chemical characteristics of the soil, such as soil temperature range, depth of the groundwater table, flooding potential, rock fragment content, and rooting depth. The classifications also consider location, growing season, and moisture available to sustain high-yield crops. Together, Important Farmland and Grazing Land are defined by DOC as "Agricultural Land." In addition, the DOC identifies other categories based on their suitability for agricultural use. The list below provides a comprehensive description of all the categories mapped by the DOC. According to the FMMP:

- **Prime Farmland**—Land that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- **Farmland of Statewide Importance**—Land similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.



Source: FMMP 2010

Exhibit 3.2-1 **Important Farmland**

- **Unique Farmland**—Land of lesser quality soils used for the production of the state's leading agricultural cash crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.

- **Farmland of Local Importance**—Land that is of importance to the local agricultural economy, as defined by each county's local advisory committee and adopted by its board of supervisors. Farmland of Local Importance either is currently producing or has the capability to produce, but does not meet the definition of Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

- **Grazing Land**—Land with existing vegetation that is suitable for grazing.

- **Urban and Built-up Lands**—Land that is used for residential, industrial, commercial, institutional, and public utility structures, and for other developed purposes.

- **Land Committed to Nonagricultural Use**— Land that has a permanent commitment to development but have an existing land use of agricultural or grazing lands.

- **Other Lands**—Land that does not meet the criteria of any previous categories and generally include low-density rural developments, vegetative and riparian areas not suitable for livestock grazing, confined-animal agriculture facilities, strip mines, borrow pits, and vacant and nonagricultural land surrounded on all sides by urban development.

According to the Sacramento County Important Farmland map, published by DOC's Division of Land Resource Protection, approximately 208 acres of land within the District's boundaries is designated as Prime Farmland and 116 acres are designated as Farmland of Local Importance. This area coincides with areas of agricultural land south of SR 16 and west of the equestrian center, Murieta Village Association, and Rancho Murieta Airport and Business Park. The remainder of land within the District's boundaries consists of approximately 750 acres of Grazing Land, 1,628 acres of Urban and Built-Up Land, and 522 acres of Other Land.

The existing Van Vleck Ranch spray field consists of 54 acres of land designated as Prime Farmland and 13 acres of land designated as Farmland of Local Importance and the proposed Van Vleck Ranch spray field consists of 165 acres of land designated as Prime Farmland and 8 acres of land designated as Farmland of Local Importance. These areas of Important Farmland coincide with irrigated pasture within the Val Vleck Ranch. The remainder of land within the Van Vleck Ranch consists of approximately 13 acres of Grazing Land and 6 acres of Other Land.

Appendix G of the State CEQA Guidelines focuses the analysis of direct conversion of agricultural land on Prime Farmland, Farmland of Statewide Importance, or Unique Farmland. Therefore, conversion of Prime Farmland within the District's boundaries or within the Van Vleck Ranch would be considered a significant impact under CEQA.

Williamson Act

Under the California Land Conservation Act of 1965, also known as the Williamson Act, local governments can enter into contracts with private property owners to protect land (within agricultural preserves) for agricultural and open space purposes. Approximately 180,790 acres of land in Sacramento County were under Williamson

Act contracts in 2011. Of this total, approximately 11,704 acres were in the nonrenewal process (DOC 2013:27). The nonrenewal process is the most common mechanism for cancellation of Williamson Act contract lands, and most Williamson Act contracts are cancelled through this process. In Sacramento County as of 2011, approximately 4,408 acres of land under Williamson Act contracts entered the nonrenewal process, and the amount of contract land cancelled through nonrenewal expirations was approximately 863 acres (DOC 2013:30, 35).

There are no lands under Williamson Act contract within the District's boundaries (Exhibit 3.2-2). Lands under active Williamson Act contracts are located northwest, east, and south of the District's boundaries. The Van Vleck Ranch is held under Williamson Act contracts that are currently in the nonrenewal process.

FORESTRY RESOURCES

The areas that would be affected permanently or temporarily by the construction of project components (e.g., treatment plant upgrades, storage tanks and pump stations, and pipelines) include approximately 0.04 acre of oak woodland and 0.41 acre of riparian forest (see Section 3.6, "Biological Resources," for further discussion).

Oak woodland is present in small patches throughout the study area and is characterized by Valley oak, blue oak, and interior live oak. This community offers cover for many common birds and small mammals and provides wildlife corridors throughout and around the developed areas of Rancho Murieta for terrestrial wildlife species.

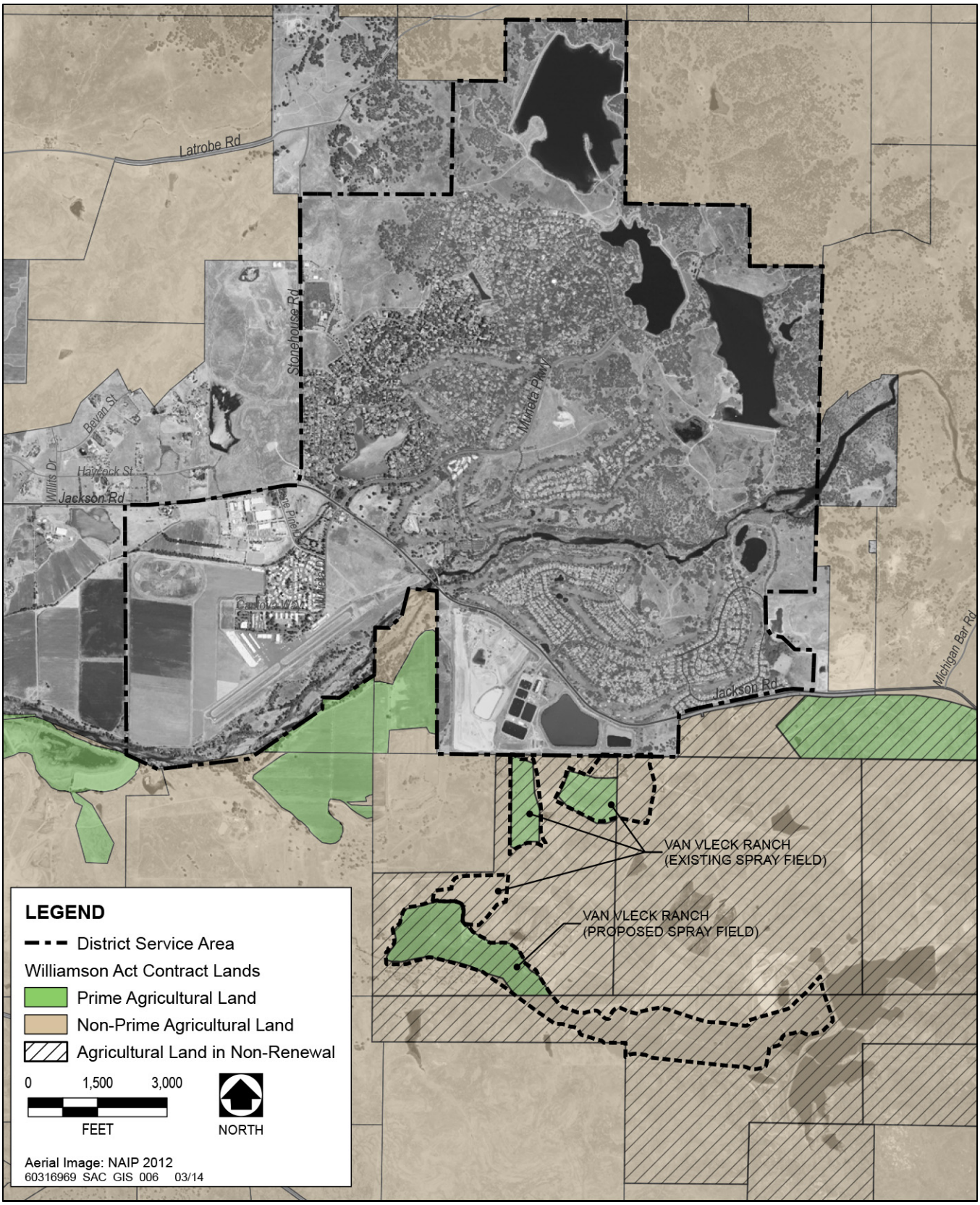
The riparian forest occurs along the canal running along the south side of SR 16 near the Murieta Gardens development. The riparian forest in this area includes interior live oak, willows, and cottonwoods.

3.2.2 DISCUSSION

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

No Impact. Implementation of the proposed project would not convert Important Farmland to nonagricultural uses. The proposed project would consist of improvements to the WWRP disinfection system, construction of the new pump station, and installation of additional seasonal storage within the existing footprint of the WWRP; construction of a new recycled water storage tank and pumping station and refurbishment of an existing above-ground tank within asphalt concrete located at the top of Lookout Hill; installation of a new pump station at Bass Lake; installation of a new pump station at Lakes 16/17, and installation of new pipelines along existing roadways. One 500,000-gallon or two 250,000-gallon storage tanks would potentially be installed at an as yet to be determined location within the proposed Terrace, Highlands, or River Canyon developments. Staging areas would be located at the WWRP and immediately adjacent to construction disturbance areas within the District's right-of-way. There are no active agricultural land uses within or in the vicinity of the project components. The project site and surrounding land is designated as Grazing Land, Urban and Built-Up Land, and Other Land. These lands are not considered by DOC to be Important Farmland.

Recycled water may also be pumped to spray fields on Van Vleck Ranch to irrigate pasturelands just south of the District boundary and the WWRP. The proposed spray field on Van Vleck Ranch consists of 165 acres of land that is designated as Prime Farmland. The use of recycled water at Van Vleck Ranch would promote long-term



Source: AECOM 2014

Exhibit 3.2-2 **Williamson Act Contract Lands**

agricultural uses of the property by providing recycled water for irrigation of pastureland. The new aboveground conveyance and distribution piping required to provide recycled water to the spray field would not result in the conversion of Prime Farmland.

Because implementation of the proposed project would not directly or indirectly convert Important Farmland within or in the vicinity of the project components (e.g., treatment plant upgrades, storage tanks and pump stations, and pipelines) to nonagricultural uses, no impact would occur.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. There are no lands under Williamson Act contract within the District's boundaries (Exhibit 3.2-2). The WWRP, Lookout Hill, and lands adjacent to Lakes 16/17 and Bass Lake are zoned by Sacramento County as A-2 (Agricultural-Residential, 2-acre parcel). The A-2 zoning code is an interim agricultural holding zone and it is anticipated that the A-2 zone would be ultimately be converted to new zoning in the future to accommodate planned land uses. There are no active agricultural land uses within or in the vicinity of the project components and construction of public utilities is a permitted use within the A-2 zoning designation. Improvements to the WWRP disinfection system and construction of the new pump station, and installation of additional seasonal storage would occur within the existing footprint of the WWRP. Therefore, the project components would not conflict with the A-2 zoning designation.

The Van Vleck Ranch is held under Williamson Act contracts that are currently in the nonrenewal process (Exhibit 3.2-2). The Van Vleck Ranch is zoned AG-80 (Agricultural, 80-acre minimum), and these areas are intended to promote long-term agricultural use and to encourage the retention of sufficiently large agricultural lots to assure maintenance of viable agricultural units. As discussed above in item a) above, the use of recycled water on the proposed Van Vleck Ranch spray field would promote long-term agricultural uses of the property by providing recycled water for irrigation of pastureland. Therefore, implementation of the proposed project would not conflict with a Williamson Act contract or conflict with existing zoning for agricultural uses. No impact would occur.

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

No Impact. None of the land within or in the vicinity of the District's boundaries is zoned as forestland, timberland, or a Timberland Production Zone. Therefore, implementation of the proposed project would not conflict with existing zoning for, or cause rezoning of, forestry resources. No impact would occur.

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

No Impact. Appendix G of the State CEQA Guidelines defines "forestland" as land that can support 10% native tree cover and forest vegetation of any species—including hardwoods—under natural conditions and that allows for management of one or more forest resources—including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation—and other public benefits (Public Resources Code 12220[g]).

As previously discussed above, the project site includes approximately 0.04 acre of oak woodland and 0.41 acre of riparian forest. Because the oak woodland and riparian forest occupy less than one percent of the project site,

these communities do not satisfy the requirements of PRC Section 12220(g). Therefore, implementation of the proposed project would not result in conversion of forest land to non-forest use. No impact would occur.

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

No Impact. See responses to items a) and d) above. Implementation of the proposed project would not result in other changes in the physical environment that could directly or indirectly result in the conversion of agricultural land, including Important Farmland, to nonagricultural uses or result in the conversion of forestland to non-forest uses. No impact would occur.

3.3 AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☒	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 ENVIRONMENTAL SETTING

The project site is located in Sacramento County, which is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). SMAQMD is part of the Sacramento Valley Air Basin (SVAB), which includes Butte, Colusa, Glenn, Tehama, Shasta, Yolo, Sacramento, Yuba, and Sutter Counties and parts of Placer, El Dorado, and Solano Counties. The SVAB is bounded on the north and west by the Coast Ranges, on the east by the southern portion of the Cascade Range and the northern portion of the Sierra Nevada, and on the south by the San Joaquin Valley Air Basin. Summer conditions are typically characterized by high temperatures and low humidity, with prevailing winds from the south. Rainstorms occur occasionally during winter, and are interspersed by stagnant and sometimes foggy weather. Rain falls mainly from late October to early May, in amounts that vary substantially each year.

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) have identified six air pollutants as being of nationwide and statewide concern: ozone, carbon monoxide (CO), nitrogen dioxide, sulfur dioxide, lead, and particulate matter (PM). PM is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Health-based air quality standards have been established for these pollutants by EPA at the national level and by ARB at the state level. These standards are referred to as the national ambient air quality standards

(NAAQS) and the California ambient air quality standards (CAAQS), respectively. The NAAQS and CAAQS were established to protect the public with a margin of safety from adverse health impacts caused by exposure to air pollution.

Both EPA and ARB designate areas of the state as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant. The "unclassified" designation is used in an area that cannot be classified as meeting or not meeting the standards, based on available information. SMAQMD is currently designated as a nonattainment area for the ozone and $PM_{2.5}$ NAAQS. For all other NAAQS, SMAQMD is designated as attainment or unclassified. With respect to the CAAQS, SMAQMD is currently designated as nonattainment for ozone, PM_{10}, and $PM_{2.5}$. For all other CAAQS, the region is designated as attainment or unclassified.

EPA, under the provisions of the CAA, requires each state with regions that have not attained the NAAQS to prepare a state implementation plan (SIP) that details how each local area is to meet these standards. ARB is the lead agency for developing the SIP in California. Local air districts and other agencies prepare air quality attainment plans, or air quality management plans, and submit them to ARB for review, approval, and incorporation into the applicable SIP. The CCAA also requires that each area exceeding the CAAQS develop a plan aimed at achieving those standards (California Health and Safety Code, Section 40911 et seq.).

SMAQMD is the agency responsible for air quality planning and development of the air quality plan in the project area. The air quality plan establishes the strategies that will be used to achieve compliance with the NAAQS and CAAQS in all areas within SMAQMD's jurisdiction. All projects within SMAQMD's jurisdictional area are also subject to adopted rules and regulations in effect at the time of construction and operation. The following analysis of the proposed project's air quality impacts is consistent with SMAQMD's *CEQA Guide to Air Quality Assessment in Sacramento County* (SMAQMD 2013).

3.3.2 DISCUSSION

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant with Mitigation Incorporated. Air quality plans describe air pollution control strategies to be implemented by an air district, city, county or region. The primary purpose of an air quality plan is to maintain and/or achieve attainment of a NAAQS or CAAQS.

Two criteria are applicable to determine if the proposed project would conflict with or obstruct implementation of the air quality plan. The first criteria is whether the project would exceed the estimated air basin emissions used as the basis of the air quality plans, which are based, in part, on projections of population and vehicle miles traveled. The second criteria is whether the project would increase the frequency or severity of existing air quality violations, contribute to new violations, or delay the timely attainment of air quality standards.

The proposed project would involve the use of off-road equipment, haul trucks, and worker commute trips. The use of construction equipment in the air quality plan is estimated for the region on an annual basis, and the proposed project would not increase the assumptions for off-road equipment use. In addition, the proposed project involves minor increases in operational motor vehicle activity (approximately 8 trips per day) and would not substantially increase mobile source emissions.

However, as discussed in (b), the proposed project would exceed the recommended threshold of significance for nitrogen oxide (NO_X) emissions during construction. Since the proposed project would result in a significant increase in NOx emissions, the project has the potential to conflict with or obstruct implementation of the air quality plan. This impact would be potentially significant.

Mitigation Measure: Implement Mitigation Measures AQ-1 through AQ-2.

Implementation of Mitigation Measures AQ-1 through AQ-2 in b) below would reduce NO_X emissions below the threshold of significance. Accordingly, implementation of the proposed project would not exceed the assumptions used to develop the current plan and would not obstruct or conflict with the air quality plans. This impact would be less than significant with mitigation incorporated.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant with Mitigation Incorporated. Construction emissions are described as "short-term" or temporary in duration, but have the potential to represent a significant impact with respect to air quality. Construction of the proposed project would result in the temporary generation of reactive organic gases (ROG), NO_X, PM_{10}, and $PM_{2.5}$ emissions from construction work associated with site preparation, grading, excavation, and site restoration. Construction-related emissions of ozone precursors, ROG and NO_x, are primarily associated with exhaust from heavy-duty construction equipment, material delivery/haul trucks, and construction worker vehicles. Fugitive dust emissions (PM_{10} and $PM_{2.5}$) are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site.

Construction of the project components would begin in 2015 and extend through 2026. The disinfection facility upgrades would be initiated in early 2015 and completed by early 2016. Additional Phase 1 improvements would occur in the 2016 to 2019 timeframe. Expansion of seasonal storage would be initiated in 2018 and completed by the end of 2019. The Phase 2 improvements would occur in the 2020 to 2026 timeframe.

Construction-related emissions for the proposed project were estimated using emission factors from ARB's OFFROAD and EMFAC 2011 inventory models (ARB 2013). Construction-related emissions for the proposed project were estimated for construction worker commutes, haul trucks, and the use of off-road equipment. The proposed project's construction emissions were modeled based on a worst-case scenario representing an intensive day of construction to conservatively estimate the maximum daily emissions. Table 3.3-1 presents the daily construction emissions for construction of each phase and project component.

All projects that will involve construction activities, regardless of the significance determination, are required to implement SMAQMD's Basic Construction Emission Control Practices (SMAQMD 2013).

The SMAQMD recommends that lead agencies model the PM_{10} emission concentrations generated by construction activity for all projects except those that meet the following conditions: (1)the project will implement all Basic Construction Emission Control Practices, and (2) the maximum daily disturbed area (i.e., grading, excavation, cut and fill) will not exceed 15 acres. Projects that meet the above two conditions are considered by the SMAQMD to not have the potential to exceed or contribute to the SMAQMD's concentration-based threshold of significance for PM_{10} (and, therefore, $PM_{2.5}$) at an off-site location. The total disturbed acreage for all phases

Table 3.3-1
Proposed Project Daily Construction Emissions

Construction Phase	Pollutant Emissions (lbs/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Phase 1				
WWRP Disinfection System	6.43	91.31	3.46	2.89
North Golf Course and Van Vleck Pump Stations	4.88	48.29	2.21	1.95
Lakes 16 and 17 Pump Station	5.10	51.37	2.06	1.81
Lookout Hill Storage Tanks and Booster Pump Station	5.72	71.36	2.90	2.46
Transmission Mains to Murieta Gardens, Lookout Hill, Stonehouse Park, and Residences of Murieta Hills[1]	2.12	25.10	1.26	1.05
Transmission Mains to the Retreats, Riverview, and Lakeview[1]	1.71	13.64	0.93	0.80
Bass Lake Pump Station	6.96	105.75	3.90	3.21
Phase 1 Total	**32.92**	**406.81**	**16.72**	**14.18**
Phase 2				
Seasonal Storage Expansion at WWRP	4.54	38.39	1.94	1.75
Transmission Mains to Industrial/Commercial/ Residential, Apartments, Escuela, River Canyon, Highlands, and Terrace[1]	2.42	33.69	1.51	1.24
Van Vleck Ranch	1.71	14.75	0.92	0.81
Phase 2 Total	**8.68**	**86.83**	**4.37**	**3.79**
SMAQMD Significance Threshold [2]	-	85	-	-

Notes: lbs/day = pounds per day; ROG = reactive organic gases; NO_X = oxides of nitrogen; PM_{10} = particulate matter with aerodynamic diameter less than 10 microns; $PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 microns; SMAQMD = Sacramento Metropolitan Air Quality Management District.

[1] Emission estimates for the transmission mains are shown for one location. If several transmission lines were constructed at the same time, the total pounds per day would be multiplied by the number of locations to estimate the maximum daily emissions.

[2] SMAQMD has only developed a significance threshold for NO_X. Other ozone precursors (i.e., ROG), $PM_{2.5}$, and PM_{10} are shown for informational purposes and because the region is currently designated as nonattainment for the pollutants.

Source: AECOM 2014

and project components, including transmission mains, would be approximately 20 acres. It is anticipated that the proposed project, even assuming overlapping construction within each phase, would disturb less than one acre per day. However, because the proposed project description does not include the Basic Construction Emissions Control Practices, this impact would be considered potentially significant.

For projects that will generate maximum daily NO_X emissions that exceed the SMAQMD's threshold of significance, even with implementation of the Basic Construction Emission Control Practices, the SMAQMD recommends implementation of the Enhanced Exhaust Control Practices for off-road construction equipment (SMAQMD 2013). The timing and intensity of construction activities associated with each phase cannot, at this time, be accurately identified. Construction of project components, such as storage tanks and multiple

transmission mains, could occur at the same time within each phase. Since it is not possible to accurately estimate the construction schedule and future emissions, the maximum daily NO_X emissions resulting from construction of the proposed project would exceed the SMAQMD threshold of significance. This impact would be potentially significant.

Mitigation Measure AQ-1: Implement applicable SMAQMD Basic Construction Emission Control Practices.

The project applicant shall comply with the following measures to reduce fugitive dust and construction equipment exhaust emissions:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Cover any haul trucks that will be traveling along freeways or major roadways.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speed on unpaved roads to 15 mph.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. Have the equipment checked by a certified mechanic and determined to be running in proper condition before it is operated.

Mitigation Measure AQ-2: Implement SMAQMD Requirements to Reduce Construction-Related NOx Emissions.

The project applicant and/or contractor shall submit to SMAQMD a comprehensive inventory of all off-road diesel construction equipment, equal to or greater than 50 horsepower, that will be used in aggregate of 40 or more hours during any portion of the construction project. SMAQMD's Equipment List Form can be used to submit this information. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

- The project applicant and/or contractor shall demonstrate that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NO_X reduction and 45% PM reduction compared to the most recent ARB fleet average. This information shall be submitted in conjunction with the equipment inventory. The SMAQMD Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.

- If the projected construction-related emissions do not exceed the NO_X threshold of significance based on the equipment inventory, including the use of equipment that achieves a project wide fleet-average 20% NO_X reduction compared to the most recent ARB fleet average, no further mitigation is required.

- If the projected construction-related emissions exceed the NO_X threshold of significance based on the equipment inventory, including the use of equipment that achieves a project wide fleet-average 20% NO_X reduction compared to the most recent ARB fleet average, the project applicant shall pay an emission mitigation fee into the SMAQMD's off-site mitigation program. The emission mitigation fee shall be sufficient to offset the amount by which the proposed project's NO_X emissions exceed the threshold of 85 lbs per day.

- The determination of the final mitigation fee shall be conducted in coordination with SMAQMD before any ground disturbance occurs for any phase of project construction. If there are changes to construction activities (e.g., equipment lists, increased equipment usage or schedules), the project applicant shall work with the District and the SMAQMD to ensure emission calculations and fees are adjusted appropriately.

Implementation of Mitigation Measures AQ-1 through AQ-2 would reduce NO_x emissions associated with construction of the Project. According to SMAQMD, the off-site mitigation fee program will always reduce construction-generated mass emissions of NO_X to a less than significant level (SMAQMD 2013). Therefore, with implementation of Mitigation measures AQ-1 through AQ-2, construction and operation of the proposed project would not violate air quality standards or contribute substantially to an existing or projected air quality violation, and this impact would be reduced to a less-than-significant level.

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

Less than Significant with Mitigation Incorporated. The cumulative analysis focuses on whether a specific project would result in a cumulatively considerable incremental contribution in pollutant emissions to an existing significant cumulative impact. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SVAB, and this regional impact is cumulative rather than being attributable to any one source. A project's emissions may be individually limited but cumulatively considerable when taken in combination with past, present, and future development projects.

SMAQMD's thresholds of significance are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to existing cumulatively significant air quality conditions. As discussed earlier, the proposed project would result in the generation of NOx emissions at levels that exceed the SMAQMD thresholds for construction activities. These thresholds are designed to identify those projects that would result in significant levels of air pollution on a project level, and to assist the region in attaining the applicable CAAQS and NAAQS. Projects that would exceed these thresholds would be considered significant on a project level and would also be considered to contribute a cumulatively considerable amount of pollutants to regional emissions.

Because the proposed project would exceed the SMAQMD significance thresholds for NOx emissions, the proposed project's construction emissions would have a cumulatively considerable incremental contribution to the region's air quality and this impact would be potentially significant.

Mitigation Measure: Implement Mitigation Measures AQ-1 through AQ-2.

Implementation of Mitigation Measures AQ-1 through AQ-2 would reduce the proposed project's construction-related NOx emissions below the SMAQMD threshold of significance. Therefore, impacts related to a cumulatively considerable net increase of criteria pollutants would be less than significant with mitigation incorporated.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less-than-Significant Impact. Some members of the population are especially sensitive to emissions of air pollutants and should be given special consideration during the evaluation of a project's air quality impacts. These people include children, older adults, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

Construction of the recycled water facilities and pipelines would occur at multiple locations. The nearest sensitive receptors to the project site are single-family residences located approximately 400 feet from the proposed construction site. Residential land uses are located at various distances to the recycled water pipeline alignments. The residential sensitive receptors represent the nearest off-site land uses with the potential to be impacted as a result of the proposed project.

The greatest potential for toxic air contaminant (TAC) emissions would be related to diesel PM emissions associated with activity by heavy-duty construction equipment. Construction of the proposed project would result in the generation of diesel exhaust PM emissions from the use of off-road diesel construction equipment required for site preparation, grading, excavation, and site restoration. Most diesel exhaust PM emissions associated with material delivery trucks would occur off site.

ARB's *Air Quality and Land Use Handbook* states that PM levels drop by 70% at a distance of 500 feet from a roadway (ARB 2005). Construction emissions would be dispersed around the project site; thus, TAC emissions from project construction would be less concentrated than those from a typical roadway and would be less likely to substantially expose receptors. Therefore, it is anticipated that diesel PM concentrations would decrease substantially before affecting the nearest sensitive receptor.

The dose of TACs to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure a person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period to a fixed amount of emissions results in a higher exposure level and higher health risks. According to the state Office of Environmental Health Hazard Assessment, health-risk assessments that determine the health risks associated with exposure of residential receptors to TAC emissions should be based on a 70-year exposure period (OEHHA 2003). However, health-risk assessments should be limited to the period/duration of activities associated with the emissions activity.

The generation of diesel exhaust particulate matter emissions from construction projects typically occurs in a single area for a short period of time. The longest period that construction activities would occur at a distance reasonably considered to have an effect on a sensitive receptor is approximately 18 months during installation of the water storage tank and booster pump station at Lookout Hill and construction of the additional seasonal storage at the WWRP. Thus, if the maximum duration of construction activities near a sensitive receptor is 18 months, then the exposure would be approximately two percent of the total exposure period used for typical health risk calculations (i.e., 70 years).

Construction of the recycled water pipeline and trenching activities would move sequentially. Therefore, haul trucks and off-road equipment would not operate in the immediate vicinity of any sensitive receptor for an extended period of time. Construction emissions would occur intermittently throughout the day, as construction equipment is required, rather than as a constant plume of emissions from the site. All construction emissions would cease following completion of the proposed project.

Operation of the proposed project would primarily involve gasoline-fueled vehicles associated with worker commutes. Worker commutes would involve eight average daily trips and would occur off site. Therefore, it is not anticipated that individual receptors would be exposed to TAC emissions during operation of the proposed project.

Because of the temporary and intermittent use of off-road construction equipment, the distance between construction activities and the nearest sensitive receptor, the dispersive properties of diesel PM, and the relatively low exposure period, the proposed project would not expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

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

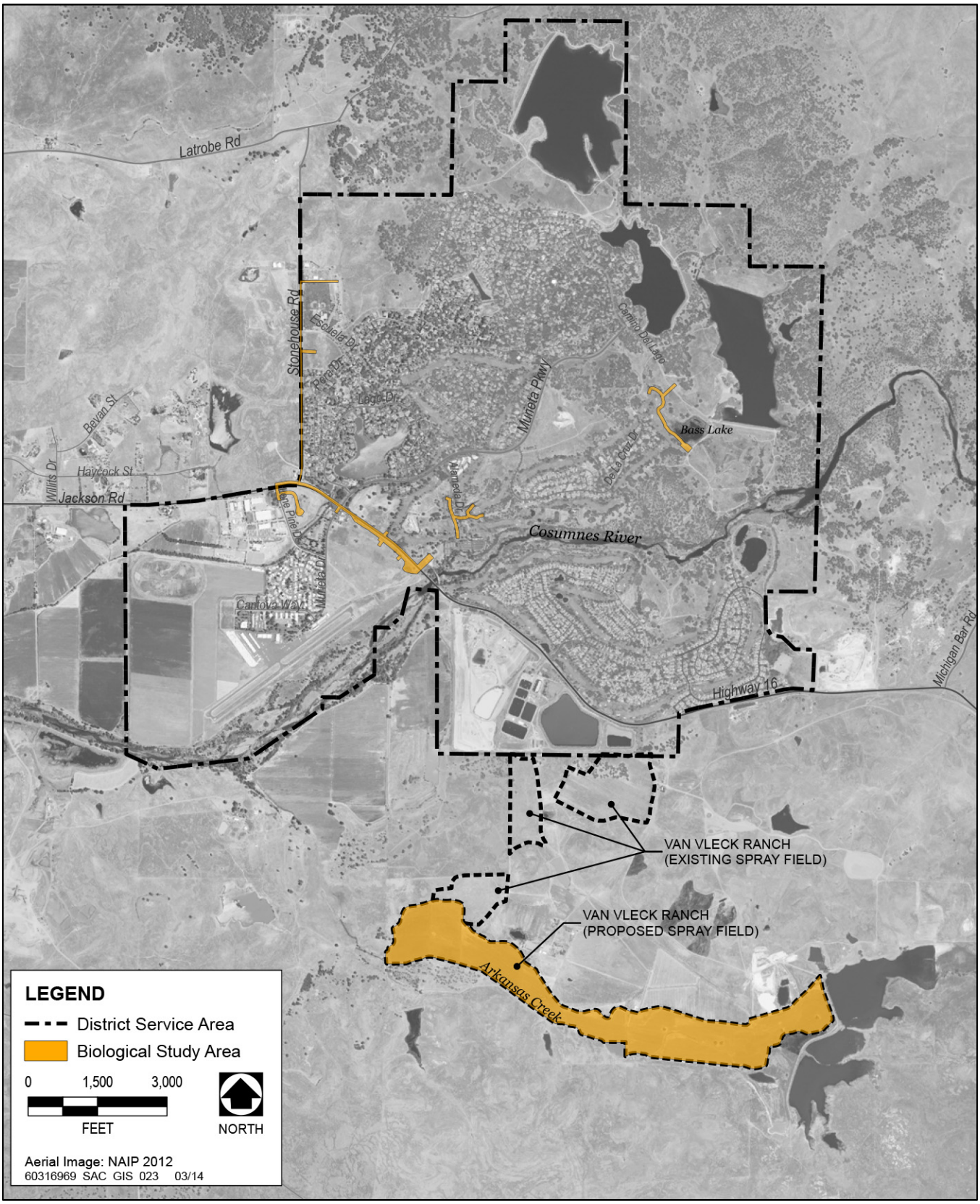
Less-than-Significant Impact. The occurrence and severity of odor impacts depend on numerous factors such as the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. Offensive odors rarely cause any physical harm, but they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Construction of the proposed project is not anticipated to expose nearby off-site receptors to objectionable odors. Sources that may emit odors during construction activities include exhaust from diesel construction equipment and heavy-duty trucks, which could be considered offensive to some individuals. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. The closest sensitive receptor to the project site is located 400 feet from the boundary of the project site, which would allow an opportunity for odor emissions to disperse and dilute with ambient air. The proposed project would use typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. After construction of the proposed project, all construction-related odors would cease. Operation of the proposed project would not add any new odor sources. Secondary and tertiary treated wastewater that have received aerobic treatment are virtually odorless and would not result in new objectionable odors. As a result, the proposed project would not create objectionable odors affecting a substantial number of people. This impact would be less than significant.

3.4 BIOLOGICAL RESOURCES

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

3.4.1 ENVIRONMENTAL SETTING

This section includes a summary of the existing biological resources within the biological study area, which includes all locations that would be affected permanently or temporarily by the construction of new facilities (e.g., pipelines, pump stations, storage facilities). Generally, the biological study area includes The District easements in which new pipelines would be built, general locations where pump stations and storage facilities would be built or upgraded, and the Van Vleck Ranch proposed spray field, which would have above-ground pipes installed at presently undetermined locations (see Exhibit 3.4-1). The descriptions of land cover types and sensitive biological resources are based on observations made during a field survey conducted on March 11, 2014 and aerial imagery.



Source: AECOM 2014

Exhibit 3.4-1 **Biological Study Area**

LAND COVER TYPES

The biological study area includes developed areas, barren land, annual grassland, oak woodland, water bodies and drainages, riparian vegetation, and irrigated pasture (i.e. Van Vleck Ranch) (see Exhibits 3.4-2 through 3.4-9). Table 3.4-1 summarizes the acreages of land cover types in the biological study area and the acreages that would be temporarily and permanently impacted by construction activities.

Developed

Developed areas in the biological study area include roads and road shoulders, residential areas, the North and South Golf Courses, the WWRP, and other paved areas (e.g., Lookout Hill, existing pump houses). Developed areas are either landscaped with ornamental plant species or paved. There are a few pockets of native oaks (*Quercus* sp.) in developed areas, but the understory is regularly mowed. Wildlife observed in developed areas include turkey vulture (*Cathartes aura*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), and black phoebe (*Sayornis nigricans).*

Barren

The Murieta Gardens development is currently barren, with little to no vegetation cover, as it was recently graded to prepare for construction of the new development.

Annual Grassland

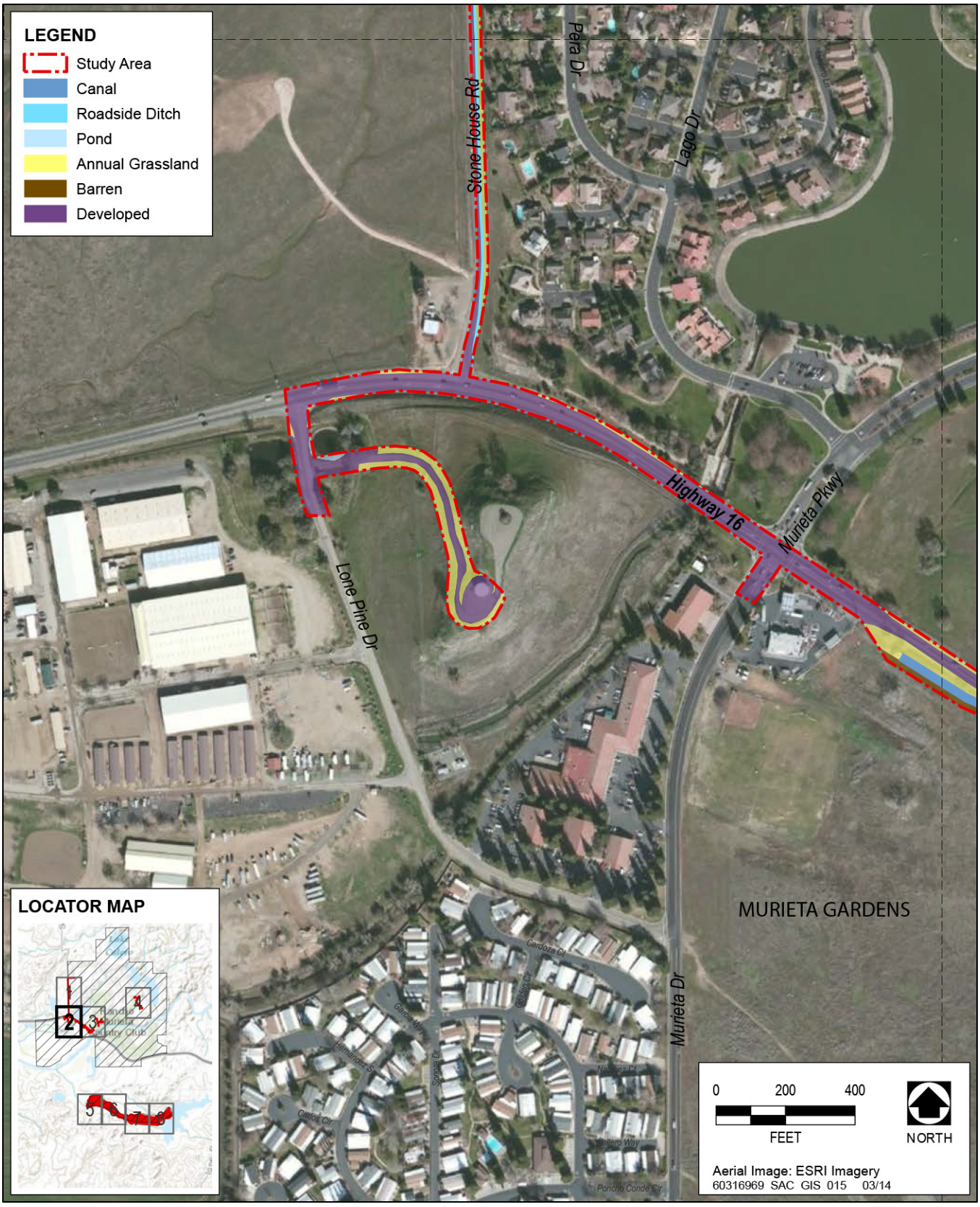
Annual grassland is present in open, undeveloped areas throughout the biological study area. Annual grassland is dominated by non-native annual grasses, including ripgut brome (*Bromus diandrus*), soft chess (*B. hordaceous*), wild oats (*Avena* sp.), yellow starthistle (*Centaurea solstitialis*), vetch (*Vicia* sp.), filaree (*Erodium* sp.), and a few native forbs such as California poppy (*Eschscholzia californica*), small-flowered fiddleneck (*Amsinckia menziesii*), phacelia (*Phacelia distans*), and blue dicks (*Dichelostemma capitatum*). Wildlife observed in the annual grasslands include Western meadowlark (*Sturna neglecta*), red-tailed hawk (*Buteo jamaicensis*), turkey vulture, savannah sparrow (*Passerculus sandwichensis*), and black swallowtail (*Papilio polyxenes*).No mammal burrows were observed in annual grassland habitat within the biological study area.

Oak Woodland

Oak woodland is present in small patches throughout the biological study area, but only intersects the biological study area in one location (see Exhibit 3.4-4). Oak woodland is dominated by Valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), and interior live oak (*Q. wislizeni*). The understory is dominated by annual grassland species and occasional shrubs such as coyote brush (*Baccharis pilularis*) and poison oak (*Toxicodendron diversilobum*). Wildlife observed in oak woodlands in the biological study area include western fence lizard (*Sceloporus occidentalis*), white-breasted nuthatch (*Sitta carolinensis*), acorn woodpecker (*Melanerpes formicivorus*), ruby-crowned kinglet (*regulus calendula*), and western scrub-jay (*Aphelocoma coerulescens*).

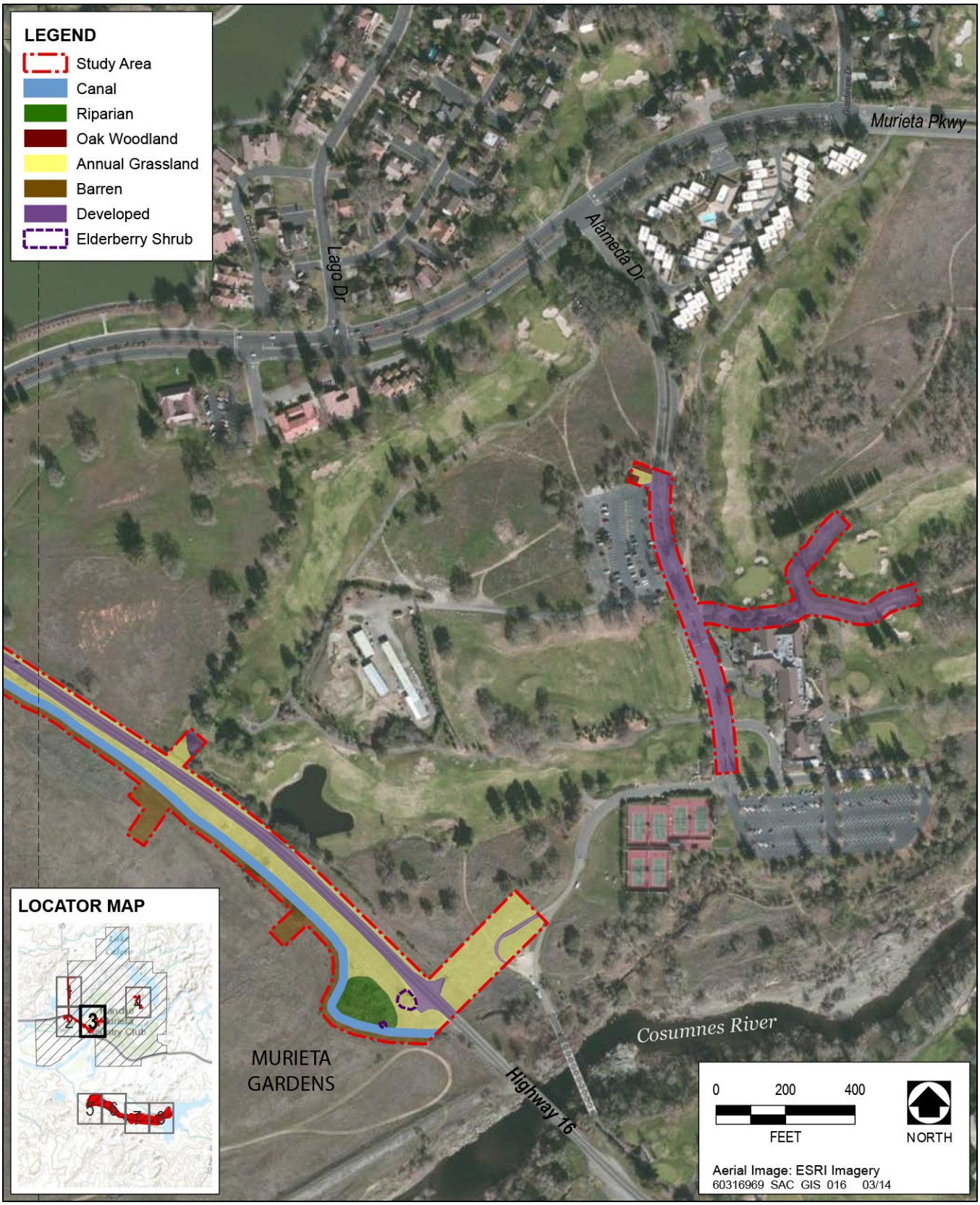
Source: Data compiled by AECOM in 2014

Exhibit 3.4-2 **Land Cover Types – Map 1**



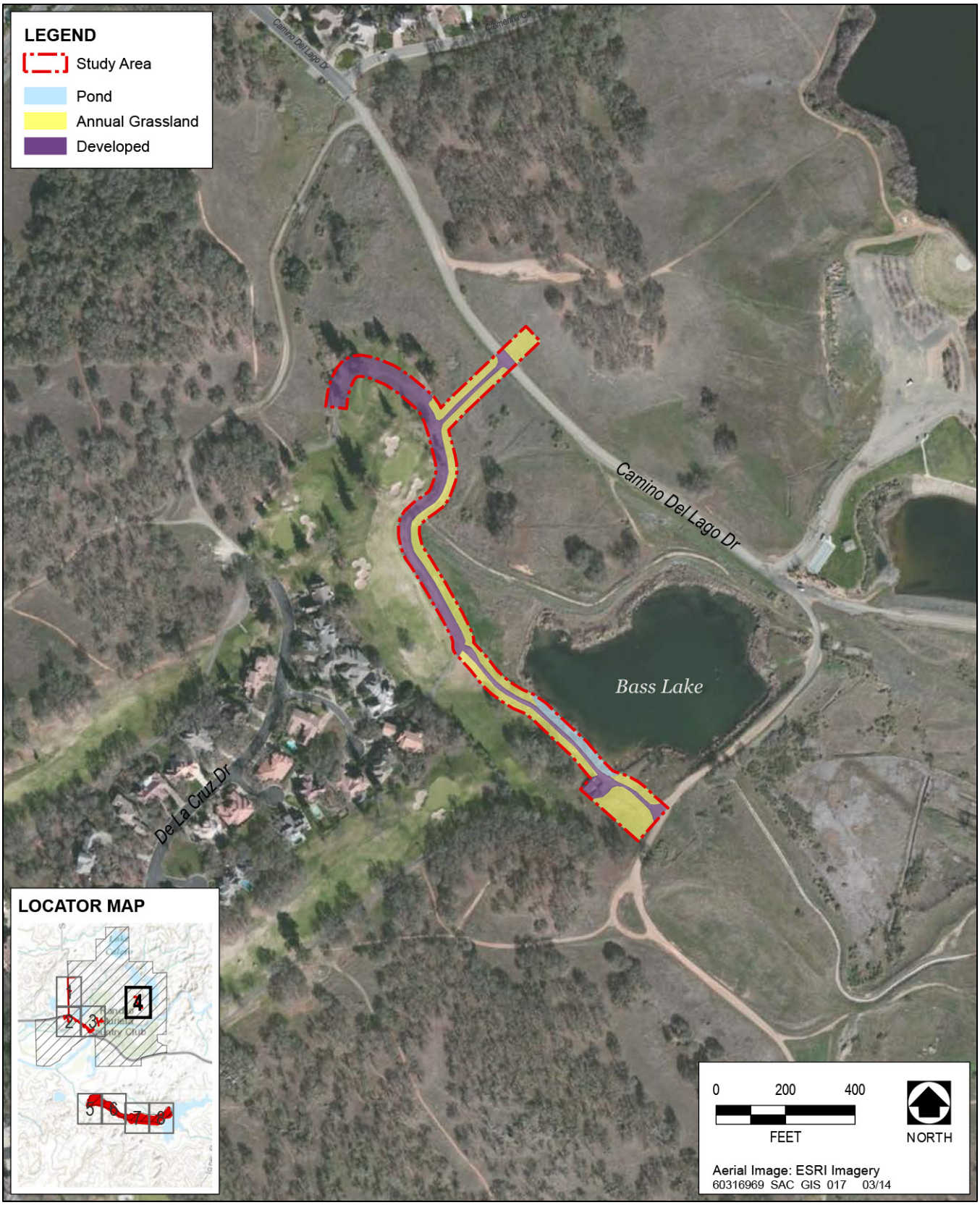
Source: Data compiled by AECOM in 2014

Exhibit 3.4-3 **Land Cover Types – Map 2**



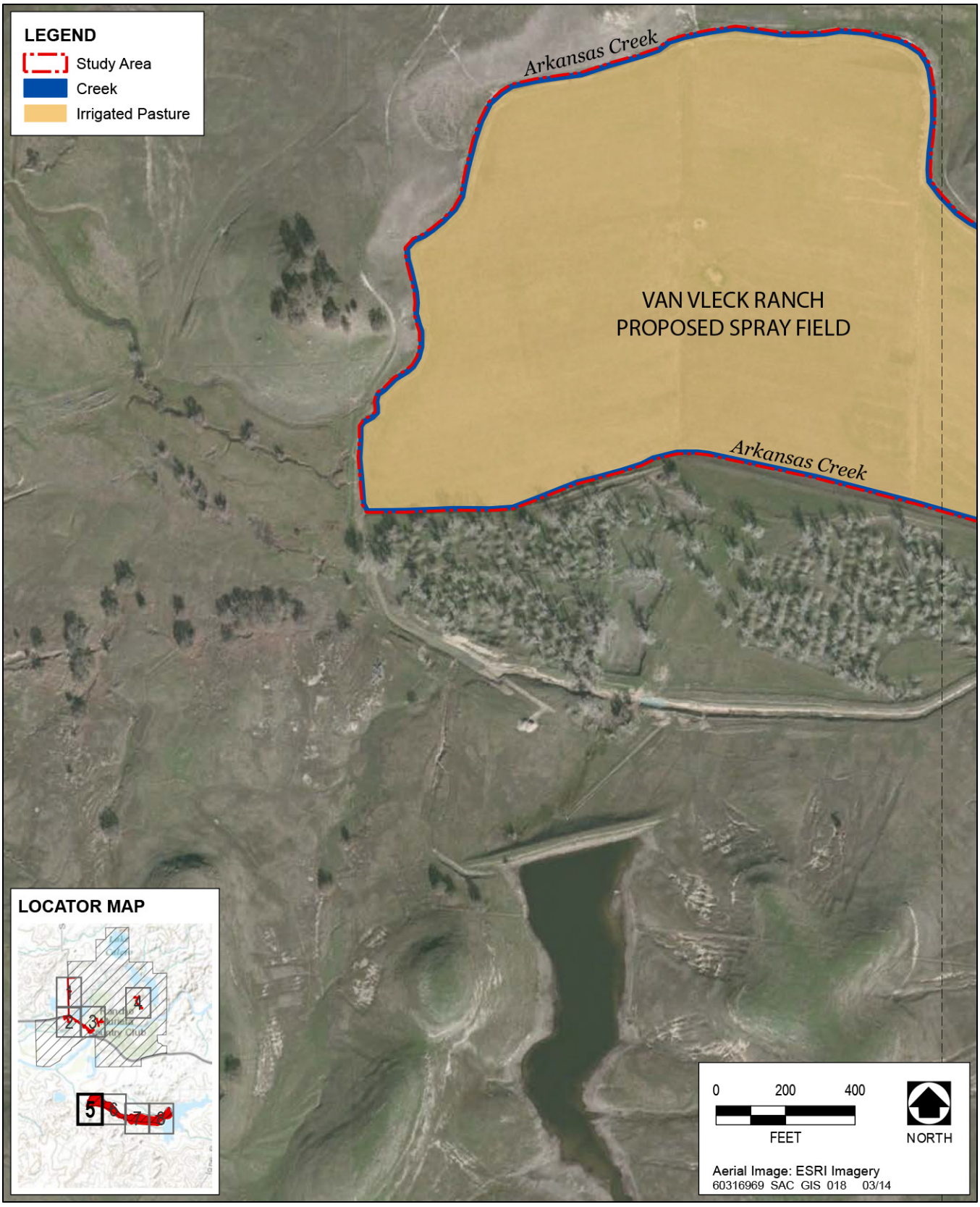
Source: Data compiled by AECOM in 2014

Exhibit 3.4-4 **Land Cover Types – Map 3**



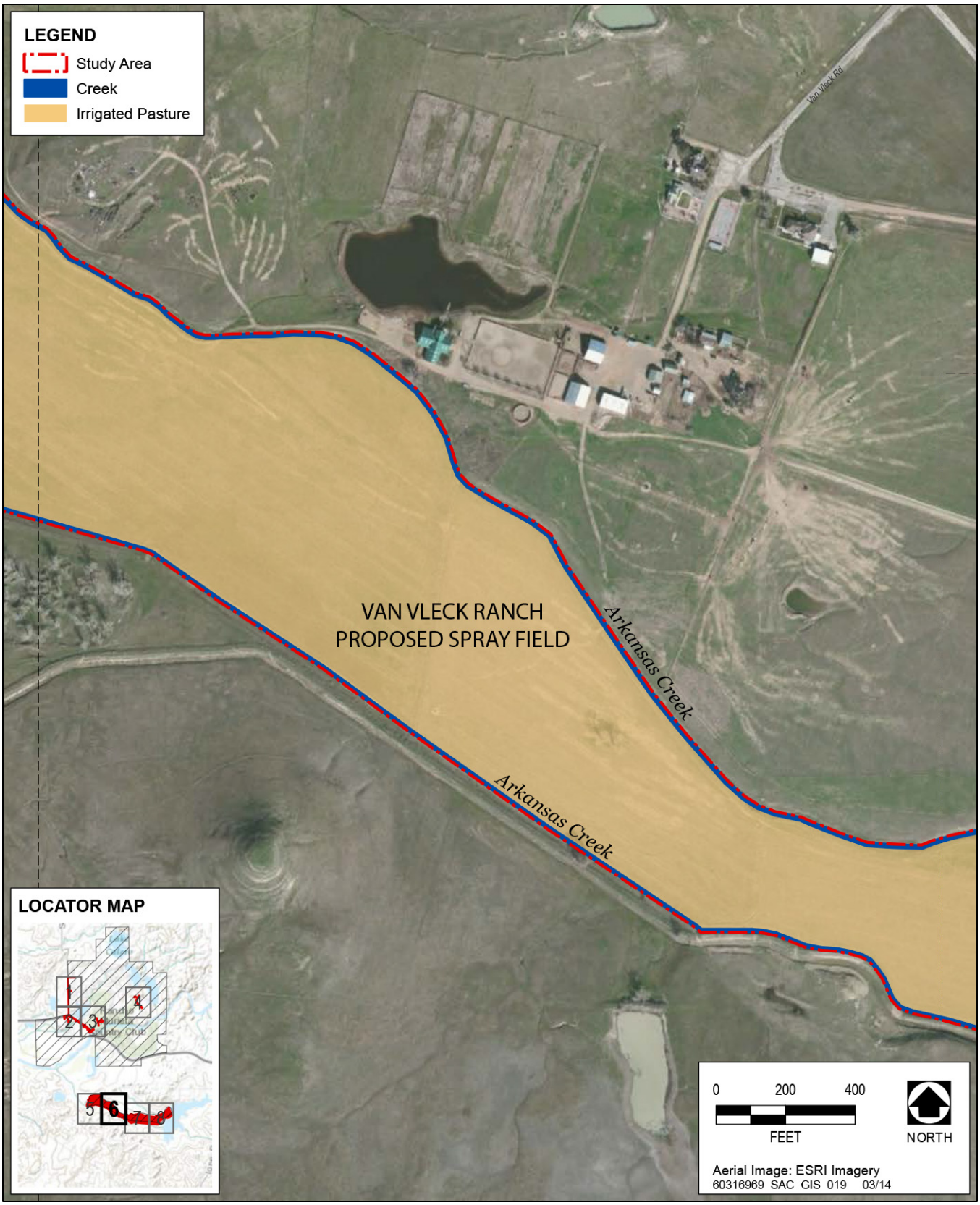
Source: Data compiled by AECOM in 2014

Exhibit 3.4-5 **Land Cover Types – Map 4**



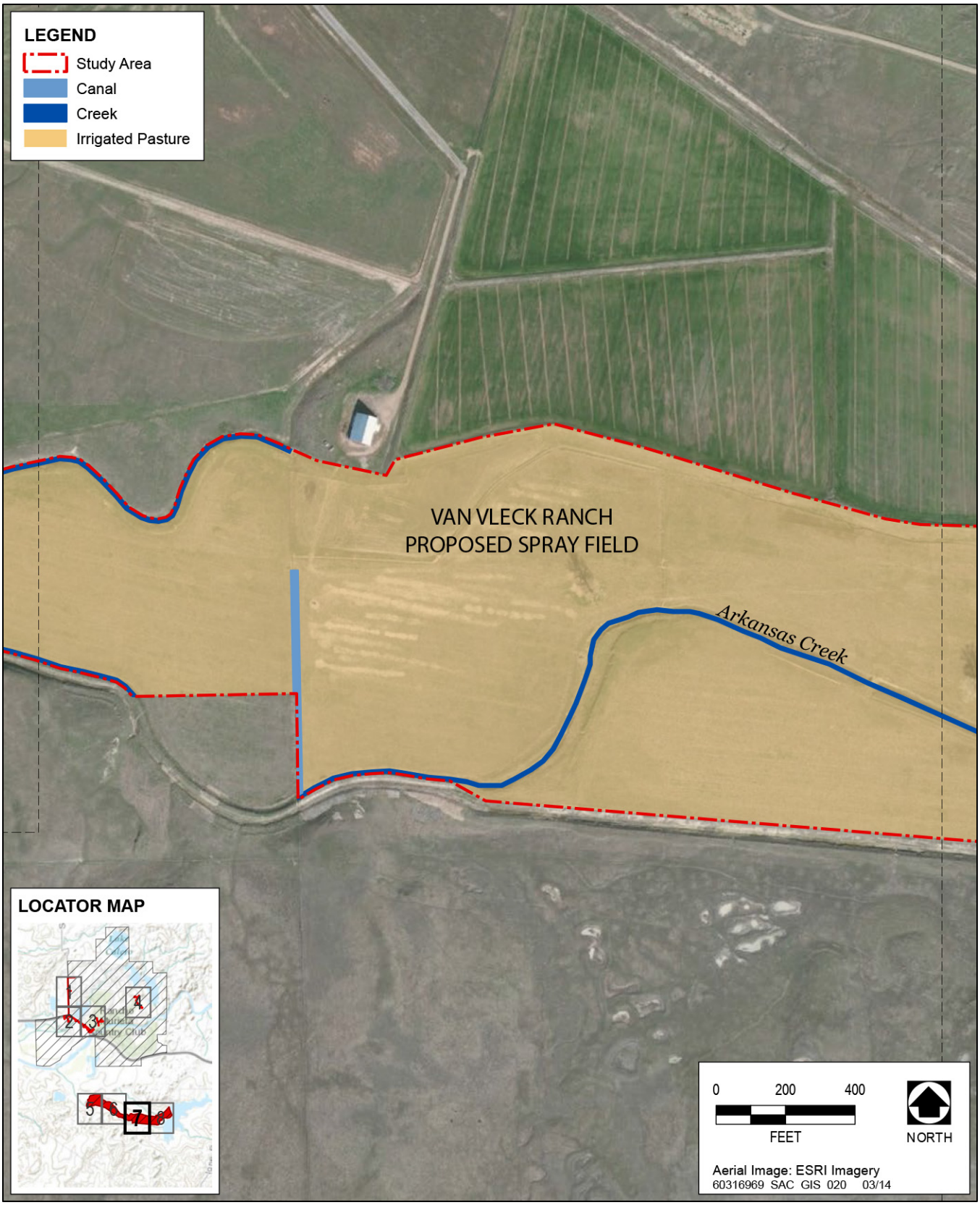
Source: Data compiled by AECOM in 2014

Exhibit 3.4-6 **Land Cover Types – Map 5**



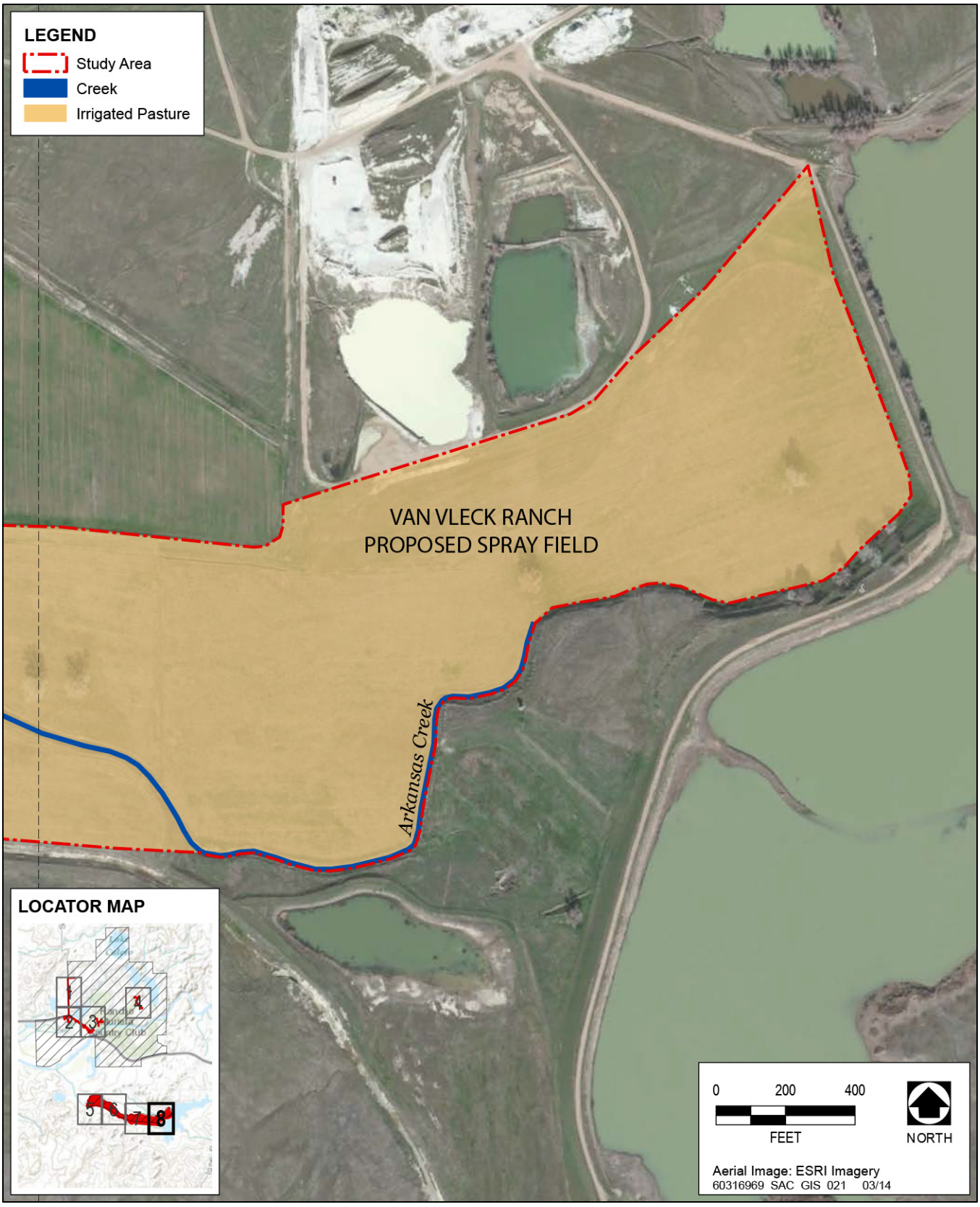
Source: Data compiled by AECOM in 2014

Exhibit 3.4-7 **Land Cover Types – Map 6**



Source: Data compiled by AECOM in 2014

Exhibit 3.4-8 **Land Cover Types – Map 7**



Source: Data compiled by AECOM in 2014

Exhibit 3.4-9 **Land Cover Types – Map 8**

Table 3.4-1 Land Cover in the Biological Study Area	
Land Cover Type	Acreage within the Biological study area
Terrestrial Land Cover	
Developed	11.30
Barren	1.22
Annual Grassland	7.99
Oak Woodland	0.04
Riparian	0.41
Irrigated Pasture	187.11
Aquatic Land Cover	
Ponds	0.22
Roadside Ditches	0.29
Canal	1.16
Arkansas Creek	4.31
Total	**214.05**
Source: Data compiled by AECOM in 2014	

Water Bodies and Drainages

Water bodies in the biological study area include Bass Lake and an unnamed pond near the intersection of SR 16 and Lone Pine Drive (See Exhibits 3.4-3 and 3.4-6). These are permanent, maintained ponds. Vegetation in Bass Lake includes thin patches of cattails (*Typha* sp.) and Himalayan blackberry (*Rubus armeniacus*), and water primrose (*Ludwigia* sp.). Wildlife observed using Bass Lake include red-winged blackbird (*Agelaius phoeniceus*), tundra swan (*Cygnus columbianus*), pied-billed grebe (*Podylimbus podiceps*), and bufflehead (*Bucephala albeola*); evidence of beaver (*Castor canadensis*) activity was also apparent. Landscape trees are present around the unnamed pond and this area appears to be mowed regularly.

Drainages in the biological study area include a canal, roadside ditches, and Arkansas Creek. Some of the roadside ditches support small patches of emergent vegetation such cattails and tules (*Schoenoplectus* sp.). There is one canal running along the south side of SR 16 adjacent to the Murieta Gardens development (see Exhibit 3.4-3 and 3.4-4). Two drainages border the north and south sides of the proposed Van Vleck Ranch spray field, eventually emptying into the Cosumnes River (see Exhibits 3.4-6 through 3.4-9). On U.S. Geological Survey (USGS) topographic maps, these drainages are labeled Arkansas Creek, and they appear to have been modified from their historic routes. Vegetation observed in these drainages include water primrose, manna grass (*Glyceria* sp.), and tules. A bullfrog was observed in the southern drainage.

Riparian

Along the canal running along the south side of SR 16 near the Murieta Gardens development, there is one patch of riparian vegetation including interior live oak, willows (*Salix* sp.), cottonwoods (*Populus fremontii*), and other shrubs, including several blue elderberry (*Sambucus nigra* spp. *caerulea*) (see Exhibit 3.4-4).

Irrigated Pasture

Van Vleck Ranch is characterized by irrigated pasture dominated by non-native grasses and forbs, including rye grass (*Festuca perennis*), wild oats, clover (*Trifolium* sp.), dallis grass (*Paspalum dilatatum*), vetch, filaree, and English plantain (*Plantago lanceolata*). There are occasional large cottonwood trees present in the pastures, and old raptor nests were observed in some of these trees. Red-tailed hawks were observed soaring above the pastures in one location. Killdeer (*Charadrius vociferus*), western meadowlark, and savannah sparrow were also observed. These pastures are regularly irrigated and used for cattle grazing. No mammal burrows were observed in the irrigated pastures.

WILDLIFE MOVEMENT CORRIDORS

The annual grassland and oak woodland throughout the biological study area provides corridors for terrestrial wildlife to move through. These corridors are woven throughout and around the developed areas of Rancho Murieta. Arkansas Creek may be used by aquatic wildlife, and ultimately flows into the Cosumnes River, which is the main aquatic wildlife corridor in the region.

SENSITIVE BIOLOGICAL RESOURCES

Sensitive biological resources include those that are afforded special protection through federal, state, and/or local laws and ordinances. These include special-status species, sensitive natural communities, and waters and wetlands. These are described in more detail below.

Special-Status Species

Special-status plants and wildlife include those that are legally protected or otherwise considered sensitive by federal, state, or local resource-conservation agencies and organizations. These include:

- species listed, proposed for listing, or considered candidates for listing as threatened or endangered under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA);
- all native bird species covered under the federal Migratory Bird Treaty Act (MBTA);
- species identified by CDFW as California species of special concern;
- animals fully protected under the California Fish and Game Code (Sections 3511, 4700, 5050, and 5515);
- nesting raptors protected under the California Fish and Game Code (Section 3503.5);
- plants listed as endangered or rare under the California Native Plant Protection Act (California Fish and Game Code Sections 1900-1913); and/or
- plants ranked by CDFW as “rare, threatened, or endangered in California.” CDFW recognizes California Rare Plant Ranks (CRPRs):
    - CRPR 1A—plants presumed to be extinct or extirpated in California, and rare elsewhere;
    - CRPR 1B—plants that are rare, threatened, or endangered in California and elsewhere;
    - CRPR 2A—plants that are presumed extirpated in California, but more common elsewhere;

- CRPR 2B—plants that are rare, threatened, or endangered in California but more common elsewhere;
- CRPR 3—plants about which more information is needed (a review list); and
- CRPR 4—plants of limited distribution (a watch list).

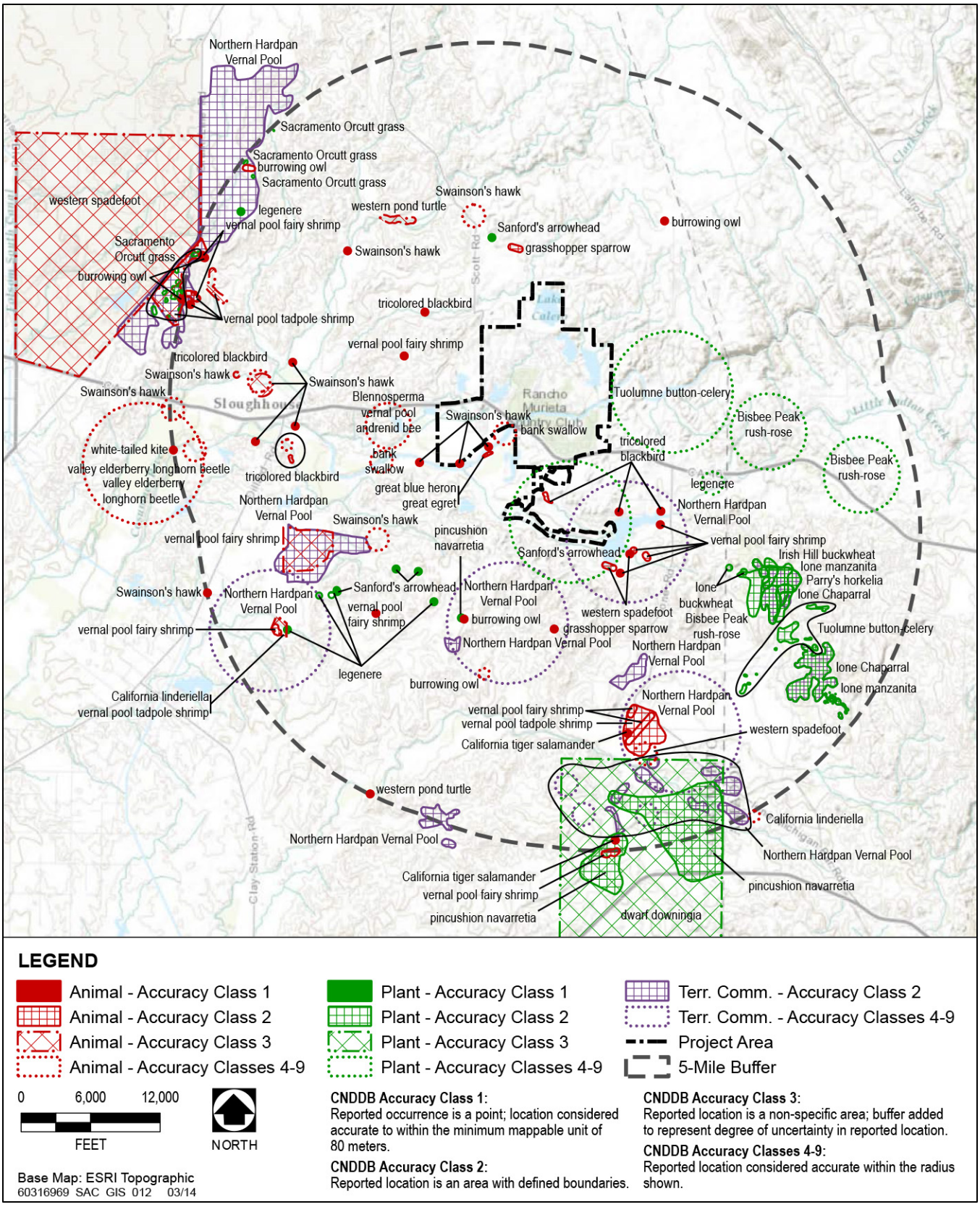
All plants with a CRPR are considered "special plants" by CDFW. The term "special plants" is a broad term used by CDFW to refer to all of the plant taxa inventoried in the CDFW CNDDB, regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, or 2 may qualify as endangered, rare, or threatened species within the definition of State CEQA Guidelines Section 15380. CDFW recommends, and local governments may require, that CRPR 1A, 1B, and 2 species be addressed in CEQA projects. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to State CEQA Guidelines Section 15380; however, these species may be evaluated by the lead agency on a case-by-case basis to determine significance criteria under CEQA.

"Species of special concern" is an administrative designation and carries no formal legal status. CDFW has designated certain vertebrate species as California species of special concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. Such species generally would meet the criteria for state listing, as described in CCR Section 15380 of the State CEQA Guidelines.

For this analysis, a preliminary list of special-status species with potential to occur in and near the project site was compiled based on searches of the CNDDB (CNDDB 2014), the CNPS Electronic Inventory of Rare and Endangered Plants of California (CNPS 2014), and U.S. Fish and Wildlife Service (USFWS) federally listed species (USFWS 2013). The CNDDB inventory was searched within a 5-mile radius of the project site for biological resources, including plant and wildlife occurrences (see Exhibit 3.4-10). The CNDDB contains only those records that have been reported to CDFW, and additional species occurrences may exist in the project site vicinity. Searches of CNPS plant records were conducted for the Folsom SE and Carbondale U.S. Geological Survey (USGS) 7.5-minute quadrangles and their eight adjacent quadrangles, including: Clarksville, Shingle Springs, Latrobe, Irish Hill, Ione, Goose Creek, Clay, Sloughhouse, Buffalo Creek, and Folsom (Appendix B). A list of USFWS federally listed species that occur in or may be affected by projects in the USGS 7.5-minute Folsom SE and Carbondale quadrangles was also generated for this analysis (USFWS 2013) (Appendix B). Previous environmental documents prepared for The District were also reviewed (e.g., RMCSD 2007, County of Sacramento Department of Environmental Review and Assessment 2007, RMCSD 2014). These resources were used to analyze the likelihood of occurrence for these species, as shown in Table 3.4-2 and described in the sections below.

Special-Status Plants

Twenty-three plant species were identified in the searches described above (see Table 3.4-2 and Appendix B). Fourteen of these species have specific habitat requirements which are not present in the biological study area (e.g., specific soil types) and/or have restricted ranges that are outside the biological study area (e.g., El Dorado County, Pine Hill). There is suitable habitat in the biological study area for two special-status plant species:



LEGEND

- Animal - Accuracy Class 1
- Animal - Accuracy Class 2
- Animal - Accuracy Class 3
- Animal - Accuracy Classes 4-9
- Plant - Accuracy Class 1
- Plant - Accuracy Class 2
- Plant - Accuracy Class 3
- Plant - Accuracy Classes 4-9
- Terr. Comm. - Accuracy Class 2
- Terr. Comm. - Accuracy Classes 4-9
- Project Area
- 5-Mile Buffer

0 6,000 12,000
FEET

NORTH

Base Map: ESRI Topographic
60316969 SAC GIS 012 03/14

CNDDB Accuracy Class 1:
Reported occurrence is a point; location considered accurate to within the minimum mappable unit of 80 meters.

CNDDB Accuracy Class 2:
Reported location is an area with defined boundaries.

CNDDB Accuracy Class 3:
Reported location is a non-specific area; buffer added to represent degree of uncertainty in reported location.

CNDDB Accuracy Classes 4-9:
Reported location considered accurate within the radius shown.

Source: CNDDB 2014

Exhibit 3.4-10 **CNDDB Search Results**

Table 3.4-2
Special-Status Species Known or With Potential to Occur in the Project Vicinity

Species	Status[1]			Habitat Description	Potential for Occurrence in the Biological Study Area
	USFWS	CDFW	CRPR		
Plants					
Dwarf downingia *Downingia pusilla*	--	--	2B.2	Mesic sites in valley and foothill grassland, vernal pools. Blooms March-May	None. No suitable mesic sites or vernal pools occur within or adjacent to the biological study area.
Tuolomne button-celery *Eryngium pinnatisectum*	--	--	1B.2	Mesic areas in cismontane woodland and lower montane coniferous forest, vernal pools and swales, and intermittent streams. Blooms: May-August	Could occur. Suitable habitat present in Arkansas Creek.
Bogg's Lake hedge hyssop *Gratiola heterosepala*	--	CE	1B.2	Along lake margins in marshes and swamps, vernal pools; in clay soils. Blooms April-August	None. No suitable lake margins or vernal pools are present in or within 250 feet of the biological study area.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	--	--	1B.2	Mesic sites in valley and foothill grassland, vernal pools; generally restricted to edges of vernal pools. Blooms March-May	None. No suitable mesic sites or vernal pools are present in or within 250 feet of the biological study area.
Greene's legenere *Legenere limosa*	--	--	1B.1	Vernal pools. Blooms April-June	None. No vernal pools are present in or within 250 feet of the biological study area.
Pincushion navarretia *Navarretia meyersii* ssp. *meyersii*	--	--	1B.1	Vernal pools. Blooms in May	None. No vernal pools are present in or within 250 feet of the biological study area.
Slender Orcutt grass *Orcuttia tenuis*	FT	CE	1B.1	Vernal pools. Blooms May-October	None. No vernal pools are present in or within 250 feet of the biological study area.
Sacramento Orcutt grass *Orcuttia viscida*	FE	CE	1B.1	Vernal pools. Blooms April-July	None. No vernal pools are present in or within 250 feet of the biological study area.
Sanford's arrowhead *Sagittaria sanfordii*	--	--	1B.2	Shallow freshwater marshes and swamps. Blooms May-October	Likely to occur. Species has been recorded on Van Vleck Ranch, and suitable habitat exists in the biological study area.
Invertebrates					
Conservancy fairy shrimp *Branchinecta lynchi*	FE	--	--	Vernal pools in valley and foothill grasslands	None. No vernal pools are present within 250 feet of the biological study area.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	--	--	Vernal pools in valley and foothill grasslands	None. No vernal pools are present within 250 feet of the biological study area.

Table 3.4-2
Special-Status Species Known or With Potential to Occur in the Project Vicinity

Species	Status[1]			Habitat Description	Potential for Occurrence in the Biological Study Area
	USFWS	CDFW	CRPR		
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	--	--	Elderberry shrubs, typically found in riparian habitats	Known to occur. Several elderberry shrubs are present within 100 feet of the proposed pipeline near Murieta Gardens.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	--	--	Found in vernal pools in valley and foothill grasslands	None. No vernal pools are present within 250 feet of the biological study area.
Amphibians and Reptiles					
California tiger salamander, central population *Ambystoma californiense*	FE	ST	--	Found in grasslands and low (typically below 2000 feet/610 meters) foothill regions where lowland aquatic sites are available for breeding. Prefers natural ephemeral pools or stock ponds that are allowed to go dry.	Could occur. No breeding sites, such as ephemeral ponds or pools, occur within 250 feet of the biological study area; however suitable upland grassland habitat occurs adjacent to Van Vleck Ranch
Western pond turtle *Emys marmorata*	--	CSC	--	Found in both permanent and intermittent waters, including marshes, streams, rivers, ponds, and lakes. Prefers habitats with abundant material such as logs or rocks to bask in sunlight.	Could occur at Bass Lake.
California red-legged frog *Rana draytonii*	FT	CSC	--	Breeds in aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds and lagoons. Additionally, frequently breeds in artificial impoundments such as stock ponds.	None. No suitable breeding habitat is present within the biological study area; no occurrences have been recorded within 5 miles.
Western spadefoot *Spea hammondii*	--	CSC	--	Found in vernal pools in upland with burrows and other below-ground refuge.	None. No suitable breeding or refuge habitat is present within the biological study area.
Giant garter snake *Thamnophis gigas*	FT	ST	--	Found in emergent herbaceous wetland vegetation in rice fields or along waterways. Grassy and bare banks or levees may be used for cover and refuge from flooding.	None. No suitable breeding or refuge habitat is present within the biological study area.
Birds					
Tricolored blackbird *Agelaius tricolor*	--	CSC	--	Breeds in freshwater wetlands, with tall dense vegetation including tule, cattail, blackberry and rose. Forages in grasslands and croplands.	Could occur; suitable grassland and irrigated pasture foraging habitat is present in the biological study area. However, no nesting substrate (e.g., extensive cattail or tule patches) is present in the biological study area.

Table 3.4-2
Special-Status Species Known or With Potential to Occur in the Project Vicinity

Species	Status[1]			Habitat Description	Potential for Occurrence in the Biological Study Area
	USFWS	CDFW	CRPR		
Grasshopper Sparrow *Ammodramus savannarum*	--	CSC	--	Breeds in prairie and cultivated grasslands, weedy fallow fields, and alfalfa fields. Avoids significant shrub cover and occupies intermediate grassland habitat, with open or bare ground for foraging.	Could occur; suitable foraging habitat is present in the biological study area. No suitable nesting substrate is present in the biological study area.
Burrowing owl *Athene cunicularia*	--	CSC	--	Breeds and forages in open, dry grassland and desert habitats, as well as in grass, forb and open shrub stages.	None. No suitable breeding or foraging habitat is present within the biological study area. Burrows were not observed in the biological study area.
Swainson's hawk *Buteo swainsonii*	--	ST	--	Breeds in riparian woodland with adjacent suitable foraging areas such as grasslands, alfalfa, or grain fields supporting rodent populations.	Likely to occur; suitable foraging habitat is present onsite and there are known nest sites within 0.5 miles of the biological study area along the Cosumnes River.
Northern harrier *Circus cyaneus*	--	CSC	--	Forages and breeds in grassland, agricultural fields, and marshes	Could occur; suitable foraging habitat is present within the biological study area. No suitable nesting substrate is present within the biological study area.
White-tailed kite *Elanus leucurus*	--	FP	--	Forages in grasslands and agricultural fields; breeds in isolated trees or small woodland patches	Likely to occur; suitable foraging habitat is present within the biological study area and there are known nest sites within 0.5 miles of the biological study area along Cosumnes River.
Loggerhead shrike *Lanius ludovidianus*	--	CSC	--	Forages in grasslands and agricultural fields; breeds in scattered shrubs and trees.	Could occur; suitable foraging habitat is present in the biological study area. No suitable nesting substrate is present in the biological study area.
Bank swallow *Riparia riparia*	--	ST	--	Forages in marshes and along river banks; breeds in vertical caves and sand banks.	None. No suitable exposed bank habitat is present within the biological study area.

Notes:

[1] Legal Status Definitions

U.S. Fish and Wildlife (USFWS):

FE Federal endangered

FT Federal threatened

California Department of Fish and Wildlife (CDFW):

CE State endangered

CT State threatened

CSC Species of special concern

FP Fully protected

Table 3.4-2
Special-Status Species Known or With Potential to Occur in the Project Vicinity

Species	Status[1]			Habitat Description	Potential for Occurrence in the Biological Study Area
	USFWS	CDFW	CRPR		

California Rare Plant Ranks (CRPR):

1B Plant species considered rare or endangered in California and elsewhere (but not legally protected under the federal or California Endangered Species Acts).

2B Plant species considered rare or endangered in California but more common elsewhere (but not legally protected under the federal or California Endangered Species Acts).

California Rare Plant Rank Extensions:

1 seriously endangered in California (>80% of occurrences are threatened and/or have a high degree and immediacy of threat).

2 fairly endangered in California (20-80% of occurrences are threatened and/or have a moderate degree and immediacy of threat).

Potential for Occurrence Definitions:

None	No suitable habitat is present within the vicinity of the biological study area.
Could Occur	Marginally suitable habitat present within the biological study area.
Likely to Occur	Suitable habitat present within the biological study area.
Known to Occur	Documented occurrences within the biological study area.

Sources: CNPS 2014; CNDDB 2014; USFWS 2013; Baldwin et. al. 2012; Hickman 1993

Sanford's arrowhead, which is found in shallow freshwater marshes and swamps and slow-moving drainages; and Tuolomne button-celery, which is found in mesic areas in cismontane woodland, lower montane coniferous forest, vernal pools and swales, and intermittent streams. Both of these species have been recorded within 5 miles of the biological study area, though neither was observed within the biological study area. The Tuolomne button-celery occurrence is from 1941 and the exact location is unknown. As this is the only occurrence recorded in Sacramento County, it is unlikely that this species is present in the biological study area. The canal and Arkansas Creek in the biological study area could support Sanford's arrowhead, and several occurrences have been recorded within 5 miles of the biological study area, including one at an unknown location on Van Vleck Ranch.

Special-Status Wildlife

Twenty-one wildlife species were identified in the searches described above (see Table 3.4-2 and Appendix B). Of these, nine have some potential to occur in the biological study area: western pond turtle, valley elderberry longhorn beetle, California tiger salamander, white-tailed kite, Swainson's hawk, tricolored blackbird, northern harrier, loggerhead shrike, and grasshopper sparrow.

Valley elderberry longhorn beetle could be present in the elderberry shrubs within and near the riparian vegetation adjacent to the canal near Murieta Gardens along SR 16 (Exhibit 3.4-4). Swainson's hawk and white-tailed kite could nest in any of the large riparian trees in the biological study area along the Cosumnes River or in the Van Vleck Ranch proposed spray field, and could use the annual grassland and irrigated pastures for foraging. The nearest known Swainson's hawk CNDDB occurrence is approximately 0.8 miles to the southwest of the biological study area along the Cosumnes River. The nearest known white-tailed kite CNDDB occurrence is approximately 5 miles west of the biological study area on the Cosumnes River near Sloughouse. Although the biological study area provides foraging habitat for loggerhead shrike, northern harrier, and grasshopper sparrow,

primarily at Van Vleck Ranch and its vicinity, these grasslands and fields do not have key components suitable for breeding; the Van Vleck Ranch lacks scattered small trees that would be needed to support nesting activities of the loggerhead shrike, and also lacks the appropriate ground cover density and height for nesting grasshopper sparrows and harriers.

Bass Lake provides suitable foraging and breeding habitat for western pond turtle. No western pond turtles were observed in the biological study area during the reconnaissance survey. However, there are records of pond turtles within 5-miles, with the closest CNDDB occurrence approximately 2.75 miles northwest of the biological study area.

The remaining 12 of the 21 species identified in the database searches are not expected to occur. The biological study area is outside of the known range of the four fish species identified in the USFWS search—Delta smelt (*Hypomesus transpacificus*), Central Valley steelhead (*Oncorhynchus mykiss*), spring-run chinook salmon (*Oncorhynchus tshawytscha*), and winter-run chinook salmon (*Oncorhynchus tshawytscha*). Suitable habitat is not present in the biological study area for the other nine remaining species; most require specific aquatic (e.g., vernal pools, dense vegetation near water) or upland habitat (e.g., burrows in grasslands) that is not present in the biological study area. CNDDB record searches indicate occurrences of vernal pool branchiopods (Conservancy fairy shrimp, vernal pool tadpole and fairy shrimp) and western spadefoot within 5 miles of the biological study area, but these species are not expected to occur in the biological study area because there is no suitable vernal pool habitat or seasonal wetland habitat present in the biological study area or within 250 feet. Similarly, although giant garter snake and California red-legged frog were identified in the USFWS online search, there are no CNDDB occurrences within 5 miles of the biological study area. No suitable aquatic giant garter snake habitat with adjacent basking or upland habitat is present in the biological study area. In addition, the biological study area is not expected to support California red-legged frogs because bullfrogs, California red-legged frog predators, were observed in ponds in the biological study area; ponds lacked habitat features typically preferred by California red-legged frogs (e.g., floating aquatic vegetation and instream vegetative cover); and the biological study area is not located within designated critical habitat for the California red-legged frog (USFWS 2013).

No aquatic breeding habitat is present for California tiger salamander in the biological study area or within 250 feet from the study area boundaries. However, California tiger salamander upland habitat is present in the vicinity of the biological study area extending south from the boundary of Van Vleck Ranch within 1.24 miles of the nearest known occurrence. The nearest record for California tiger salamander is approximately 3.1 miles south of Van Vleck Ranch, and this species has been known to travel as much as 1.24 miles from breeding habitat to utilize upland refugia (USFWS 2003). Thus, the tiger salamanders at the known location could potentially utilize the habitat adjacent to Van Vleck Ranch. Tiger salamanders are not expected to occur north of the Cosumnes River in the biological study area. The closest detection of the population unit of this species north of the Cosumnes River is at Gray Lodge Wildlife Area which is over 65 miles northwest of Rancho Murieta (USFWS 2004). Therefore, tiger salamanders are not likely to occur in the vernal pool habitat adjacent to Stonehouse Road.

Sensitive Natural Communities

Northern hardpan vernal pool and Ione chaparral were identified within 5 miles of the biological study area, but neither of these communities are present within the biological study area. The riparian vegetation in the biological study area is likely subject to CDFW jurisdiction.

Waters and Wetlands

The ponds, canals, and Arkansas Creek in the biological study area are likely considered waters of the U.S. under the jurisdiction of the USACE and waters of the state under the jurisdiction of the RWQCB. Areas supporting wetland vegetation in the roadside ditches may also be considered wetlands subject to USACE and RWQCB regulations.

Oak Trees

The Sacramento County General Plan (Sacramento County 2011) contains numerous goals, policies, and action items to protect biological resources, including trees, and natural resources. The policies include conserving valued habitats including riparian, aquatic, and wetland habitat; wildlife ecosystems; rare plant habitats; waterways; and significant vegetation and trees. Native oak trees on public and private land in Sacramento County are protected under the Sacramento County Tree Preservation Ordinance (Title 19.12, "Tree Preservation and Protection"). Any removal of native oak trees, and any work conducted within the dripline of native oak trees, must be authorized by Sacramento County. Native oaks are defined as valley oak, interior live oak, blue oak, or oracle oak. Trees must be living and have at least one trunk of six inches or more in diameter at breast height (dbh). The oak trees in the oak woodlands in the biological study area meet these criteria. There is one location within the biological study area where work could possibly be conducted within the dripline of native oak trees meeting the protection criteria (see Exhibit 3.4-4).

The Rancho Murieta Association also provides guidance on the preservation of native trees within its jurisdiction (Rancho Murieta Association 2004). The Rancho Murieta Tree Preservation Policy specifies that tree permits must be obtained and mitigation may be required prior to the removal of any native tree with a tree diameter of 3 inches dbh or more, or for pruning of any branch over 3 inches in diameter.

3.4.2 DISCUSSION

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

SPECIAL-STATUS PLANT SPECIES

Less than significant with mitigation incorporated. Construction of the proposed project is not likely to have a substantial adverse effect on special-status plant species because proposed construction activities would occur in areas that do not support habitat for special status plants species. Installation of pipelines would occur along existing roadways, where the land cover type consists of developed areas or annual grassland. Pipelines would be placed above ground, in trenches, or constructed using trenchless construction methods (either HDD, pipebursting, or jack and bore) as required at each construction location. Suitable habitat for two special-status plant species, Sanford's arrowhead and Tuolomne button-celery is present in Arkansas Creek and the canal near Murieta Gardens. However, no impacts on these species is anticipated because construction of proposed pipelines, new storage facilities, and new irrigation structures is not expected to take place within these drainages. Pipeline crossings of drainages would occur using trenchless methods that would not alter the course of any drainage. Construction of pipeline crossings could result in release of pollutants into drainages that could adversely affect

special-status plant species through erosion, sedimentation, or frac-out. Therefore, this impact would be potentially significant.

SPECIAL-STATUS WILDLIFE SPECIES

Less than significant with mitigation incorporated. Construction of the proposed project, such as open trenching along roads, has the potential to adversely affect special-status wildlife species by temporarily disturbing individuals in oak woodland, riparian forest, drainages and wetlands habitats, which provide suitable habitat for special-status wildlife species. Potential impacts to special-status wildlife are most likely to occur during project construction along the proposed pipelines, construction of new storage facilities, and installation of irrigation structures at Van Vleck Ranch, and could include disturbance of individuals and areas of foraging and nesting habitat for species such as Swainson's hawk, white-tailed kite, and nesting raptors and songbirds. Noise or visual disturbance from construction-related activity could cause nest failure or abandonment.

After construction is complete, changes to the annual grassland could occur at Van Vleck Ranch due to the application of treated water. However, based on observations of the landscape conditions of a similar agricultural field that is currently irrigated with recycled water, as well as grazed, installing irrigation structures at Van Vleck Ranch is not expected to substantially change the vegetation structure of the land cover. Thus, no project operational impacts on foraging raptors or songbirds that utilize agricultural pasture is likely. Additionally, any minimal change to foraging habitat is not likely to affect populations of these birds because there are extensive grasslands and pastures in the area surrounding the biological study area.

Although California tiger salamanders could occur in upland grassland habitat adjacent to Van Vleck Ranch, the installation of irrigation structures is not expected to affect tiger salamanders in the vicinity because the construction would occur completely above ground, and thus, there would be no subsurface ground disturbance and no potential for take.

Elderberry shrubs, which may provide habitat for Valley Elderberry Longhorn Beetle, were identified within 100 feet of the pipeline at Murieta Gardens. This habitat and individual beetles have the potential to be disturbed by dust generated during project construction.

Along with the potential for direct impacts to individuals in the area during construction adjacent to Bass Lake, the pond turtles could be indirectly affected by discharge of sediment and pollutants as a result of project construction.

Therefore, project construction activities could affect special-status species and this impact is considered potentially significant.

Mitigation Measure BIO-1: Protect Special-status Plant Species.

The District and its primary construction contractor shall implement the following measures to reduce impacts on special-status plant habitat in the biological study area:

- Minimize loss of special-status plant habitat (i.e., drainages) to the greatest extent feasible by avoiding removal of or disturbance to habitat during construction.

- Implement Mitigation Measures HYD-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices and HYD-3: Prepare and Implement a Frac-Out and Undercrossing Contingency Plan to ensure no construction area erosion, sedimentation, or pollution enters any special-status plant habitat (i.e., drainages) within or adjacent to the biological study area.

- Implement Mitigation Measure BIO-7: Protect Wetlands and Drainages.

Mitigation Measure BIO-2: Protect Valley Elderberry Longhorn Beetle.

The District and its primary construction contractor shall implement the following measures to reduce impacts on valley elderberry longhorn beetles in the biological study area:

- Before the commencement of construction activity, a focused survey shall be conducted by a qualified biologist, in accordance with current USFWS guidelines (USFWS 1999), to identify elderberry shrubs and exit holes of valley elderberry longhorn beetles where elderberry shrubs could occur within 100 feet of construction areas, including the known elderberry shrub sites within and adjacent to the riparian vegetation near Murieta Gardens. The preconstruction surveys shall be conducted no more than 30 days prior to the start of construction, regardless of the time of year in which construction occurs.

- For all shrubs that are to be retained in the biological study area, a setback of 20 feet from the dripline of each elderberry shrub found during the survey shall be established. Brightly colored flags or fencing shall be used to demarcate the 20-foot setback area and shall be maintained until project construction in the vicinity is complete. No construction activities shall occur within the setback area.

- For all shrubs without evidence of valley elderberry longhorn beetle exit holes that cannot be retained on the project site, all stems of 1 inch or greater in diameter at ground level shall be counted. The USFWS shall be consulted regarding compensation for removal of these stems.

- All shrubs with evidence of valley elderberry longhorn beetle exit holes that cannot be retained in the biological study area shall be transplanted to elderberry mitigation sites during the dormant period for elderberry shrubs (November 1 to February 15). For elderberry shrubs displaying evidence of beetle occupation that cannot be transplanted, the USFWS service shall be consulted regarding compensation for removal of shrubs.

Mitigation Measure BIO-3: Protect Western Pond Turtle.

The District and its primary construction contractor shall implement Mitigation Measures HYD-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices and HYD-3: Prepare and Implement a Frac-Out and Undercrossing Contingency Plan to ensure no construction area erosion, sedimentation, or pollution enters any western pond turtle habitat (i.e., adjacent lakes or ponds, such as Bass Lake, and tributaries to these water bodies).

Mitigation Measure BIO-4: Conduct Pre-Construction Surveys for Swainson's Hawk and Implement Avoidance and Minimization Measures.

The District and its primary contractor shall implement the following measures to protect nesting Swainson's hawks:

- No tree removal is anticipated during project construction. However, if project plans change and The District needs to remove trees suitable for Swainson's hawk nesting, trees shall be removed when trees are not likely to be occupied, between September 16 and March 1, outside of the nesting season.

- If construction in proposed during the Swainson's hawk nesting season (March 1 - September 15) a qualified biologist shall conduct preconstruction surveys to search for active Swainson's hawk nests in and within 0.5 mile of the boundaries of the proposed construction activities. The surveys shall be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance. To the extent feasible, guidelines provided in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in the Central Valley* (Swainson's Hawk Technical Advisory Committee 2000) shall be followed for surveys for Swainson's hawk. If no nests or breeding behavior are observed, no further mitigation is required.

- If active nests of Swainson's hawks are observed during surveys, impacts on nesting Swainson's hawks shall be avoided by establishing appropriate buffers around active nest sites. No project activity shall commence within the buffer areas until a qualified biologist has determined in coordination with CDFW that the young have fledged, the nest is no longer active, or that reducing the buffer would not result in nest abandonment. CDFW guidelines recommend implementation of 0.25- or 0.5-mile-wide buffers, but the size of the buffer may be adjusted if a qualified biologist and The District, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during construction activities may be required if the activity has potential to adversely affect the nest.

Mitigation Measure BIO-5: Conduct Pre-Construction Surveys for Nesting Raptors and Other Migratory Birds and Implement Avoidance and Minimization Measures.

The District and its primary contractor shall implement the following measures to protect nesting raptors and other nesting migratory birds:

- If project activity would commence during the nesting season (February 15 to September 15), preconstruction surveys shall be conducted in areas of suitable nesting habitat within 500 feet of project activity. Surveys shall be conducted within 10 days prior to commencement of project activity. If no active nests are found, no further mitigation shall be required.

- If active nests are found within 500 feet of proposed construction activities, disturbance to nesting birds shall be avoided by establishment of appropriate protective buffers that are sufficiently large to avoid construction-related disturbance to nesting activities, as determined by a qualified biologist. No project activity shall occur within the buffer area until the biologist confirms that the nest is no longer active. Monitoring of the nest by a qualified biologist may be required if the activity has potential to adversely affect nesting activities.

- If trees will be removed, then the following mitigation measures shall be implemented:

- Tree removal shall be done in accordance with the Sacramento County Tree Ordinance and the Rancho Murieta Tree Preservation Policy;

- Trees shall be removed during the nonbreeding season (September 16 to February 14);

- If any construction activities, including tree or vegetation removal, take place between February 15 and September 15, preconstruction surveys for active nests shall be conducted prior to the beginning of construction as described above. If any active nests are identified in trees or other areas slated for removal, those nest trees or areas shall be protected and an associated protective buffer shall be established and maintained as described above until the biologist confirms that the nest is no longer active.

Mitigation Measure BIO-6: Worker Environmental Awareness Program.

Before the start of each new construction season, a worker environmental awareness training program shall be conducted by a qualified biologist. The training shall include instruction regarding species identification, natural history, habitat, and protection needs of the following species: valley elderberry longhorn beetle, western pond turtle, Swainson's hawk, white-tailed kite, nesting raptors and other migratory birds.

Implementation of Mitigation Measures BIO-1 through BIO-6 would reduce potential impacts on special-status plants and wildlife to a less-than-significant level because workers would be trained to identify habitat for valley elderberry longhorn beetle, western pond turtle, Swainson's hawk, white-tailed kite, nesting raptors and other migratory birds, and sensitive habitat would be avoided or impact avoidance, minimization, and compensation measures would be implemented.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

No impact. Project construction activities would avoid the riparian habitat located near the southwestern end of the ditch between Murieta Gardens and SR 16. The riparian habitat at this location would not be affected by construction of the proposed recycled water system improvements. Therefore, no impact would occur.

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

Less than significant with mitigation incorporated. Construction of the proposed activities could have an adverse effect on federally protected waters (i.e., ponds, canal, Arkansas Creek) and possible wetlands (i.e., roadside ditches) if any of these features are removed, filled, or otherwise damaged during construction. If any wetlands are removed during construction, the loss of these features would need to be mitigated on a "no net loss" basis. Indirect impacts on these features could occur as a result of erosion, sedimentation, or pollution run off into the wetlands from the construction areas.

Installation of pipeline crossings under canals, Arkansas Creek, and other waters would be conducted using trenchless construction methods that would involve either HDD or jack and bore installation. These methods would not alter the course of any creek, but trenchless construction methods, especially HDD, requires the use of a drilling slurry containing bentonite (a fine clay material used as a lubricant). If a frac-out occurs during HDD activities, bentonite could adversely affect water quality in canals or drainages. This impact would be potentially significant.

Mitigation Measure BIO-7: Protect Wetlands and Drainages.

The District and its primary contractor shall implement the following measures to reduce impacts to wetlands and drainages in the biological study area:

- Implement Mitigation Measures HYD-1, "Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices" and HYD-3, "Prepare and Implement a Frac-Out and Undercrossing Contingency Plan."

- Minimize impacts on wetlands and drainages by avoiding removal of or disturbance to these features during construction to the greatest extent feasible.

- For wetlands and drainages that cannot be avoided during construction, authorization for fill of jurisdictional waters of the United States shall be secured from USACE via the Section 404 permitting process before project implementation. Avoidance, minimization and mitigation measures that are required as for the 404 permit shall be implemented during project construction. These measures would likely include, but not be limited to, installation of temporary erosion control measures such as silt fences and silt/sediment traps, protection of storm drain inlets at the site and in downstream offsite areas, and dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment.

- The CDFW shall be consulted to determine if a Streambed Alteration Agreement is required for trenchless pipeline crossings under canals, Arkansas Creek, and other potential waters of the State within the biological study area. Any avoidance and minimization measures required as part of the CDFW SAA shall be implemented during project construction. These measures would likely include, but not be limited to, installation of temporary erosion control measures such as silt fences and silt/sediment traps, protection of storm drain inlets at the site and in downstream offsite areas, and preparation and implementation of a frac-out and undercrossing contingency plan.

- If wetlands or drainages would be filled as a result of the project, a qualified wetland biologist shall develop and implement a conceptual wetlands mitigation and monitoring plan (MMP) to compensate for the loss of jurisdictional wetlands, including appropriate wetland replacement ratios as determined by USACE. The mitigation plan shall quantify the total jurisdictional acreage lost; and describe creation/replacement ratios for acres filled, annual success criteria, mitigation sites, and monitoring and maintenance requirements. The habitat MMP for jurisdictional wetland features shall be consistent with USACE's and EPA's April 10, 2008 Final Rule for Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Parts 325 and 332 and 40 CFR Part 230). Plan implementation shall compensate for any loss of wetlands resulting from project construction activities and shall result in no net loss of wetland function.

- Water quality certification pursuant to Section 401 of the CWA shall be required as a condition of issuance of the 404 permit. Therefore, if a 404 permit is required, water quality certification or a waiver from the Central Valley RWQCB shall be obtained before starting project construction. Any measures required as part of the issuance of water quality certification shall be implemented. These measures would likely include, but not be limited to, installation of temporary erosion control measures such as silt fences and silt/sediment traps, protection of storm drain inlets at the site and in downstream offsite areas, and dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment.

Implementation of Mitigation Measure BIO-7 would reduce impacts to protected wetlands and waters to a less-than-significant level because impacts to wetlands and drainages would be minimized through avoidance and implementation of water quality protection measures and frac-out contingency plans, and compensation to achieve no net loss of wetland function would be provided.

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

No Impact. Construction activities in the biological study area, such as pipeline installation and pump station construction, would generally occur in developed areas along roads that do not provide wildlife movement corridors or nursery areas. Therefore, implementation of the proposed project would not interfere with the movement of wildlife or impede the use of a wildlife nursery site. There would be no impact.

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

Less than significant with mitigation incorporated. All oaks in the biological study area with a dbh of 6 inches or greater are protected by the Sacramento County Tree Preservation Ordinance and the Rancho Murieta Tree Preservation Policy; removal of native trees with a dbh of 3 inches or greater, or pruning of branches over 3 inches in diameter on any native trees, require a tree permit and possibly mitigation, as described in the Rancho Murieta Tree Preservation Policy. No tree removal should be necessary to construct the proposed recycled water system improvements. However, the need to remove trees covered by the Sacramento County Tree Preservation Ordinance, or the Rancho Murieta Tree Preservation Policy cannot be ruled out, therefore, this impact would be potentially significant.

Mitigation Measure BIO-8: Comply with Tree Preservation Ordinance.

The District and its primary contractor shall implement the following measures to reduce impacts to protected oaks and other native trees in the biological study area:

- An ISA-certified arborist shall conduct a survey prior to removal of oaks and other native trees in all areas of the biological study area where tree removal is being considered. The arborist shall identify to species, measure the dbh, and determine exact locations of oaks and other native trees.

- Dripline avoidance areas shall be established and flagged or marked according to measures in Title 19.12 of the Ordinance.

- Minimization of impacts to oaks, such as prohibiting attachment cables to oaks, soil disturbance, or driving construction equipment within the dripline of the oak, as stated in Title 19.12 shall be followed.

- Removal or pruning of native trees shall comply with the permit conditions described in the Rancho Murieta Tree Preservation Policy.

- The District shall mitigate for loss of trees according to Title 19.12 of the Ordinance.

- If a native oak tree must be removed, it shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed. In addition, a provision for a comparable on-site area for the propagation of oak trees may substitute for replacement of tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary in accordance with existing policy.

- If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all of the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity.

Mitigation Measure BIO-8 would reduce impacts to oaks and native trees to a less-than-significant level because sensitive oak and native trees would be avoided to the extent feasible and any trees that would be removed would be compensated for on-site or off-site.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The draft *South Sacramento County Habitat Conservation Plan* has not yet been adopted, and therefore would not apply to the proposed project. Because the proposed project would not conflict with the provisions of an adopted HCP or other conservation plan, no impacts would occur.

3.5 CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1 ENVIRONMENTAL SETTING

REGULATORY SETTING

Historical Resources

CEQA provides a broad definition of what constitutes a cultural or historical resource. Cultural resources can include traces of prehistoric habitation and activities, historic-era sites and materials, and places used for traditional Native American observances or places with special cultural significance. In general, any trace of human activity more than 50 years in age is required to be treated as a potential cultural resource.

CEQA states that if a project would have significant impacts on important cultural resources, then alternative plans or mitigation measures must be considered. However, only significant cultural resources (termed “historical resources”) need to be addressed. The State CEQA Guidelines define a historical resource as a resource listed or eligible for listing on the California Register of Historical Resources (CRHR) (Public Resources Code Section 5024.1). A resource may be eligible for inclusion in the CRHR if it:

1. is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;

2. is associated with the lives of persons important in our past;

3. embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

4. has yielded, or may be likely to yield, information important in prehistory or history.

Archaeological Resources

The State CEQA Guidelines also require consideration of unique archaeological resources (Section 15064.5). As used in the Public Resources Code (Section 21083.2), the term "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information,

2. has a special and particular quality such as being the oldest of its type or the best available example of its

3. type, or

4. is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition to meeting one or more of the above criteria, resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association (California Office of Historic Preservation 1999:69–70).

Paleontological Resources

Appendix G, "Environmental Checklist Form" of the State CEQA Guidelines also includes consideration of impacts to unique paleontological resources. The Society of Vertebrate Paleontology (SVP 1995, 1996), a national scientific organization of professional vertebrate paleontologists, has established standard guidelines that outline acceptable professional practices in the conduct of paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, specimen preparation, analysis, and curation. Most practicing professional paleontologists in the nation adhere to SVP assessment, mitigation, and monitoring requirements, as specifically spelled out in its standard guidelines.

The potential paleontological importance of a project site can be assessed by identifying the paleontological importance of exposed rock units. A paleontologically important rock unit is one that has a high potential paleontological productivity rating and is known to have produced unique, scientifically important fossils. The potential paleontological productivity rating of a rock unit exposed at a project site refers to the abundance/densities of fossil specimens and/or previously recorded fossil sites in exposures of the unit in and near the project site. Exposures of a specific rock unit in a project site are most likely to yield fossil remains representing particular species in quantities or densities similar to those previously recorded from the unit in and near the project site.

In its standard guidelines for assessment and mitigation of adverse impacts on paleontological resources, SVP (1995) established three categories of sensitivity for paleontological resources: high, low, and undetermined. Areas where fossils have been previously found are considered to have a high sensitivity and a high potential to produce fossils. Areas that are not sedimentary in origin and that have not been known to produce fossils in the past typically are considered to have low sensitivity. Areas that have not had any previous paleontological resource surveys or fossil finds are considered to be of undetermined sensitivity until surveys and mapping are performed to determine their sensitivity. After reconnaissance surveys, observation of exposed cuts, and possibly

subsurface testing, a qualified paleontologist can determine whether the area should be categorized as having high or low sensitivity. In keeping with the SVP significance criteria, all vertebrate fossils are generally categorized as being of potentially significant scientific value.

ENVIRONMENTAL SETTING

Prehistoric Context

The archaeology of Sacramento County is included within the broad framework established by archaeologists for the Sacramento Valley. Although human occupation of the northern Sacramento Valley may extend back 10,000 years or more, reliable evidence of the presence of such an early human presence is lacking. Early archaeological sites bearing evidence of these Paleo-Indian populations may be present in the valley but deeply buried under alluvium (Moratto 1984).

The following discussion of the prehistoric background is adapted from Rosenthal, et al. (2007). In the early 1970s, Fredrickson (1973, 1974) proposed a sequence of cultural patterns for the central districts of the North Coast Ranges, placing them within a framework of cultural periods that he believed were applicable to California as a whole. Fredrickson argued that the dating and definition of particular patterns should be kept separate from temporal periods given the coexistence of more than one cultural pattern operating at any particular time. Thus, his framework of prehistoric periods is based on general technological and cultural horizons in operation throughout California over appreciable lengths of time. This horizon scheme, referred to as the Central California Taxonomic System, does not account well for cultural variation between sub-regions, nor for gradual changes through time. It deals primarily with material culture and pays little attention to subsistence and settlement, social organization, or other patterns of behavior. As Moratto (1984:201) has observed, "central California prehistory was far too complex and dynamic to have been represented by [such] a monolithic scheme." Consequently, later researchers have broken the region and its prehistory into local districts and phases (Elsasser 1978). New radiocarbon determinations adjusted with modern calibration curves are now used for a more precise time frame (Rosenthal, et al: 2007: 147-153). These different cultural patterns are characterized as:

- The Paleo-Indian Period (12,000 to 10,500 Before Present [B.P.]) saw the first demonstrated entry and spread of humans into California. Characteristic artifacts recovered from archaeological sites of this time period have included fluted projectile points (often compared to Clovis points), cobble cores and biface rough-outs.

- The beginning of the Lower Archaic Period (10,500 to 7500 B.P.) coincides with that of the Middle Holocene climatic change which resulted in widespread floodplain deposition. This episode resulted in most of the early archaeological deposits being buried. Most tools were manufactured of local materials, and distinctive artifact types include large dart points and the milling slab and handstone.

- The Middle Archaic Period (7500 to 2500 B.P.) is characterized by warm, dry conditions which brought about the drying up of pluvial lakes. Economies were more diversified and may have included the introduction of acorn processing technology, although hunting remained an important source of food. Artifacts characteristic of this Period include milling stones and pestles and a continued use of a variety of implements interpreted as large dart points.

- The Upper Archaic Period (2500 to 850 B.P.) corresponds with a sudden turn to a cooler, wetter and more stable climate. The development of status distinctions based upon wealth is well documented in the archaeological record. The development of specialized tools, such as bone implements and stone plummets as well as manufactured goods (e.g. Olivella saucer and saddle beads, Haliotis ornaments) were prolific during this time. The regional variance of economies was largely due to the seasonality of resources which were harvested and processed in large quantities.

- Several technological and social changes distinguish the Emergent Period (850 B.P. to Historic) from earlier cultural manifestations. The bow and arrow were introduced, ultimately replacing the dart and atl-atl, and territorial boundaries between groups became well established. In the latter portion of this Period (450 to 1800 B.P.), exchange relations became highly regularized and sophisticated. The clam disk bead developed as a monetary unit of exchange, and increasing quantities of goods moved greater distances. It was at the end of this Period that contact with Euroamericans became commonplace, eventually leading to intense pressures on Native American populations.

Ethnographic Context

The Plains Miwok inhabited much of the Sacramento River delta and adjacent plains, including the lower reaches of the Cosumnes and Mokelumne rivers. The Plains Miwok are related with the Sierran Miwok to the east and the Lake, Bay and Coast Miwok to the west based on the similarity of their spoken languages. These groups spoke languages of the Utian family of the Penutian Stock (Krober 1925; Levy 1978:398).

Like elsewhere in western California, Miwoks were organized into small, independent political groups, referred to as tribelets. These settlements had a population ranging from 300 to 500 individuals and were typically located on an elevated ground in the valley bottom or along a major tributary stream outside the active floodplain of the Sacramento and Cosumnes Rivers (Levy 1978: 410). Most settlements appear to have been permanent year-round villages, although people would disperse in the spring and early summer to collect seeds, bulbs, and other plant foods. The Miwok built several kinds of structures for a variety of purposes. Among them were thatched structures of grass, brush or tule laid over a framework of poles, assembly or dance houses, sweat-houses, ceremonial structures, and acorn granaries.

The rich resources of the marshes, sloughs, and forests contained a variety of economically important plant foods, fish, water birds, and terrestrial animals as well as providing for their material needs. Acorns, which were the most highly prized plant food (Levy 1978:402), were processed on mortars using stone pestles; the meal was leached through sand and then boiled in baskets with hot stones or clay balls, or baked into a gelatinous “bread.” Fish was very important to the Miwok economy and included salmon, trout, sturgeon, and lambreys. Fish were trapped in nets or taken with bone harpoons; Barrett and Gifford state that "we have no account of fish hooks among the Miwok" (1933:189). Fish to be stored was either dried or smoked. Fresh water mussel, clams and snails were also consumed. Deer was the most important animal hunted which were driven into nets or snares, or were shot with bows and arrows, and the meat was divided between the hunters and their relatives (Levy 1978:404).

Historic Context

Rancho Murieta is located in Sacramento County, just north of the Jackson Road (State Route 16), near the Cosumnes River.

Mining and Ranching

Mining activities in the region began in 1849 with gold camps established along the Cosumnes River. Much of the mining activity centered on Michigan Bar, which was founded by two men from Michigan (Hoover 1990:290). Hydraulic mining was outlawed in California in the 1880s, but dredge mining along the Cosumnes River continued into the 1930s (SWCA 2007:10).

By the early 1900s, ranching was the dominate industry in the region. One of the largest ranchers was the Van Vleck family. Orin Van Vleck purchased his ranch land in 1915 and established his cattle ranching business two years later. In the 1970s, the family began irrigating its pastureland at the ranch to keep their cattle on the property during the summer months. Today, the ranch remains a fully functional cattle ranch with nearly 10,000 acres under its management (Van Vleck Ranch 2014). Jack and Art Granlees were another well-established ranching family who operated cattle and turkey ranches on the land that is now the community of Rancho Murieta (Rancho Murieta 2014).

Rancho Murieta

Planning for the development of Rancho Murieta began in the mid-1960s when real estate developers petitioned the Sacramento County Planning Commission to rezone land along the Cosumnes River for subdividing and future development. In 1969, the Pension Fund of Operating Engineers Local No. 3 announced plans for the development of 3,000 acres on both sides of the Cosumnes River for single-family residences, townhouses, schools, shopping centers and a golf course. The developers successfully purchased the Granless ranch and six adjacent ranches. With the acquisition of the Granlees ranch the developers also secured the water rights on the Cosumnes River, which allowed for this large-scale planned development (Muldoon 2014; Ranch Murieta 2014).

Construction on Rancho Murieta North began in the early-1970s and the first structures were the north gate, gazebo and the development sign. By 1972, the 18-hole golf course was open and construction was underway for the country club building as was the mobile home development. The first homes were under construction in 1973. Development of Rancho Murieta continued into the 2000s (Muldoon 2014). Today the community consists of hundreds of homes, golf courses and tennis courts, some commercial establishments, an airport, parks, and lakes.

Geological Context

The District is located in the foothills of the Sierra Nevada mountain range, which is part of the Sierra Nevada geomorphic province. A review of published geologic mapping (Wagner et al. 1987) indicates that project-related construction activities would take place in the following geologic formations:

- **Holocene Alluvium.** This formation ranges in age from 11,700 years Before Present (B.P.) to present day. It consists of unconsolidated sand, silt, and gravel carried by erosional forces and deposited by local watercourses such as the Cosumnes River.

- **Mine and Dredge Tailings.** Mine and dredge tailings consist of piles of cobbles, silt, and sand from former gold dredge mining activities over the last 100 years. In the project vicinity, these tailings likely were part of the Modesto Formation, which formed an ancestral channel of the Cosumnes River.

- **Valley Springs Formation.** The Valley Springs Formation is of mid-Miocene age (approximately 24 million years B.P.). It consists of pumice, rhyolitic tuff, sandstone, and conglomerate from volcanic lava

flows that occurred in the Sierra Nevada. Although the lava did not flow for long distances down the mountains, large quantities of pumice and coarse fragments were thrown out during the eruptions, and were subsequently washed into streams and transported downstream to form the fluvial deposits of the Valley Springs Formation (Piper et al. 1939:76-79).

- **Ione Formation.** The Ione Formation occurs as a 200-mile-long series of isolated exposures along the western foothills of the Sierra Nevada, from Oroville south to Friant in Fresno County. The Ione was formed from fluvial, estuarine, and shallow marine deposits of Eocene age (approximately 35 to 55 million years B.P.). It consists of quartzose sandstone, conglomerate, and claystone and is generally soft and deeply eroded (Helley and Harwood 1985). The Ione Formation contains beds of kaolinite clay that formed from weathering and chemical decomposition of Sierran granitic rocks (Dupras 1999:62-67).

- **Gopher Ridge Volcanics.** This formation is believed to have originated near an oceanic island volcanic arc that was later accreted (added) to the continental margin during the Jurassic period (approximately 150-200 million years B.P.) and subsequently deformed (Springer and Day 2005). It consists of metamorphosed pyroclastic rocks, pillow lava, and minor felsic porphyrite.

METHODS

Record Search

Technical studies conducted by AECOM in 2014 for the proposed Rancho Murieta Recycled Water System Expansion Project began with a records search of pertinent cultural resources information curated by the North Central Information Center (NCIC) of the California Historical Resources Information System. The records search included a review of select publications and properties listed in the following sources:

- California Office of Historic Preservation Historic Property Data File and Determinations of Eligibility (December 2012)
- *National Register of Historic Places/California Register of Historic Resources* (2012)
- *California Inventory of Historic Resources* (State of California 1976)
- *State Historic Landmarks* (State of California 1992 and updates)
- *California Points of Historic Interest* (State of California 1992 and updates)
- *Inventory of Historic Bridges* (Caltrans 1987, 2000)
- General Land Office Plat Map Township 7 North, Range 8 East (1856, 1870 and 1882) and Township 8 North, Range 8 East (1868)

The files maintained at the NCIC contain information on previously conducted archaeological investigations that occurred near the project area. The results of this records search indicates that 27 studies have been conducted and 39 cultural resources have been documented within ¼-mile of the project area. None of the resources are located within the project area. Nineteen of the documented sites are clustered along the Cosumnes River.

Native American Coordination

The Native American Heritage Commission (NAHC) was contacted on March 6, 2014, requesting a Sacred Land File search and a list of individuals or groups who may have an interest in the project or information regarding cultural sites in the area. The coordination is currently on going.

Field Investigations

A survey of the project site was conducted by AECOM archaeologists on March 7, 2014. The survey consisted of an intensive 10 meter to 15 meter pedestrian survey of the proposed pipeline routes along Stonehouse Road, SR 16 (Jackson Road), Lone Pine Road, and Lookout Hill, and two pipeline placement locations within the gated Rancho Murieta residential complex near Bass Lake and at Alameda Drive. The Van Vleck Ranch was investigated, but pedestrian survey of the proposed spray field was determined unnecessary because no ground disturbance is proposed. Results of the survey determined that one unrecorded resource, a maintained water district irrigation canal, was observed within the survey area.

Paleontological Resource Assessment

Published geological and paleontological literature were reviewed to document the number and locations and previously recorded fossil sites from rock units exposed in and near the project site and vicinity, as well as the types of fossil remains each rock unit has produced. The literature review was supplemented by an archival search conducted at the University of California Museum of Paleontology (UCMP) in Berkeley, California. The records search results indicate that there are no previously recorded fossil localities within or in the vicinity of Rancho Murieta.

Holocene Alluvium

By definition, in order to be considered a fossil, a resource must be more than 11,700 years old. Holocene deposits contain only the remains of extant, modern taxa (if any resources are present), which are not considered “unique” paleontological resources. Therefore, this formation is not considered to be paleontologically sensitive.

Mine and Dredge Tailings

The dredge tailings in Rancho Murieta are composed of sand, silt, and cobbles originally derived from the Pleistocene-age Modesto Formation. However, mining activities have resulted in previous excavation and reworking in these deposits since the late 1800s. The mechanical nature of the mining process would likely have destroyed any vertebrate fossils that may have been present before the mining activities began. Therefore, the dredge tailings are considered to be of low paleontological sensitivity.

Valley Springs Formation

A search of the UCMP database (UCMP 2014) indicates a total of five California localities in the Valley Springs Formation from which plant fossils were recovered: two in El Dorado County, two in Calaveras County, and one in Sierra County. No localities from which vertebrate or invertebrate fossils were recovered have been reported. A review of geologic literature indicates that the Valley Springs Formation is not known to be fossiliferous. Therefore, the Valley Springs Formation is considered to be of low paleontological sensitivity.

Ione Formation

Vertebrate mammal, plant, and invertebrate fossils have been reported from the Ione Formation throughout the Central Valley. The closest recorded vertebrate fossil locality to the planning area within the Ione Formation (V-6823 through 6833) is located in Pittsburg, approximately 48 miles to the southwest. This locality yielded over 20 specimens of cartilaginous fish (such as skates and rays), bony fish, birds, and cetacea (dolpins, porpoises, and whales). However, numerous plant fossils have been recovered from the Ione Formation at locations closer to the planning area, including Ione (P-43), Iowa hill (P-43, PA-84, PA-289, and PA-523), and Camanche Reservoir (P-332). Other vertebrate mammal, plant, and invertebrate fossils have been recovered from the Ione Formation from over 300 locations in Nevada, Contra Costa, Placer, Amador, Butte, Alameda, Merced, Tuolumne, Sutter, Sierra, Plumas, Calaveras, Kern, and Stanislaus Counties (UCMP 2014). Because of the large number of fossils that have been recovered from the Ione Formation, it is considered to be of high paleontological sensitivity.

Gopher Ridge Volcanics

This formation consists of Jurassic-age rocks that formed at depth beneath the earth's surface and have since been deformed and metamorphosed. The UCMP database does not contain any records of vertebrate or plant fossils within these formations. Because of the nature of this rock formations and the lack of previously recorded vertebrate or plant fossil localities, this formation is not considered to be paleontologically sensitive.

Thresholds of Significance for Paleontological Resources

In addition to the thresholds of significance provided in the checklist table above, the following information was used to assist in evaluating the significance of impacts on paleontological resources.

A project would have a significant impact on paleontological resources if it would directly or indirectly destroy a unique paleontological resource or site. A "unique paleontological resource or site" is one that is considered significant under the professional paleontological standards described below. An individual vertebrate fossil specimen may be considered unique or significant if it is identifiable and well preserved and it meets one of the following criteria:

- a type specimen (i.e., the individual from which a species or subspecies has been described);
- a member of a rare species;
- a species that is part of a diverse assemblage (i.e., a site where more than one fossil has been discovered) wherein other species are also identifiable, and important information regarding life history of individuals can be drawn;
- a skeletal element different from, or a specimen more complete than, those now available for its species; or
- a complete specimen (i.e., all or substantially all of the entire skeleton is present).

For example, identifiable vertebrate marine and terrestrial fossils are generally considered scientifically important because they are relatively rare. Marine invertebrate fossil specimens are generally common, well developed, and well documented. They would generally not be considered a unique paleontological resource. The value or

importance of different fossil groups varies, depending on the age and depositional environment of the rock unit that contains the fossils, their rarity, the extent to which they have already been identified and documented, and the ability to recover similar materials under more controlled conditions, such as part of a research project.

3.5.2 DISCUSSION

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No Impact. No cultural resources were identified within the project site. One resource less than 45 years in age (irrigation canal) is located in the proposed project area. The resource does not meet the significance criteria established for recently constructed properties. Additionally, the resource has been modified for maintenance and use purposes. Therefore the resource is not eligible for the CRHR and is not considered a historical resource for the purposes of CEQA. There would be no impact.

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

Less than Significant with Mitigation Incorporated. Archival and field research revealed the presence of 39 documented sites within a ¼-mile of the project area. Therefore, undiscovered subsurface cultural remains may be present in the area and could be disturbed by the proposed project. In light of the potential to uncover unknown or undocumented subsurface cultural remains, this impact would be potentially significant.

> Mitigation Measure CUL-1: Immediately Halt Construction Activities if Any Cultural Materials Are Discovered.
>
> If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, flaked stone, bottle glass, ceramics, structure/building remains, etc.) is encountered during project-related construction activities, ground disturbances in the area of the find shall be halted immediately and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the CRHR and develop appropriate mitigation. Appropriate mitigation may include no action, avoidance of the resource, and potential additional data recovery.

Implementation of Mitigation Measure CUL-1 would reduce this impact to a less than-significant level because workers would halt work if cultural materials are uncovered and an archaeologist determine the significance and if necessary appropriate mitigation would be implemented.

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

Less than Significant with Mitigation Incorporated. As discussed in the "Environmental Setting" section above, the mine and dredge tailings, Holocene Alluvium, Valley Springs Formation, and Gopher Ridge Volcanics are considered to be of low paleontological sensitivity. Therefore, construction activities that occur in these rock formations would have a less-than-significant impact on unique paleontological resources.

However, construction of the recycled water conveyance pipeline along Stonehouse Road would take place in the Ione Formation. As discussed in detail in the "Environmental Setting" section above, numerous vertebrate

mammal, plant, and invertebrate fossils have been reported from the Ione Formation throughout the Central Valley (UCMP 2014). Because of the large number of fossils that have been recovered from the Ione Formation, it is considered to be of high paleontological sensitivity, thus suggesting that there is a potential for uncovering additional similar fossil remains during construction-related earthmoving activities associated with this project in the Ione Formation. Therefore, the potential for damage to previously unknown unique paleontological resources during earthmoving activities is considered a potentially significant impact.

> Mitigation Measure CUL-2: Conduct Construction Personnel Education, Stop Work if Paleontological Resources are Discovered, Assess the Significance of the Find, and Prepare and Implement a Recovery Plan as Required.
>
> To minimize potential adverse impacts on previously unknown potentially unique, scientifically important paleontological resources, the project applicant for all project phases where construction would occur along or in the immediate vicinity of Stonehouse Road shall do the following:
>
> - Before the start of any earthmoving activities along Stonehouse Road, the project applicant shall retain a qualified paleontologist to train all construction personnel involved with earthmoving activities, including the site superintendent, regarding the possibility of encountering fossils, the appearance and types of fossils likely to be seen during construction, and proper notification procedures should fossils be encountered.
>
> - If paleontological resources are discovered during earthmoving activities, the construction crew shall immediately cease work in the vicinity of the find and notify the Sacramento County Planning and Community Development Department. The project applicant shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with SVP guidelines (1996). The recovery plan may include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the District to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered.

Implementation of Mitigation Measure CUL-2 would reduce potentially significant impacts related to damage or destruction of unique paleontological resources to a **less-than-significant** level because construction workers would be alerted to the possibility of encountering paleontological resources, and in the event that resources were encountered, fossil specimens would be recovered and recorded and would undergo appropriate curation.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant with Mitigation Incorporated. Although no evidence of human remains was found in documentary research and an intensive field investigation, future ground-disturbing activities on the project site could adversely affect presently unknown prehistoric burials. California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent destruction. In light of the potential to uncover unknown or undocumented Native American burials, this impact would be potentially significant.

Mitigation Measure CUL-3: Immediately Halt Construction Activities if Any Human Remains Are Discovered.

The procedures for the treatment of discovered human remains are contained in Sections 7050.5 and 7052 of the California Health and Safety Code and Section 5097 of the California Public Resources Code.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground disturbing activities, all such activities within 75 feet of the find shall be halted immediately and the District or its designated representative shall be notified. The District or its designated representative shall immediately notify the county coroner and a qualified professional archaeologist. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code, Section 7050[c]). The District's responsibilities for acting upon notification of a discovery of Native American human remains are identified in detail in Section 5097.9 of the California Public Resources Code. The District or its designated representative and the professional archaeologist shall consult with a Most Likely Descendant (MLD) determined by the NAHC regarding the removal or preservation and avoidance of the remains and shall determine whether additional burials could be present in the vicinity.

Assuming that an agreement can be reached between the MLD and the District or their representative with the assistance of the archaeologist, these steps would minimize or eliminate adverse impacts on the uncovered human remains.

Implementation of Mitigation Measure CUL-3 would reduce potentially significant impacts related to disturbance of unknown or undocumented Native American burials to a less-than-significant level because in the event that burials were encountered, the MLD would be identified and consulted regarding removal or preservation and avoidance of remains.

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3.6 GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐

3.6.1 ENVIRONMENTAL SETTING

Rancho Murieta is located in the western foothills of the Sierra Nevada mountain range, which are comprised of older metamorphosed sedimentary rocks that have been intruded by younger igneous rocks. The rock formations that make up the western edge of the Sierra Nevada block likely originally formed as a volcanic arc that was later accreted (added) to the western margin of the continent during the Jurassic period (Day 1992). Based on a review of the *Geologic Map of the Sacramento Quadrangle* (Wagner et al. 1987), project-related construction activities would take place in the following geologic formations:

- Holocene Alluvium

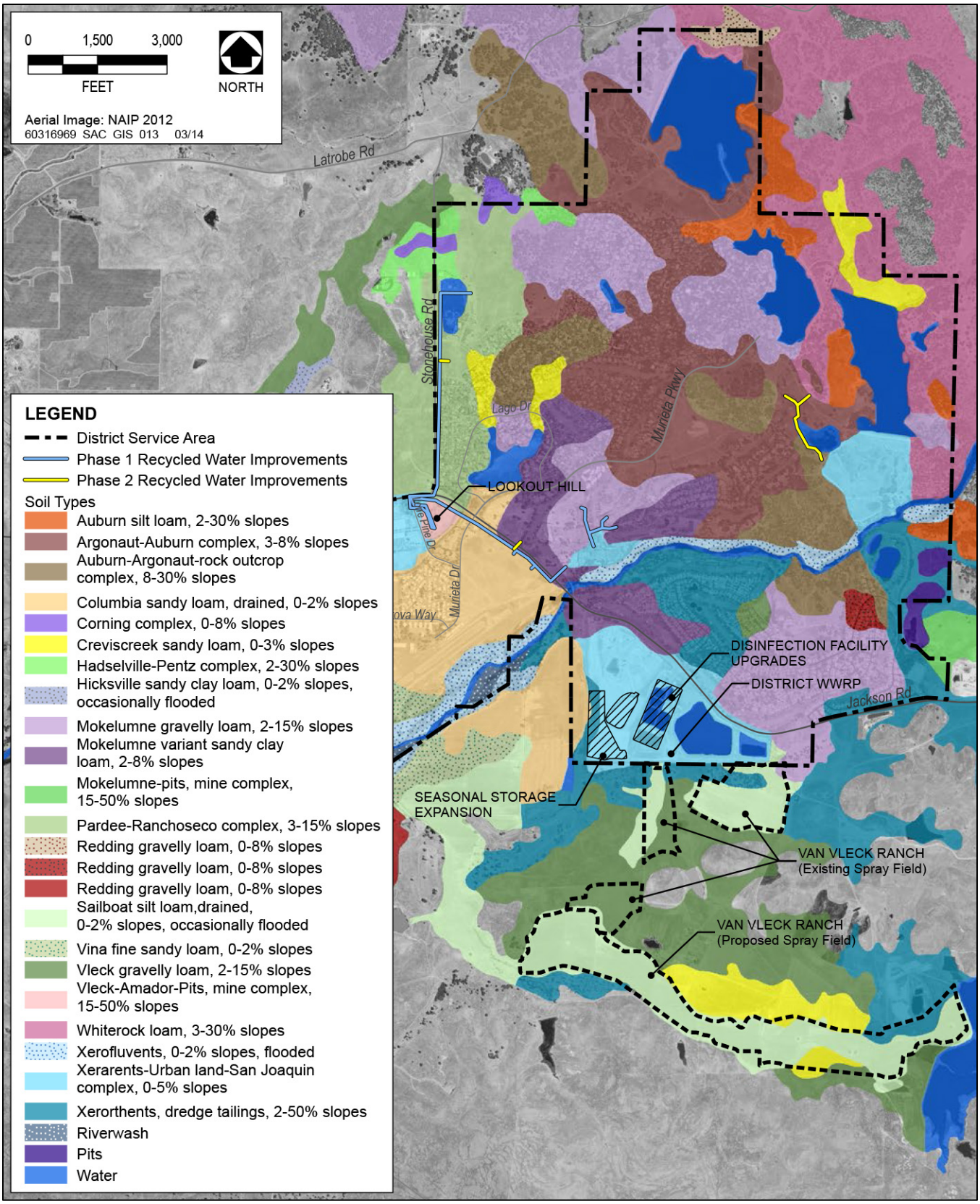
- Mine and Dredge Tailings
- Valley Springs Formation
- Ione Formation
- Gopher Ridge Volcanics

See Section 3.5, "Cultural Resources" for a detailed discussion of these formations.

Asbestos is a term applied to several types of naturally occurring fibrous materials found in rock formations throughout California (i.e., naturally occurring asbestos or "NOA"). Exposure and disturbance of rock and soil that contains asbestos can result in the release of fibers to the air and consequent exposure to the public. All types of asbestos are now considered hazardous and pose public health risks. Asbestos is commonly found in ultramafic rock, including serpentine. Two forms of asbestos are associated with serpentinite: chrysotile asbestos and tremolite/actinolite asbestos. In 2004, after the Sacramento Metropolitan Air Quality Management District (SMAQMD) determined that NOA was present in the Folsom area, SMAQMD issued Advisory 04-05(2) and commissioned the California Geological Survey (CGS) to prepare Special Report 192 entitled *Relative Likelihood for the Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California* (Higgins and Clinkenbeard 2006). The map contained in Special Report 192 indicates that most of Rancho Murieta (east of Stonehouse Road and north of SR 16), is designated "Areas Moderately Likely to Contain NOA." These areas include metamorphic and igneous rocks (e.g., the Gopher Ridge and Copper Hill Volcanics geologic formations). Based on Special Report 192, SMAQMD issued Advisory 06-03 declaring that "Areas Moderately Likely to Contain NOA" are subject to the requirements of CCR Section 93105 (Asbestos Airborne Toxic Control Measure [ATCM] for Construction, Grading, Quarrying, and Surface Mining Operations.) NOA is regulated by the California Air Resources Board (ARB), and concentrations of NOA above 0.25% are considered by ARB as hazardous levels for residential development. The ATCM contains specific requirements for projects where NOA is located, including a Dust Mitigation Plan that must be approved by SMAQMD prior to the start of construction activities. If a registered geologist establishes that asbestos is not present in concentrations above 0.25%, a request for waiver from the ATCM requirements may be submitted to SMAQMD. (See Section 3.8 "Hazards and Hazardous Materials" for additional discussion and mitigation measures regarding NOA.)

Rancho Murieta is not located in a seismically active area. The nearest faults zoned under the Alquist-Priolo Act are the northern segment of the Cleveland Hills Fault located near Lake Oroville and the Genoa Fault located near Lake Tahoe, approximately 50 miles to the north and east, respectively. The West Branch of the Bear Mountains Fault Zone, within the Foothills fault system, is located approximately 10 miles east of Rancho Murieta. Jennings (1994) indicates that the only known location of seismic activity during the last 1.6 million years in the Bear Mountains Fault Zone in the project region occurred on the Youngs Fault. However, there is no evidence that fault activity has occurred within the last 11,000 years (Jennings 1994), and the slip rate of the Foothills fault system is extremely low (0.05 millimeters per year), which is well below the planning threshold for major earthquakes (Wills et al. 2008).

As shown in Exhibit 3.6-1, a variety of different soil types are present in the District and to the south where the new Van Vleck Ranch sprayfield would be located. The soil types where construction activities and sprayfield irrigation would occur, along with relevant U.S. Natural Resources Conservation Service (NRCS 2013a) soil characteristics, are listed in Tables 3.6-1 and 3.6-2.



Source: NRCS SSURGO 2005

Exhibit 3.6-1 **Soil Types**

Table 3.6-1
Soil Types and Characteristics – Construction Activities

Soil Type	Permeability[1]	Shrink-Swell Potential[2]	Wind Erobility Group[3]	Water Erosion Hazard[4]	Limitations for Shallow Excavations
Argonaut-Auburn complex, 3-8% slopes	Moderately High	Moderate	5	Moderate	Somewhat limited: shallow depth to soft bedrock, unstable excavation walls, high clay content
Auburn-Argonaut-Rock outcrop complex, 8-30% slopes	High	Low	5	Moderate	Very limited: shallow depth to hard bedrock, steep slopes
Columbia sandy loam drained, 0-2% slopes	High	Low	3	Moderate	Not limited
Mokelumne gravelly loam, 2-15% slopes	Moderately High	Moderate	6	Moderate	Somewhat limited: moderate clay content
Mokelumne variant sandy clay loam, 2-8% slopes	Moderately High	Moderate	5	Moderate	Somewhat limited: moderate clay content
Pardee-Ranchoseco complex, 3-15% slopes	Moderately High	Low	6	Low	Very limited: shallow depth to hard bedrock
Vleck-Amador-Pits, mine complex, 15-50% slopes	Moderately High	Moderate	5	Moderate	Very limited: steep slopes, shallow depth to soft bedrock, moderate clay content
Xerarents-Urban land-San Joaquin complex, 0-5% slopes	NR	NR	NR	NR	NR
Xerorthents, dredge tailings, 2-50% slopes	High	Low	NR	NR	NR

Notes: NR = not rated

[1] Based on standard NRCS saturated hydraulic conductivity (Ksat) class limits; Ksat refers to the ease with which pores in a saturated soil transmit water.

[2] Based on percentage of linear extensibility. Shrink-swell potential ratings of "moderate" to "very high" can result in damage to buildings, roads, and other structures.

[3] The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

[4] Based on the erosion factor "Kw whole soil," which is a measurement of relative soil susceptibility to sheet and rill erosion by water.

Source: NRCS 2013

Table 3.6-2
Soil Types and Characteristics – Recycled Water Use at Van Vleck Ranch

Soil Type	Permeability[1]	Water Erosion Hazard[2]
Sailboat silt loam drained, 0-2% slopes, occasionally flooded	Moderately High	Moderate
Vleck gravelly loam, 2-15% slopes	Moderately High	Moderate
Creviscreek sandy loam, 0-3% slopes	High	Moderate

Notes:

[1] Based on standard NRCS saturated hydraulic conductivity (Ksat) class limits; Ksat refers to the ease with which pores in a saturated soil transmit water.

[2] Based on the erosion factor "Kw whole soil," which is a measurement of relative soil susceptibility to sheet and rill erosion by water.

Source: NRCS 2013

3.6.2 DISCUSSION

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)

Less-than-Significant Impact. None of the proposed facilities are located within or adjacent to an Alquist-Priolo Earthquake Fault Zone (CGS 2014) or any other known fault. The nearest faults zoned under the Alquist-Priolo Act are the northern segment of the Cleveland Hills Fault located near Lake Oroville and the Genoa Fault located near Lake Tahoe, approximately 50 miles to the north and east, respectively. Because the damage from surface fault rupture is generally limited to a linear zone a few yards wide, the potential for surface fault rupture to cause damage to proposed structures is negligible and this impact would be less than significant.

ii) Strong seismic ground shaking?

Less-than-Significant Impact. Rancho Murieta is not located in a seismically active area. Although the West Branch of the Bear Mountains Fault Zone, within the Foothills fault system, is located approximately 10 miles east of Rancho Murieta, there is no evidence that fault activity has occurred within the last 11,000 years (Jennings 1994). Furthermore, the slip rate of the Foothills fault system is extremely low (0.05 millimeters per year), which is well below the planning threshold for major earthquakes (Wills et al. 2008). The State of California provides minimum standards for design and construction through the California Building Standards Code (CBC) (CCR Title 24). The CBC applies to building design and construction in the state and is based on the Federal Uniform Building Code used widely throughout the country (generally adopted on a state-by-state or district-by-district basis). The CBC has been modified for California conditions with numerous more detailed or more stringent regulations. Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. Because the project facilities would not be constructed in a seismically active area, and because design and construction of project-related facilities is required by law to comply with CBC regulations, which were developed to reduce risks to life and property to the maximum extent practicable, this impact would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less-than-Significant Impact. Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid, thus becoming similar to quicksand. Liquefaction poses a hazard to engineered structures. The loss of soil strength can result in bearing capacity insufficient to support foundation loads, increased lateral pressure on retaining or basement walls, and slope instability. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands, peat deposits, and younger Holocene-age sediments are susceptible to liquefaction, while older, well consolidated deposits of clays and silts in freshwater environments are generally stable under the influence of seismic ground shaking.

Rancho Murieta is not located near any known active seismic sources; nearly all of the proposed construction would take place within older, consolidated sediments; and groundwater in the area ranges from 60-80 feet below the ground surface (California Department of Water Resources 1997). Therefore, the liquefaction potential is considered to be low, and this impact would be less than significant.

iv) Landslides?

Less than Significant with Mitigation Incorporated. A review of the CGS landslide map index (CGS 2014b) indicates that no landslide hazard maps have been prepared for the Rancho Murieta area. The proposed recycled water storage tank on Lookout Hill would be located on steep slopes. The proposed recycled water storage tank that could serve the Terrace, Highlands, and River Canyon developments may also be located on steep slopes. Landslides could potentially occur in these areas of moderate to steep slopes if they are underlain by past landslide deposits; thick, younger alluvial deposits; or weak, uncemented, or sheared rock. Landslides could occur naturally due to these conditions or as a result of seismic events. Landslides may destroy or damage improvements through gradual soil creep or rapid landslide actions. The potential for landslide hazards to occur would be a potentially significant impact.

Mitigation Measure GEO-1: Prepare a Site-Specific Landslide Hazard Evaluation and Implement Engineering Recommendations.

The District shall hire a licensed geotechnical or civil engineer to perform a site-specific evaluation of the landslide potential in areas of moderate or steep slopes where each of the proposed water storage tanks would be placed. The District shall follow all recommendations made by the engineer to ensure stabilization of steep slopes, which may include, but is not limited to, the following:

- corrective grading including soil removal and recompaction with engineered fill;
- construction of soil embankments;
- construction of surface and subsurface drainage systems; and/or
- installation of catchment basins and berms to contain potential debris flows that may occur.

Implementation of Mitigation Measure GEO-1 would reduce the potentially significant impact from landslide hazards to a less-than-significant level because a site-specific landslide hazard evaluation would be prepared by a licensed engineer, and recommendations made by the engineer to reduce the landslide hazard (such as corrective grading and installation of soil embankments) would be implemented.

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

Less than Significant with Mitigation Incorporated. A review of NRCS (2013b) soil survey data indicates that project site soils are moderately susceptible to erosion by wind and water. Project implementation would involve grading and construction activities for infrastructure, and building and road foundations. Conducting these activities would result in the temporary disturbance of soil and would expose disturbed areas to winter storm events. Rain of sufficient intensity could dislodge soil particles from the soil surface. If the storm is large enough to generate runoff, localized erosion could occur. In addition, soil disturbance during the summer as a result of

construction activities could result in soil loss and loss of topsoil because of wind erosion. Therefore, impacts associated with construction-related erosion are considered potentially significant.

Mitigation Measure GEO-2: Prepare and Implement a Grading and Erosion Control Plan.

Before the start of earthmoving activities for each project phase encompassing greater than one acre of disturbance, the project applicant shall prepare a grading and erosion control plan. The grading and erosion control plan shall be submitted to the Sacramento County Planning and Development Department for review before issuance of any grading permit for on-site work. The plan shall be consistent with the county's Land Grading and Erosion Control Ordinance and the state's National Pollutant Discharge Elimination System permit, and shall include the site-specific grading associated with development for each project phase.

The plan referenced above shall include the location, implementation schedule, and maintenance schedule of all erosion and sediment control measures, a description of measures designed to control dust and stabilize the construction-site road and entrance, and a description of the location and methods of storage and disposal of construction materials. Erosion and sediment control measures could include the use of detention basins, berms, swales, wattles, and silt fencing, and covering or watering of stockpiled soils to reduce wind erosion.

Mitigation Measure: Implement Mitigation Measure HYD-1, "Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices."

Implementing the mitigation measures above would reduce potentially significant construction-related erosion impacts to a less-than-significant level because a grading and erosion control plan with specific erosion and sediment control measures and a Storm Water Pollution Prevention Plan listing the Best Management Practices that the District would use to prevent erosion from storm water runoff would be prepared and implemented.

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

Less than Significant Impact. The potential hazards associated with liquefaction and landslides are addressed in impacts iii) and iv) above. As indicated in Table 3.6-1, installation of some recycled water conveyance pipelines would occur in areas where NRCS has determined that excavation walls are subject to caving. However, the State of California provides minimum standards for design and construction through the CBC. Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. In addition, the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal-OSHA), has developed and enforces numerous workplace safety regulations and requirements within California. These requirements include actions such as shoring of trenches to ensure worker safety. Because design and construction of project-related facilities in unstable soils is required by law to comply with Cal-OSHA and CBC regulations, which were developed to reduce risks to life and property to the maximum extent practicable, this impact would be **less than significant.**

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

Less-than-Significant Impact. Expansive soils shrink and swell as a result of moisture change. These volume changes can result in damage over time to building foundations, underground utilities, and other subsurface facilities and infrastructure if they are not designed and constructed appropriately to resist the damage associated with changing soil conditions. As shown in Table 3.6-1, several of the soil types where construction activities would occur have a moderate shrink-swell potential. However, the State of California provides minimum standards for design and construction through the CBC. Chapter 29 of the CBC regulates excavation, foundations, and retaining walls. Because the design and installation of project-related conveyance pipelines, pump stations, storage tank foundations, and other facilities in expansive soil would be required by law to comply with the CBC, which was developed to reduce risks to life and property to the maximum extent practicable, this impact would be less than significant.

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

Less-than-Significant Impact. This project entails the construction of facilities associated with, and use of, recycled water. Wastewater disposal systems are not required for the project. Application of tertiary-treated recycled water produced by the District's WWRP would occur in accordance with Recycled Water Standards for control of runoff, ponding, and overspray in application areas which must be established by the District to comply with WDRs and the MRP. These Recycled Water Standards include, but are not limited to the following requirements:

- Onsite facilities shall be designed not to exceed the evapo-transpiration requirements for the types of plants used, with standard and reasonable allowances for irrigation inefficiencies and storage of moisture in the soil column. The use of automatic weather- or soil moisture-based irrigation system controllers to automatically adjust the amount of applied irrigation water is mandated in accordance with the CalGreen Code.

- Recycled water shall not be allowed to escape from the designated use areas as surface flow that would either pond and/or enter waters of the State.

- The peak rate at which recycled water is applied shall not exceed the infiltration rate of the soil. Where varying soil types are present, the design of the peak rate of application of recycled water shall be compatible with the lowest infiltration rate present. Copies of the Developer's soil test reports shall be made available to the District upon request. No recycled water shall be applied to the irrigation area during periods when soils are saturated.

Because recycled water would be applied to soils to control runoff, ponding, or overspray and applications rates would be required not to exceed soil infiltration rates, this impact is considered less than significant.

3.7 GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.7.1 ENVIRONMENTAL SETTING

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation (thermal heat) is absorbed by GHGs in the atmosphere; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, released by natural sources, and formed from secondary reactions taking place in the atmosphere. The following GHGs are widely seen as the principal contributors to human-induced global climate change:

- Carbon dioxide (CO_2)
- Methane
- Nitrous oxide
- Hydrofluorocarbons
- Perfluorocarbons
- Sulfur hexafluoride

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere with that of CO_2. The GWP of a GHG is based on several factors, such as the relative effectiveness of a gas to absorb infrared radiation and the length of time that the gas remains in the atmosphere (its "atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. GHGs with lower emissions rates than CO_2 may still contribute to climate change because they are more effective than CO_2 at absorbing outgoing infrared radiation (i.e., they have a high GWP). The concept of CO_2 equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

GHG emissions related to human activities have been determined to be highly likely responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate (IPCC 2007). Similarly, impacts of GHGs are borne globally, as opposed to the more localized air quality effects of criteria air pollutants and TACs. The

quantity of GHGs that it takes to ultimately result in climate change is not precisely known; however, no single project alone is expected to measurably contribute to a noticeable incremental change in the global average temperature, or to a global, local, or micro climate. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies evaluate the cumulative impacts of GHGs, even relatively small additions, on a global basis.

3.7.2 DISCUSSION

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact. Construction-related GHG exhaust emissions would be generated by sources such as heavy-duty off-road equipment, trucks hauling materials to the project site, and worker commute vehicles. Operational emissions would be associated with worker commutes. Total GHG emissions were estimated using the same methodology discussed earlier under Section 3.3, "Air Quality." This analysis includes a quantification of total modeled construction-related and operational GHG emissions.

The SMAQMD has not established quantitative significance thresholds for evaluating GHG emissions in CEQA analyses. Instead, SMAQMD recommends using a threshold related to Assembly Bill (AB) 32. In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020.

As indicated in the SMAQMD *Guide to Air Quality Assessment in Sacramento County*, a lead agency may consider thresholds of significance adopted or recommended by other lead agencies, or adopt its own thresholds, provided the decision is supported by substantial evidence (SMAQMD 2013a). Each project is evaluated on a case-by-case basis using the most up-to-date calculation and analysis methods. Therefore, it is considered appropriate to reference methodologies and guidance from other agencies when discussing GHG emissions.

The Bay Area Air Quality Management District (BAAQMD) recommended 1,100 MT CO_2e per year as a project-level "bright line" GHG significance threshold that would apply to operational emissions from mixed land use development projects (BAAQMD 2010). The California Air Pollution Control Officers Association's (CAPCOA's) *CEQA and Climate Change* white paper analyzed various approaches and significance thresholds that a lead agency could choose to adopt to evaluate GHG emissions associated with proposed projects. Any residential, commercial, or industrial project that would generate more than 900 metric tons (MT) CO_2e per year would make a cumulatively considerable incremental contribution to climate change (CAPCOA 2008). The SMAQMD is currently proposing a land development screening level of 900 MT or 1,100 MT CO_2e per year (SMAQMD 2013b).

The total construction-related GHG emissions for the proposed project were estimated at 9,775 MT CO_2e (7,618 MT CO_2e for Phase 1 and 2,157 MT CO_2e for Phase 2). The SMAQMD also suggests that construction-related GHG emissions should be amortized over the lifetime of a project and evaluated annually. Therefore, for the purposes of this analysis, to allow comparison with annual-based operational thresholds, construction emissions are amortized over the assumed lifetime of the project (i.e., 30 years). The amortized construction emissions would be 326 MT CO_2e per year.

Operation of the proposed project would include four additional workers. The estimated operational emissions associated with the worker commutes would be 12 MT CO_2e per year. Therefore, the total GHG emissions associated with construction and operation of the proposed project would be 338 MT CO_2e per year.

The total GHG emissions associated with the proposed project would be less than any of the proposed or adopted thresholds discussed above. Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. This impact would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less-than-Significant Impact. In 2008, the ARB approved its Climate Change AB 32 Scoping Plan (Scoping Plan), which is the state's plan to achieve the GHG reductions in California required by AB 32. The Scoping Plan was approved by ARB on December 11, 2008. ARB is required to update the Scoping Plan at least once every five years to evaluate progress and develop future inventories that may guide this process. ARB is updating the Scoping Plan, and draft updates were issued for initial review and comment on October 1, 2013 and February 10, 2014. The final Scoping Plan update will be adopted by ARB in 2014.

ARB's Scoping Plan includes measures to meet California's goal of reducing emissions to 1990 levels by 2020 and also reiterates the state's role in the long-term goal established in Executive Order S-3-05, which is to reduce GHG emissions to 80% below 1990 levels by 2050. According to ARB, the 2020 goal was established as an achievable, mid-term target, and the 2050 GHG emissions reduction goal represents the level scientists believe is necessary to stabilize the climate (ARB 2008). However, the Scoping Plan does not recommend additional measures for meeting specific GHG emissions limits beyond 2020. In general, the measures described in the Scoping Plan are designed to meet emissions goals in 2020 and do not become increasingly stringent after 2020.

ARB's Scoping Plan includes measures that would indirectly address GHG emissions from construction activities, including the phasing-in of cleaner technology for diesel engine fleets and the development of a Low Carbon Fuel Standard. Policies formulated under the mandate of AB 32 that apply to construction-related activity, either directly or indirectly, are assumed to be implemented statewide and would affect the proposed project should those policies be implemented before construction begins. The proposed project would comply with any mandate or standards set forth by the Scoping Plan.

Although implementing the proposed project would cause temporary construction-related GHG emissions, the project's intent, purpose, and function align with the goals of the AB 32 Scoping Plan to more efficiently use water resources and reduce GHG emissions associated with land use development projects. Consumption of water results in GHG emissions because of the electricity consumption associated with the off-site conveyance, distribution, and treatment of water and wastewater. The use of recycled water can result in substantial energy savings by displacing the energy intensity of the other water sources. Recycled water is often a by-product of existing wastewater treatment processes, and it is the least energy-intensive source in the state's water supply (ARB 2014). Operation of recycled water treatment pumps and facilities would also increase the energy demand for the project. However, it would require less energy demand than pumping, treatment, and distribution of raw water supplies (ARB 2014).

State legislation also requires water suppliers to increase water use efficiency. Senate Bill X7-7 was enacted in November 2009 and sets an overall goal of reducing per capita urban water use by 20% by 2020. Effective in

2016, urban retail water suppliers who do not meet the water conservation requirements established by this bill are not eligible for state water grants or loans.

The State Water Resources Control Board (SWRCB) adopted a policy for recycled water in 2009 (SWRCB 2009). This policy was updated in 2013 and is intended to increase the use of recycled water from municipal wastewater sources (SWRCB 2013). The SWRCB has adopted a goal to increase recycled water usage above the 2002 usage levels by at least one million acre-feet per year by 2020. The proposed project would be consistent with the goals of the state regulations, ARB Scoping Plan, and SWRCB policies.

In November 2011, Sacramento County's Board of Supervisors approved the first phase of a climate action plan (CAP), providing a framework for reducing GHG emissions. This first phase focuses on the county's overall strategy and goals for addressing climate change (Sacramento County 2011). The CAP includes goals and actions to improve water use efficiency as a way to reduce energy consumption. The use of recycled water will conserve water and reduce energy use, consistent with the goals and strategies of the CAP.

The proposed project would not conflict with the AB 32 Scoping Plan or any other plans, policies, or regulations for the purpose of reducing GHG emissions. As discussed earlier, the proposed project would also not generate GHG emissions that would have a significant impact on the environment. The use of recycled water is less energy-intensive than other sources of water and would reduce GHG emissions associated with distribution of water in the project area. The proposed project would be consistent with the state, regional and local goals and policies related to water use efficiency and GHG emissions. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulation for the purpose of reducing GHG emissions. This impact would be less than significant.

3.8 HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

3.8.1 ENVIRONMENTAL SETTING

HAZARDOUS MATERIALS

AECOM searched several publicly available databases maintained under California Public Resources Code (PRC) Section 65962.5 (i.e., the "Cortese List") to determine whether any known hazardous materials are present either within or immediately adjacent to the locations where recycled water facilities would be installed or recycled water use would occur.

The State Water Resources Control Board (SWRCB) maintains the Geotracker database, an information management system for groundwater. Data on leaking underground storage tanks and other types of soil and groundwater contamination, along with associated cleanup activities, are part of the information that SWRCB must maintain under PRC Section 65962.5. A search of the Geotracker database (SWRCB 2014a) indicated that there are no known open, active cases of contamination within or adjacent to the District.

The Hazardous Waste and Substances Site List (the "EnviroStor" database) is maintained by the California Department of Toxic Substances Control (DTSC) as part of the requirements of PRC Section 65962.5. A search of the EnviroStor database indicated that there are no open, active cases of hazardous waste and substances sites either within or adjacent to the District (DTSC 2014).

A search of the U.S. Environmental Protection Agency's (EPA) Envirofacts database (which includes records maintained under the Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA]) indicated that there are no known open, active cases of hazardous material contamination either within or adjacent to the District (EPA 2014).

EPA maintains records of small- and large-quantity generators of hazardous waste pursuant to the Resource Conservation and Recovery Act (RCRA) through a national program management and inventory system about hazardous waste handlers. Small-quantity generators produce between 220 and 2,200 pounds of hazardous waste per month; large-quantity generators produce more than 2,200 pounds of hazardous waste or more than 2.2 pounds of acutely hazardous waste per month. This information is available to the public through EPA's Envirofacts database (EPA 2014). Although no large-quantity generators are located near the project area, the following small-quantity generators or transporters of hazardous waste are located either within or adjacent to the District, with no reported violations:

- Pacific Bell (now AT&T), 7100 Stonehouse Road
- Rancho Murieta Association, 6411 Stonehouse Road
- Henley & Associates, 6950 Meta Court
- Operating Engineers Local No. 3, 7388 Murieta Drive

There are no Superfund sites either within or in the vicinity of the District (EPA 2013).

NATURALLY OCCURRING ASBESTOS

Naturally occurring asbestos (NOA), which was identified as a TAC in 1986 by ARB, is located in many parts of California. On July 29, 2002, the ARB adopted an Air Toxic Control Measure (ATCM) for asbestos (California Code of Regulations, Title 17, Section 93105). The ATCM can apply to any area that an air district determines contains NOA. At the request of the SMAQMD, the California Geological Survey (formerly the California Division of Mines and Geology) prepared a report called the *Relative Likelihood for the Presence of Naturally Occurring Asbestos* in Eastern Sacramento County, California (Higgins and Clinkenbeard 2006). A review of that report indicates that all areas of Rancho Murieta that are located in the Gopher Ridge Volcanics have been designated by CGS as "Areas Moderately Likely to Contain NOA."

SCHOOLS

There are no schools within 0.25 miles of the project area. The closest school is the Cosumnes River Elementary School located at 13580 Jackson Road, approximately 3 miles west of the nearest District improvement that is proposed as part of the project (i.e., the recycled water conveyance pipelines along Lone Pine Drive and the recycled water storage tank and booster pump station at Lookout Hill).

AIRPORTS

Rancho Murieta Airport

Rancho Murieta Airport is located at 7443 Murieta Drive, within the District. The airport is privately owned but is open to the public. There is no control tower. Two parallel asphalt runways are present, each approximately 3,800 feet long and 75 feet wide. There are approximately 51 aircraft based on the field, including 4 helicopters and an air taxi service, with an average of 75 airport flights per day in 2009-2010. There are several posted airport safety hazards, which consist of a large tree and a road at the end of the runways, 30-foot-tall power lines that are parallel to the runways, and deer have been frequently observed on and in the vicinity of the runways. The airport has been in operation since 1970. (Rancho Murieta Airport, Inc. 2014.)

The Sacramento Area Council of Governments (SACOG) has been designated as the Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo, and Yuba counties. Airport Land Use Policy Plans, prepared by the ALUC, establish planning boundaries and land use compatibility standards for airports that do not have an individually-prepared Comprehensive Land Use Plan (CLUP). Currently, the Rancho Murieta Airport is the only airport in the region for which the Airport Land Use Policy Plan serves as the CLUP. Among other goals, the Airport Land Use Policy Plan is intended to ensure that no structures adversely affect navigable airspace around the airport, and to protect the safety of persons on the ground by minimizing the number of people exposed to hazards related to aircraft operations and accidents.

Areas around airports are exposed to the possibility of aircraft accidents even with well-maintained aircraft and highly trained pilots. Airport safety areas are established to minimize the number of people exposed to aircraft crash hazards by placing restrictions on land uses in various safety areas. The Airport Land Use Policy Plan designates three safety areas: clear zone, approach-departure zone, and overflight zone. Because the Rancho Murieta Airport does not have a CLUP, these zones are defined by Federal Aviation Administration (FAA) regulations as follows (ALUC 1992:26-27):

- The runway clear zone is an area at ground level underlying a portion of the approach surface beginning 200 feet beyond the physical end of each paved runway and extending with the width of the approach surface to a point directly below where the approach surface reaches a height of 50 feet above the runway elevation. The clear zone is near the end of the runway and is the most restrictive.

- The approach zone begins where the clear zone ends and extends outward at ground level to the point under which the approach surface defined by Federal Aviation Regulations (FAR) Part 77 intersects the horizontal surface, 150 feet above the runway elevation. The approach-departure zone is located under the takeoff and landing slopes and is less restrictive.

- The overflight zone is determined by swinging arcs of specified radii from the center of each end of the primary surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is 5,000 feet for all runways designated as utility or visual, or 10,000 feet for all other runways. The overflight zone is the area under the air traffic pattern and is the least restrictive.

FAR Part 77, "Objects Affecting Navigable Airspace," has been adopted as a means of monitoring and protecting the airspace required for safe operation of aircraft and airports. FAR Part 77 establishes the following:

- the requirements to provide notice to the FAA of certain proposed construction, or the alteration of existing structures;
- the standards used to determine obstructions to air navigation, and navigational and communication facilities;
- the process for aeronautical studies of obstructions to air navigation or navigational facilities to determine the effect on the safe and efficient use of navigable airspace, air navigation facilities or equipment; and
- the process to petition the FAA for discretionary review of determinations, revisions, and extensions of determinations.

Objects that exceed certain specified height limits constitute airspace obstructions. FAR Section 77.13 requires FAA notification of proposed construction or alteration of certain objects within a specified vicinity of an airport, among them the following:

- Any construction or alteration of more than 200 feet in height above the ground level at its site.
- Any construction or alteration of greater height than an imaginary surface extending outward and upward at…[a slope of] 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each…[public-use airport, public-use airport under construction, or military airport] with at least one runway more than 3,200 feet in actual length, excluding heliports.

Van Vleck Ranch Airstrip

A private airstrip that provides access to the Van Vleck Ranch property is located adjacent to and immediately north of the proposed sprayfield. The runway is paved and is approximately 2,000 feet long and 25 feet wide. The runway is accessed from Van Vleck Road, however, the airstrip is no longer in use (Crouse, pers. comm., 2014).

WILDFIRE HAZARD

The California Department of Forestry and Fire Protection (CALFIRE) has developed fire hazard severity zones as a way to predict fire damage. The zones depicted on CALFIRE maps take into account the potential fire intensity and speed, production and spread of embers, fuel loading, topography, and climate (e.g., temperature and the potential for strong winds). A portion of the District that is east of Stonehouse Road and north of SR 16, as well as the Riverview and Rancho Murieta South areas, are located within a Local Responsibility Area (LRA). In LRAs, CALFIRE is required to delineate two hazard ranges: very high, and non-very high fire hazard severity zones. The portion of the District located within the LRA is designated as a non-very high fire hazard severity zone (CALFIRE 2008). The remainder of the District, and all of the land surrounding the District, is located

within a State Responsibility Area (SRA). In SRAs, CALFIRE is required to delineate three hazard ranges: moderate, high, and very high fire hazard severity zones. The remainder of the District within the SRA is designated as a moderate fire hazard severity zone (CALFIRE 2007).

3.8.2 DISCUSSION

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

Less-than-Significant Impact. Project implementation would involve the storage, use, and transport of hazardous materials (e.g., asphalt, fuel, lubricants, paint) during construction activities. Transport of hazardous materials on area roadways is regulated by the California Highway Patrol and the California Department of Transportation, and use of these materials is regulated by DTSC, as outlined in Title 22 of the California Code of Regulations. The project applicant, builders, contractors, and future residents would be required to use, store, and transport hazardous materials in compliance with applicable federal, state, and local regulations during project construction and operation.

The State requirements for production, discharge, distribution, and use of recycled water are contained in the Health and Safety Code, Water Code, and CCR Titles 17 and 22 (CDPH 2009 and 2011). The California Water Code contains guidelines and requirements for the production, discharge, and use of recycled water. Title 17 establishes requirements for protection of potable water systems where there is a potential for cross-contamination with recycled water. Title 22 establishes water quality criteria, and regulates the production and use of recycled water in California. As stated by the State Water Resources Control Board (SWRCB):

> The purpose of the Recycled Water Policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code Section 13050(n), in a manner that implements state and federal water quality laws. When used in compliance with the Recycled Water Policy, water recycling criteria in Title 22 of the California Code of Regulations, and all applicable state and federal water quality laws, the State Water Board finds that recycled water is safe for the approved uses. The State Water Board strongly supports recycled water as a safe alternative to potable water for such approved uses. (SWRCB 2014b.)

The recycled water used for this project would be treated to levels stipulated by CCR Title 22, thus ensuring that use of the recycled water would not represent a human health hazard. Furthermore, because the District has already implemented the use of recycled water for golf course irrigation, the District has already adopted several mechanisms to manage the design and operation of the recycled water systems in order to safeguard the health and safety of the public and the environment. (See Section 3.9, “Hydrology and Water Quality” for additional discussions regarding the use of recycled water.)

Because the project construction contractors and residents during the operational phase are required by law to implement and comply with existing hazardous materials regulations, and because the recycled water that would be used as part of the project would be treated to Title 22 standards (which have been designed to be protective of human health), effects related to the creation of significant hazards to the public through routine transport, use, disposal, and risk of upset from use of hazardous chemicals would be considered less than significant.

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

Less than Significant with Mitigation Incorporated. As discussed in a) above, the project applicant, builders, contractors, and future residents would be required to use, store, and transport hazardous materials in compliance with Federal, state, and local regulations during project construction and operation.

However, earthmoving activities associated with installation of the recycled water pipelines in the vicinity of the golf course, and pump station near Bass Lake, would take place within the Gopher Ridge Volcanics. As mentioned earlier, all areas of Rancho Murieta that are located in the Gopher Ridge Volcanics have been designated by CGS as "Areas Moderately Likely to Contain NOA."

During construction activities, soils may be disturbed, potentially exposing residents of the nearby residential neighborhoods to NOA. SMAQMD requires that property owners in these areas must either (1) comply with all dust control requirements of the asbestos ATCM when disturbing soil, or (2) have a registered geologist conduct a geologic evaluation demonstrating that the property does not contain asbestos at concentrations greater than 0.25% (SMAQMD 2006). The asbestos ATCM contains administrative, monitoring, construction, moving, and disposal requirements for projects that would operate in an area containing asbestos. Without appropriate controls, sensitive receptors near construction sites could be exposed to localized high levels of fugitive dust, potentially including NOA. As a result, this impact would be considered potentially significant.

> Mitigation Measure HAZ-1: Implement a Site Investigation to Determine the Presence of NOA and, if necessary, Prepare and Implement an Asbestos Dust Control Plan.
>
> The District will conduct a site investigation to determine whether and where NOA is present in the construction area. The site investigation shall include the collection of soil and rock samples by a qualified geologist. If the site investigation determines that NOA is present within the proposed construction area then the District will prepare an Asbestos Dust Control Plan for approval by SMAQMD as required in Section 93105 of the California Health and Safety Code, "Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations." The Asbestos Dust Control Plan shall specify measures, such as periodic watering to reduce airborne dust and ceasing construction during high winds, that will be taken to ensure that no visible dust leaves the construction area. The District shall submit the plan to SMAQMD for review and approval prior to construction. SMAQMD approval of the plan must be received before any asbestos-containing rock (serpentinite) can be disturbed. Upon approval of the Asbestos Dust Control Plan by SMAQMD, the District will ensure that construction contractors implement the terms of the plan throughout the construction period.

Implementation of Mitigation Measure HAZ-1 would reduce the significant impact associated with exposure to NOA to a less-than-significant level by requiring a site investigation and, if necessary, implementing an asbestos dust control plan.

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

No Impact. There are no schools within 0.25 miles of the project area. The closest school is the Cosumnes River Elementary School located at 13580 Jackson Road, approximately 3 miles west of the nearest District

improvement proposed as part of the project (i.e., the recycled water conveyance pipelines along Lone Pine Drive and the recycled water storage tank and booster pump station at Lookout Hill). Thus, there would be no impact.

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

No Impact. As discussed previously, a search of the Geotracker (SWRCB 2014a), Envirostor (DTSC 2014), and Envirofacts (EPA 2014) databases indicates there are no known hazardous materials sites that have been reported on the Cortese List either within or adjacent to the District. Thus, there would be no impact.

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

Less-than-Significant Impact. Construction activities associated with the recycled water pipeline that would be installed on the south side of SR 16 would occur approximately1,700 feet from the end of the runway at Rancho Murieta Airport, within the runway clear zone. However, the pipeline would be installed underground, construction activities would be temporary in nature, and the project would not entail the use of tall construction equipment that could pose an aircraft safety hazard.

Installation of the new recycled water storage tank and pumping station at Lookout Hill would occur approximately 2,300 feet northwest of the runway, within the aircraft overflight zone. However, the new facilities would not be placed on top of the hill. Rather, they would be placed in an area of existing cut-and-fill in the side of the hill partway down from the top, next to the existing water storage tank. A pole with a flashing hazard beacon is already located at the top of Lookout Hill as a safety feature for aircraft.

The proposed areas where WWRP facilities would be expanded is located approximately 2,100 feet east of the runway, also within the aircraft overflight zone. However, none of the proposed new facilities at the WWRP would be tall enough to represent an aircraft safety hazard. Construction associated with the recycled water pipeline that would be installed along Alameda Drive and along Stonehouse Road would occur approximately 3,100 east and north of the runway, respectively, also within the aircraft overflight zone. However, the pipeline would be installed underground, construction activities would be temporary in nature, and the project would not entail the use of tall construction equipment that could pose an aircraft safety hazard.

One of the proposed Phase 1 developments where recycled water would be used (i.e., Murieta Gardens), is located immediately adjacent to and northeast of the runway at the Rancho Murieta Airport. One of the Phase 2 developments where recycled water would be used (i.e., commercial/industrial/residential south of SR 16 and west of the WWRP) is located approximately 2,100 feet east of the runway. However, the physical use of recycled water for landscape irrigation would have no effect on airport safety. The location for the proposed recycled water storage tank that could serve the Terrace, Highlands, and River Canyon developments is not yet known. Impacts associated with the siting of this storage tank would be addressed in a future CEQA document.

For the reasons listed above, construction and operation of the proposed facilities would not result in an aircraft safety hazard. Therefore, this impact is considered less than significant.

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

No Impact. The use of recycled water at the proposed Van Vleck Ranch sprayfield would have no effect on use of the adjacent airstrip and would not represent an aircraft safety hazard. Thus, there would be no impact.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant with Mitigation Incorporated. Roadways in the project vicinity, such SR 16 and Stonehouse Road, among others, would be affected intermittently during installation of underground pipelines. Ongoing construction activities could result in temporary lane closures, increased truck traffic, and other roadway effects that could interfere with, or slow down emergency vehicles, temporarily increasing response times and impeding existing services. The impact is considered potentially significant.

> Mitigation Measure HAZ-2: Prepare and Implement a Construction Traffic Control Plan.
>
> The project applicant shall prepare and implement a traffic control plan for construction activities that may affect road rights-of-way, in order to facilitate travel of emergency vehicles on affected roadways. The traffic control plan must follow applicable Sacramento County, California Department of Transportation (Caltrans), private, and any other responsible party's standards and must be approved and signed by a professional engineer. Measures typically used in traffic control plans include advertising of planned lane closures, warning signage, a flag person to direct traffic flows when needed, and methods to ensure continued access by emergency vehicles. During project construction, access to the existing surrounding land uses shall be maintained at all times, with detours used, as necessary, during road closures. The traffic control plan shall be submitted to the Sacramento County Public Works Department for review and approval before the approval of all project plans or permits.

Implementation of Mitigation Measure HAZ-2 would reduce the significant impact associated with decreased emergency response times during construction to a less-than-significant level by requiring preparation and implementation of a construction traffic control plan that would provide for adequate emergency access during construction activities.

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

Less-than-Significant Impact. The District is located in the gently rolling foothills of the Sierra Nevada. The District is characterized by residential and commercial development, a golf course, an airport, open space, and agricultural land. Numerous housing developments are present within the District and more are proposed in the future. Land surrounding the District is generally undeveloped and is used for livestock grazing.

A portion of the District is located within a SRA designated as a moderate fire hazard severity zone. The land surrounding the District is generally undeveloped, is used as grazing land, and is also rated as a moderate wildfire hazard zone (CALFIRE 2007). A portion of the District that is east of Stonehouse Road and north of SR 16, as well as the Riverview and Rancho Murieta South areas, are located within a LRA designated as a non-very high fire hazard severity zone (CALFIRE 2008).

Within a SRA, the financial responsibility of preventing and suppressing fires currently falls primarily on the State. However, fire suppression services to the project site would also be provided by a local fire service district, in addition to the State, as discussed in further detail in Section 3.14, “Public Services.”

Because the project site is not located in or near an area of high fire hazard severity, and because adequate fire protection services would be provided by both the State and a local fire protection district, this impact would be less than significant.

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3.9 HYDROLOGY AND WATER QUALITY

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

3.9.1 ENVIRONMENTAL SETTING

SURFACE WATER

The project site is adjacent to the Cosumnes River. The Cosumnes River descends southwest toward the confluence with the Mokelumne River, which is in southern Sacramento County. The majority of the Cosumnes

River watershed is sparsely populated, with several small towns located near historic mining areas and other small communities located near major highways including Rancho Murieta, Somerset, Pleasant Valley, Sloughhouse, Nashville and Herald. There are no incorporated cities located in the upper watershed and Galt is the only incorporated city in the lower watershed.

The Cosumnes River Watershed drains a total of 936 square miles. The flows are almost entirely a result of rainfall. Only 16 percent of the watershed lies above 5,000 feet. Therefore, snowmelt contributes very little to the flow. The river flows year-round in the upper watershed; however, in the lower watershed, flows are intermittent during the summer.

The Cosumnes River Watershed climate is Mediterranean, with hot, dry summers and cool, wet winters. The majority of the precipitation falls between November and April. Mean annual rainfall for the Cosumnes River Basin is 40 inches.

In 1999, a total of 157 appropriation rights existed on the Cosumnes River. Three significant appropriation rights have been granted: Rancho Murieta, El Dorado Irrigation District, and the Omochumne-Hartnell Water District. The majority of remaining diversions are smaller and appropriated to landowners for grazing and agriculture.

The District diverts its allocated water from the Cosumnes River at the Granlees Dam between November and May 31 of each year and pumps it into Calero, Chesbro and Clementia Reservoirs. All of the District's drinking water is treated before it is supplied to its customers.

The Cosumnes River watershed is part of the larger Sacramento River watershed. Water quality in the Sacramento River watershed is regulated through the Central Valley Regional Water Quality Control Board (RWQCB), Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin (Basin Plan). The Basin Plan sets regulatory limits on specific water quality parameters in the region, and provides guidance for particular land uses and their input to surface water quality, including land uses such as wastewater treatment plants. In addition, the Central Valley RWQCB reviews and approves National Pollution Discharge Elimination System (NPDES) permits for construction activities and municipal separate stormwater systems.

The storm drainage system for Rancho Murieta is comprised of natural swales, pipelines and flood control levees. Early in development in Rancho Murieta, storm drainage and flood control jurisdiction had been the overlapping responsibility of property owners and homeowners associations, Sacramento County and the District. In the mid 1980's, the District's latent authority to provide drainage and flood control services was exercised. The District de-annexed from the County storm drainage maintenance district and began providing drainage services to the community.

State regulations prohibit the District from discharging partially or fully treated wastewater into the Cosumnes River. The current Waste Discharge Requirements (WDR Order 5-01-124) allow the District to irrigate with recycled water on two RMCC golf courses, while prohibiting any direct recycled water runoff from entering local drainages and the Cosumnes River in order to prevent degradation of water quality in the watershed. Rancho Murieta wastewater goes to the District WWRP. Wastewater is treated to secondary levels and stored in holding reservoirs during the rainy season until the next irrigation season. Only direct rainfall is allowed to enter the holding reservoirs during storm events; stormwater is diverted away from the reservoirs through ditches, swales, and pipelines. During the next irrigation season, the stored secondary effluent is further treated to tertiary

standards before use on the golf courses. Over time it is the District's intent to supply 100% of the golf courses' irrigation demands with recycled water, even in drought and low water years.

GROUNDWATER

The District is located in the northern part of the San Joaquin hydrologic basin. More specifically, the project area is included in the Cosumnes groundwater sub-basin, as defined in Department of Water Resources (DWR) Bulletin 118.

Groundwater well measurements at Rancho Murieta indicate that, in October 2004, depth to groundwater was 16 feet below ground surface (bgs) while groundwater was encountered at 34 feet bgs at the WWRP and the groundwater gradient direction was to the southwest toward the Cosumnes River. The District maintains one monitoring well up-gradient from the WWRP and this well is used as a baseline for assessing groundwater quality around the WWRP. Water quality data from monitoring wells down-gradient from the WWRP are collected as a requirement of WDR 5-01-124 and WDR R5-2007-0109.

Groundwater was recorded at 174.78 ft above mean sea level (msl) up gradient of the seasonal storage reservoirs 1 and 2, at 146.07 ft above msl down gradient of the seasonal storage reservoir 2, and 136.49 ft above msl down gradient of the seasonal storage reservoir 1 in August 2013 (RMCSD 2013). Groundwater was also recorded at 144.80 ft above msl and 150.12 ft above msl up gradient of the WWRP, and 130.20 to 143.30 ft above msl down gradient of the WWRP. This equates to groundwater being approximately 15 ft bgs up gradient of the reservoirs and approximately 28 ft bgs down gradient of the WWRP.

3.9.2 DISCUSSION

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

CONSTRUCTION-RELATED IMPACTS

Less than Significant with Mitigation Incorporated. Construction of Phases 1 and 2 of the proposed project would involve installing approximately 12,000 linear feet of new 12-inch and 10-inch diameter transmission main pipeline along existing roadways to mainly serve the Residences of Murieta Hills and Stonehouse Park and a small portion to serve Murieta Gardens. Approximately 2,000 linear feet of 6-inch diameter service pipeline would be installed along existing roadways to serve the Retreats, Riverview and Lakeview Developments, approximately 1,000 linear feet of new 6-inch diameter recycled pipeline to serve the Terrace, Highlands, River Canyon, Apartments, and Escuela Developments and the Industrial/Commercial/Residential Developments northeast of the WWRP; and construction of new pump stations at Bass lake and Lakes 16/17, and additional seasonal storage at the WWRP. The pipelines would be placed above ground, in trenches, or constructed using trenchless construction methods (either HDD, pipebursting through the old main to Residences of Murieta Hills/Stonehouse Park sites, or jack and bore). Installation of the pipeline undercrossing using trenchless methods would not alter the course of any creek, nor would it affect water quality within the project site. However, the use of trenchless construction methods, especially horizontal directional drilling, requires the use of a drilling slurry containing bentonite (a fine clay material used as a lubricant) near the surface. The bentonite is not toxic, however, it could increase turbidity and suspended sediments in the surface water if frac-out occurred. Frac-out occurs when the ground fractures during drilling and fluid escapes to the surface.

During site grading and excavation activities, bare soil would be exposed to wind and water erosion. If precautions are not taken to contain sediments, construction activities could produce sediment laden storm runoff that would exceed limits contained in the NPDES General Construction Permit applicable to this project. In addition to increased erosion potential, other construction-related pollutant sources could include leaks or spills of fluids or fuels from construction vehicles and equipment, or miscellaneous construction materials and debris. These activities could result in the exposure of soil or construction materials to rain, resulting in short-term adverse water quality impacts. Also, construction in areas of high groundwater could require dewatering with a subsequent discharge to ground surface. During construction, dewatering of the construction work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. The discharge of construction dewatering could result in a source of sediment-laden water to local water ways if not properly controlled.

The remainder of pipelines would be installed within roadways, and aboveground at Van Vleck Ranch. Open trenching and construction staging would temporarily disturb these areas which could result in erosion if not properly controlled. Construction could also be a source of chemical contamination from use of alkaline construction materials (concrete, mortar, hydrated lime) and hazardous or toxic materials such as fuels and herbicides/pesticides. Because some trenchless pipeline construction methods, construction dewatering, open trenching, and construction staging could result in discharges of sediment and other pollutants to surface waters, the impact related to violation of water quality standards and degradation of water quality would be potentially significant.

Mitigation Measure HYD-1: Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices.

For all activities disturbing 1 or more acres (including phased construction of smaller areas that are part of this larger project), the District will obtain coverage under the SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ, "Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities"), including preparation and submittal of a SWPPP at the time the notice of intent is filed. The SWPPP shall address pollutant sources, non-stormwater discharges resulting from construction dewatering, best management practices, and other requirements specified in the Order. The BMPs shall include any measures included in the erosion and sediment control plans developed for the project to minimize disturbance after grading or construction. The SWPPP shall also include dust control practices to prevent wind erosion, sediment tracking and dust generation by construction equipment. The District will be responsible for overall compliance with the SWPPP, and will ensure that a copy of the approved SWPPP is maintained and available at all times at each construction site, and visual inspections and sampling and analysis are conducted in accordance with the SWPPP.

The BMPs should include, but may not be limited to:

- Temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, soil stabilizers, and temporary revegetation or other groundcover shall be employed for disturbed areas, including re-seeding the pipeline alignments with native grass seed to prevent pollutants or sediment from entering stormwater runoff.

- Protection of storm drain inlets on the site and in downstream offsite areas.

- Sweeping dirt and debris from paved streets in the construction zone on a regular basis, particularly before predicted rainfall events.

- No disturbance of surfaces without erosion control measures in place between October 15 and April 15.

Mitigation Measure HYD-2: Evaluate and Implement Construction Site Dewatering Controls.

If construction dewatering is required, the District will evaluate reasonable options for dewatering management and ensure that controls on construction site dewatering are implemented during all construction dewatering activities. If possible, water generated as part of construction dewatering shall be discharged onsite such that there is no discharge to surface waters. This may be achieved by reusing the water on-site for dust control, compaction, or irrigation, and/or retaining the water on-site in a grassy or porous area to allow infiltration/evaporation. If discharge to surface waters is unavoidable, the District will obtain coverage under the SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ, "Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction and Land Disturbance Activities"), prior to commencement of construction.

Mitigation Measure HYD-3: Prepare and Implement a Frac-Out and Undercrossing Contingency Plan.

If drilling mud is needed during construction, the District will develop and follow procedures to prevent the mix that is used during drilling from being discharged onto the ground surface when installing pipelines using trenchless construction methods. The plan shall address how the contractor would manage pressures and the volume of lubricant used to prevent frac-out. The plan shall also address procedures to follow in the event a frac-out occurs. Drilling activities shall be visually monitored for any sign of lubricant frac-out and should frac-out occur, the contractor shall complete the following:

- Stop pumping lubrication.
- Locate the point and cause of the frac-out.
- Contain the spill to the maximum extent possible.
- Clean up the spill to the maximum extent possible.
- Wait at least two hours before pumping lubrication near the frac-out point to allow the ground to seal.
- Reduce pumping pressure and volume in the area of the frac-out.
- Notify all designated authorities that a frac-out occurred, including but not limited to CDFW.

Implementation of Mitigation Measures HYD-1, 2, and 3 would reduce the potentially significant impacts to water quality associated with construction (including staging) to less-than-significant levels by reducing soil loss and water pollution through implementation of erosion prevention, waste management, dewatering management, and frac-out prevention and containment measures.

OPERATIONS-RELATED IMPACTS

Less-than-Significant Impact. Recycled water use in California is regulated under Title 22, Division 4, Chapter 3 (Section 60301 et seq., as amended) of the California Code of Regulations (Water Recycling Criteria). The California Department of Public Health (CDPH) has jurisdiction of recycled water and enforcement of Title

22 regulations. The intent of these regulations is to ensure protection of public health associated with the production, distribution, and use of recycled water. For example, the regulations:

- Establish acceptable levels of constituents in recycled water for a range of uses and prescribe the means for ensuring reliability in the production of recycled water.
- Require all recycled water pipelines be installed in accordance with Title 22 California Code of Regulations, California Safe Drinking Water Act, and related laws and regulations to meet separation requirements for potable, sewer, and storm drain pipelines.
- Require backflow prevention of recycled water into public water systems and for avoiding cross-connection between the recycled and potable water systems.
- Require recycled water pipelines and appurtenances to be colored purple or distinctively wrapped in purple tape.
- Require incidental runoff to be minimized and routinely monitored.

In 2013, the District completed a Title 22 Engineering Report to establish compliance with the criteria for "disinfected tertiary recycled water" (RMCSD 2013a). Included as Appendices A and B of the Title 22 Engineering Report, respectively, were the District's recently adopted Recycled Water Standards and Recycled Water Code (District Code, Chapter 17). The Recycled Water Code sets forth rules and regulations regarding the use of recycled water in Rancho Murieta. The Recycled Water Standards define District procedures, design, work, materials, capacities, facilities, and other improvements pertaining to recycled water facilities or connections. Together, the Recycled Water Code and Recycled Water Standards establish and provide the means to enforce rules and regulations for recycled water users, for design and construction of recycled water facilities, and for the use of recycled water in accordance with federal and state criteria.

Generally, potential water quality concerns associated with recycled water are: (1) salinity; (2) nitrogen (nitrate); (3) exposure to wastewater pathogens; (4) and contaminants of emerging concern (CECs).

1) Salinity is a measure of total dissolved solids (TDS) in water. Excessive salinity can reduce the beneficial uses of water. Salinity can be affected by the use of recycled water with elevated concentrations of TDS.

2) Nitrogen is a nutrient present in recycled water that may be at a concentration that can degrade groundwater quality. When applied to cropped or landscaped land, some of the nitrogen in recycled water is taken up by the plants, lost to the atmosphere through volatilization of ammonia, denitrification, or stored in the soil matrix.

3) Pathogens are microorganisms that cause disease. Several long-term microbiological studies confirm that pathogens, including viruses, are reduced to non-detectable levels in disinfected tertiary-treated recycled water. In addition to disinfection requirements, setbacks for recycled water use areas are required by Title 22 as a means of reducing any residual pathogenic risks by coupling pathogen inactivation rates with groundwater travel time to a well or other potential exposure route (e.g. water contact activities). In general, a substantial unsaturated zone reduces pathogen survival compared to saturated soil conditions.

Setbacks also provide attenuation of other recycled water constituents through physical, chemical, and biological processes.

4) CECs include a variety of unregulated chemicals (personal care products, disinfection byproducts, and endocrine disrupting compounds and other pharmaceuticals) that have been detected in the environment and could have toxicological effects. A study completed in 2011 provided a quantitative human health risk assessment of exposure to CECs via non-potable recycled water and concluded that CECs in recycled water pose much lower risks than other common exposure pathways (Kennedy *et al.* 2012).

Similar to the State of California's *General Landscape Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water*, Section 1.3.1, "Protection of Public Health and the Environment", the District's Recycled Water Standards require the application of recycled water to Use Areas at agronomic rates that do not exceed the water or nutrient demands of the landscape. Irrigation management plans, applicable to each recycled water use area served, are required to account for soil characteristics; recycled water characteristics (e.g., nitrogen content); specific ion toxicity, including chloride, boron, sodium, bicarbonate; requirements of the plant species being irrigated (e.g., seasonal demand, climate, nutrient requirements); climatic conditions (e.g., precipitation, evapotranspiration rate, and wind); other supplemental nutrient additions (e.g., organic and chemical fertilizers) used in the operation of the Use Areas; and management of impoundments used to store or collect recycled water.

Each Use Area, including residential homes using recycled water for front and backyard irrigation, would be required to obtain a Recycled Water Permit from the District prior to receiving recycled water. The permit describes the conditions of use, including requirements that the User follow the rules and regulations of the most recently adopted District Code and the most recently adopted Recycled Water Standards. These conditions typically would include construction inspection, cross-connection certification, User monitoring and inspection requirements, and a schedule of the hours that recycled water could be used. Users would also be required to designate a Site Supervisor that must receive training by the District and would be responsible for the installation operation, and maintenance of the onsite recycled water facilities, the prevention of cross-connections, and compliance with District Recycled Water Standards and other regulations. The District would have the authority to revoke the Recycled Water Permit at any time or modify it to reflect requirements in the District's Master Reclamation Permit. The District would also have the authority to direct the User to correct a violation or to terminate a User's recycled water service if the User is found to be in violation of its Recycled Water Permit.

The Title 22 Engineering Report also describes how recycled water use would be monitored and maintained during project implementation in order to prevent offsite runoff of recycled water during routine irrigation.

The proposed project would use recycled water to irrigate residential front and backyards, common areas, parks, greenbelts, playgrounds, athletic fields, highway and street landscaping, pastures at Van Vleck Ranch, and also for dust control. Recycled water applied to these areas would percolate into the upper root zone, successfully irrigating the landscape and pasturelands during the dry summer months. Recycled water would also be evapo-transpired by vegetation on the project site prior to percolating deeper into the underlying groundwater.

The District has completed an antidegradation analysis to demonstrate consistency with the State Water Policy 68-16, "Antidegradation Policy," which allows limited degradation of water quality consistent with the maximum benefit to the people of the State of California so long as such degradation does not result in water quality less

than that prescribed by policies, such as water quality objectives. The antidegradation analysis concluded the following (RMCSD 2013b: Chapter 5.0):

1. Operation of the WWRP, including treatment ponds and seasonal storage ponds, have not caused degradation of groundwater quality.

2. Irrigation of the proposed Use Areas (RMCC's North and South Golf Courses, Van Vleck Ranch, and residential front and backyards, common areas, parks, greenbelts, playgrounds, athletic fields, and highway and street landscaping) in Rancho Murieta would use much less than 10 percent of the available assimilative capacity of the affected groundwater sub-basin for salinity.

Because recycled water would be treated to a disinfected tertiary level in compliance with Title 22 requirements for unrestricted reuse; application of recycled water would be at or below agronomic rates; appropriate irrigation schedules would be used; required setbacks would provide attenuation of recycled water constituents; oversight of design and construction of recycled water systems would be required; and User training and routine monitoring and maintenance would be implemented, nutrient and salt loading in excess of the assimilative capacity of the underlying groundwater; introduction of pathogens and CEC's to groundwater and drinking water reservoirs at levels that could have toxicological effects; and discharge of recycled water into the Cosumnes River or drinking water reservoirs from excessive runoff, ponding, or accidental spills due to pipeline damage would not likely occur. Therefore, the potential for surface water quality degradation, or degradation of groundwater would be minimized and this impact would be less than significant.

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

Less-than-Significant Impact. During construction, dewatering of the construction work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. Dewatering would involve pumping groundwater out of the trench. However, temporary dewatering would not result in a substantial lowering of the local groundwater table.

Following construction, the proposed project would supply additional recycled water for landscape irrigation, which would eliminate the need for these demands being provided for by groundwater sources in the future. By doing so, the proposed project would have an overall beneficial effect on groundwater supplies.

For these reasons, the impact of the proposed project on groundwater levels would be less-than-significant impact.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?

Less-than-Significant Impact. Installation of the pipeline beneath road crossings for recycled water landscape irrigation would utilize trenchless methods (either HDD, pipebursting, or jack and bore).The remainder of the pipelines would be installed within roadways and existing easements during the dry season and disturbed areas

would be repaired generally to pre-construction conditions. Construction of these pipelines would not result in a substantial change to drainage patterns.

The aboveground pipelines proposed to serve the proposed Van Vleck Ranch irrigation area would not be placed in any ditches or stream courses, and although these aboveground pipelines could, to a limited extent, impede sheet flow across the fields once installed, these pipelines would be moved periodically and would not be expected to substantially alter localized drainage patterns. Because construction and operation of the proposed project would not alter the existing drainage pattern of any site or area, or alter the course of a stream or river in a manner that would result in substantial erosion or siltation on site or off site, this impact would be less than significant.

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

Less-than-Significant Impact. Installation of the pipelines for recycled water landscape irrigation beneath road crossings would use trenchless methods, which would not alter the course of any waterway. During construction, dewatering of the work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. Construction near roadways, including discharge of groundwater from trench dewatering, would not result in flooding on or off site as discharge from trench dewatering would be limited and quantities would be small. The remainder of the pipelines would be installed within roadways and existing easements during the dry season and disturbed areas would be repaired generally to pre-construction conditions. Therefore, construction of these pipelines would not result in changes in the rate or amount of surface runoff.

The installation of aboveground pipelines may, to an extent, alter localized drainage patterns in the fields to be irrigated because the pipelines themselves would, to a limited extent, impede sheet flow across the fields. However, these pipelines would be moved periodically, and the pipelines would not be placed in any ditches or stream courses. Therefore, irrigation facilities would not be expected to substantially alter existing drainage patterns.

Normal operation of the recycled water program following completion of construction would not increase runoff resulting in flooding because implementation would not result in new impervious surfaces or other drainage pattern alterations that would substantially increase the rate or amount of surface runoff. Therefore, project implementation would not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems.

Because the proposed project would not substantially alter existing drainage patterns or increase runoff in a manner that would result in on- or off-site flooding, this impact would be less than significant.

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

Less than Significant with Mitigation Incorporated. During construction, dewatering of the construction work area could be required if groundwater accumulates in an open trench or a jack and bore pit area. Discharge of groundwater from trench dewatering would not be expected to exceed the capacity of existing storm water drainage systems, especially if work occurs during seasonally dry months. However, construction dewatering

could result in a source of sediment-laden water to surface runoff if not properly controlled. Following construction, normal operations would not contribute increased runoff water as described in d) above.

The proposed project would also irrigate pastures at the Van Vleck Ranch but would not result in increased runoff to an existing or planned storm water collection system. Irrigation would only occur at agronomic rates in the dry summer months, and within the dates and conditions allowed under the District's WDRs. Consequently, runoff would not be expected to occur beyond the recycled water use areas or project site. While a substantial accidental release of recycled water due to pipeline leakage or breaks could result in offsite runoff of recycled water to the Cosumnes River, proposed safeguards incorporated into the project design, including design and construction oversight by the District, User training, routine maintenance and monitoring, and capping of culvert pipes during recycled water irrigation, would substantially reduce the risk of such an occurrence.

For these reasons, the proposed project is not anticipated to substantially increase the rate or amount of surface runoff in a manner that would exceed the capacity of existing or planned storm water drainage systems. However, because construction dewatering during construction could result in polluted runoff, this impact is considered potentially significant.

> Mitigation Measure: Implement Mitigation Measure HYD-2, "Evaluate and Implement Construction Site Dewatering Controls."

Implementation of Mitigation Measure HYD-2 would reduce the impact associated with polluted runoff from construction dewatering to a less-than-significant level by requiring dewatering management to prevent discharge to a surface water or storm drain.

f) Otherwise substantially degrade water quality?

Less than Significant with Mitigation Incorporated. See discussion in a) above.

> Mitigation Measures: Implement Mitigation Measures HYD-1, "Prepare and Implement a Storm Water Pollution Prevention Plan and Associated Best Management Practices", HYD-2, "Evaluate and Implement Construction Site Dewatering Controls", and HYD-3, "Prepare and Implement a Frac-Out and Undercrossing Contingency Plan."

Implementation of Mitigation Measures HYD-1 through HYD-3 would reduce the impact associated with water quality degradation to a less-than-significant level by preventing discharges of pollutants to a surface water, storm drain, or groundwater during construction and operation of the proposed project.

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

No Impact. The proposed project would include the construction of facilities to serve recycled water to residences and other users. However, the project would not include construction of any new or replacement housing. Therefore, there would be no impact.

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

Less-than-Significant Impact. The proposed project would include construction of recycled water storage tanks and pump stations, installation of above- and belowground pipelines, improvements to existing facilities at the WWRP as well as creation of new seasonal storage ponds. The only facilities that would be located within a 100-year flood hazard area, would be the aboveground pipelines needed to serve the proposed Van Vleck Ranch spray irrigation area. Because these pipelines would not impede or redirect flood flows and no other structures are proposed within a100-year flood hazard area, this impact would be less than significant.

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

No Impact. The proposed project is not located in a dam inundation zone or near a levee. The proposed project would not expose people or structures to a risk of loss, injury or death from flooding. Therefore, no impact would occur with project implementation.

j) Result in inundation by seiche, tsunami, or mudflow?

No Impact. The proposed project site is relatively flat with rolling hills. Proposed storage tanks and booster pump stations may be located in areas with moderate to steep slopes that may or may not be subject to landslides but the likelihood of mudflows resulting from a slide in these locations is considered low. See discussion a) iv) in Section 3.6, “Geology and Soils” for further information. The proposed project is located in the Central Valley, far from the Pacific Ocean, and would not be subject to tsunamis. A seiche is an oscillation of the surface of a lake caused by ground movement, which varies in period from a few minutes to several hours. A seiche is a consideration for larger water bodies, such as the three reservoirs at the project site. However, no proposed facilities would be located adjacent to these reservoirs. For these reasons, implementation of the proposed project would not result in inundation by a seiche or tsunami.

Because the project area is not subject to tsunamis; no facilities would be located in areas that may be subject to seiches, and the likelihood of mudflows is low, there would be no impact.

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3.10 LAND USE AND PLANNING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

3.10.1 ENVIRONMENTAL SETTING

The proposed project is located in Rancho Murieta, a 3,500-acre planned community located off Jackson Road (SR 16) along the eastern border of Sacramento County approximately 25 miles east of the City of Sacramento (see Exhibit 2-1 in Chapter 2, "Project Description"). The Cosumnes River runs east to west through the south-central portion of the community.

Rancho Murieta is surrounded by a discontiguous segment of the Urban Services Boundary and the Urban Policy area of Sacramento County. The Rancho Murieta Master Plan and Rancho Murieta Planned Development (PD) Ordinance regulate land uses in Rancho Murieta. However, the *Sacramento County General Plan of 2005–2030* (General Plan) also guides development within Rancho Murieta, though to a more general level.

The Rancho Murieta Master Plan and PD Ordinance were initially approved in 1969, but have been amended several times. The PD Ordinance is automatically amended as new developments in the community are approved, to reflect the proposed uses. Therefore, the PD Ordinance is a compilation of all the zoning actions and associated conditions of approval for all projects that have occurred within the boundaries of the Rancho Murieta community.

EXISTING AND ADJACENT LAND USES

Of the 3,500 acres within the District service area, approximately 2,000 acres are developed, mostly with residential housing, including the developments of Rancho Murieta North, located east of Stonehouse Road and north of the Cosumnes River; Rancho Murieta South, located south of the Cosumnes River and northeast of SR 16; and Murieta Village Association, a mobile home community in the southwestern corner of the community (see Exhibit 2-2 in Chapter 2, "Project Description"). Although the Rancho Murieta Master Plan caps development at 5,000 units, future residential build out is currently estimated at 4,400 dwellings units.

Also located within the District are the Rancho Murieta Country Club, including two golf courses; a retail complex; the Rancho Murieta Airport and Business Park; a fire station; equestrian center; the WWRP; a water

treatment plant and three water supply reservoirs, Calero, Chesbro, and Clementia; and various park facilities and open space. Rancho Murieta Airport is a privately owned airport located in the southwestern corner of the community. The airport covers an area of 76 acres and contains two parallel asphalt runways that run in a northeast-southwest direction. The Rancho Murieta Airport houses 44 aircraft and averages 73 flights per day in 2013 (AirNav 2014a).

The Sacramento Area Council of Governments (SACOG) has been designated as the Airport Land Use Commission (ALUC) for Sacramento, Sutter, Yolo, and Yuba counties. Airport Land Use Policy Plans, prepared by the ALUC, establish planning boundaries and land use compatibility standards for airports that do not have an individually-prepared Comprehensive Land Use Plan (CLUP). Currently, the Rancho Murieta Airport is the only airport in the region for which the Airport Land Use Policy Plan serves as the CLUP. Among other goals, the Airport Land Use Policy Plan is intended to ensure that no structures adversely affect navigable airspace around the airport, and to protect the safety of persons on the ground by minimizing the number of people exposed to hazards related to aircraft operations and accidents. (see Section 3.8, "Hazards and Hazardous Materials," and Section 3.12, "Noise," for further discussion of potential conflicts with the safety and noise compatibility.)

Recycled water may be pumped to existing spray fields on Van Vleck Ranch to irrigate pasturelands just south of the District boundary and the WWRP. The current total spray field irrigation area is 97 acres and is characterized by irrigated pasture used for cattle grazing. Van Vleck Airport is a privately owned airport located adjacent to and immediately north of the proposed sprayfield. The airport contains one paved runway that runs in a northeast-southwest direction and houses one aircraft that serves the Van Vleck Ranch (AirNav 2014b).

The 4,062-acre Deer Creek Hills Preserve is located north and east of Rancho Murieta. The Deer Creek Hills Preserve is administered by the Sacramento Valley Conservancy, Sacramento County, and California State Parks. Land uses at the preserve include open space, habitat preservation, cattle grazing, and public recreation. The areas south and west of Rancho Murieta consist of scattered residences, vacant land, active and fallow agricultural fields, and cattle grazing.

SACRAMENTO COUNTY GENERAL PLAN POLICIES RELATED TO RECYCLED WATER USE

The General Plan was adopted by the County Board of Supervisors on November 9, 2011. It provides an inventory of land supply within the county, and projects the amount and location of land and density, and intensity of development that will be required to accommodate future populations and economic growth through 2030. The following policy from the Conservation Element of the General Plan (2011) regarding recycled water use applies to the proposed project:

- **Policy CO-14:** Support the use of recycled wastewater to meet non-potable water demands where financially feasible.

LAND USE DESIGNATIONS AND ZONING

While the Rancho Murieta Master Plan is a map showing designations for each area; there is no accompanying text to define the designations or to indicate what types of uses would be considered compatible with each designation. Thus, the definitions and provisions within the County's General Plan have been deferred to for the land use designations.

Lands surrounding Lakes 16/17 and Bass Lake and lands within the proposed Terrace, Highlands, and River Canyon developments where new storage tanks may be installed are designated by the Sacramento County General Plan as Low Density Residential; the WWRP is designated as Public Quasi-Public; Lookout Hill is designated as Recreation; and the Van Vleck Ranch is designated as General Agriculture (80 acres). The Sacramento County General Plan describes these land use designations as follows: (Sacramento County 2011):

- **General Agriculture.** This designation identifies areas that are generally used for agricultural purposes. The minimum allowable lot size is 80 acres and typical farming activities include dry land grain and irrigated and dry land pasture. This designation allows for one single-family dwelling unit per 80 acres.

- **Low Density Residential.** This designation provides for areas of predominantly single-family housing with some attached housing units. It allows urban densities between one and 12 dwelling units per acre. Typical low density development includes detached single family homes, duplexes, triplexes, fourplexes, townhouses, lower density condominiums, cluster housing, and mobile home parks.

- **Public and Quasi-Public.** This designation establishes areas for uses such as education, solid and liquid waste disposal, and cemeteries and identifies public and quasi-public areas that are of significant size, under County jurisdiction, regional in scope, specified by State law, or have significant land use impacts.

- **Recreation.** This designation is for active public recreational use areas, including community parks, county parks, and activity areas within the American River Parkway.

All of the project components (e.g., treatment plant upgrades, storage tanks and pump stations, and pipelines) would be located within areas of Rancho Murieta zoned by Sacramento County as A-2 (Agricultural-Residential, 2-acre parcel). The A-2 zoning code is an interim agricultural holding zone. The purpose of the A-2 zone is to provide for agricultural uses for the present while reserving areas for possible future urban, recreational, or industrial uses. It is anticipated that land zoned as A-2 will ultimately be rezoned in the future to accommodate planned land uses through amendments to the Rancho Murieta PD Ordinance. Construction of public utilities is a permitted use with the A-2 zoning designation.

The land surrounding the District's boundaries, including the Van Vleck Ranch and proposed spray field, are zoned by County as AG-80 (Agricultural, 80-acre minimum). The AG-80 zoning code is used to promote long-term agricultural use, to discourage the premature and unnecessary conversion of agricultural land to urban uses, and to encourage the retention of sufficiently large agricultural lots to assure maintenance of viable agricultural units.

3.10.2 DISCUSSION

a) Physically divide an established community?

No Impact. Implementation of the proposed project would consist of improvements to the WWRP disinfection system; construction of new pump stations; installation of additional seasonal storage within the existing footprint of the WWRP; construction of new recycled water storage tanks and booster pump stations; refurbishment of an existing above-ground storage tank within asphalt concrete located near the top of Lookout Hill; installation of new underground pipelines along existing roadways; and installation of aboveground pipelines to serve the proposed Van Vleck Ranch sprayfield. The 500,000-gallon or two 250,000-gallon storage tanks that would

potentially be installed at an as yet to be determined location within the proposed Terrace, Highlands, or River Canyon developments would not be placed where they would divide the community. Therefore, implementing the proposed project would not physically divide an established community. No impact would occur.

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

No Impact. The County General Plan provides comprehensive guidance for growth and development in the unincorporated areas of the county, including Rancho Murieta, and the Rancho Murieta Master Plan and PD Ordinance are consistent with the County General Plan. The proposed project would be consistent with goals, objectives, and policies contained in the County General Plan, including those that address recycled water use. The Conservation Element Policy CO-14 supports the use of recycled wastewater to meet non-potable water demands where financially feasible. On July 20, 2011, the District adopted Policy 2011-07, which mandates the use of recycled water in new developments for non-domestic purposes, wherever economically and physically feasible as determined by the District's Board. In general, the lands subject to this policy are defined as undeveloped residential parcels located within the District's service area as well as existing parks, median landscaping, and commercial landscaping areas. Accordingly, the primary purpose of the proposed project is to expand the District's approved recycled water use areas to include residential landscaping for the proposed new developments of Murieta Gardens, Residences at Murieta Hills, Retreats, Lakeview, Riverview, Terrace, Highlands, River Canyon, Apartments, and Escuela and the proposed Industrial/Commercial/ Residential development northeast of the WWRP; and irrigation of Stonehouse Park. In addition, the proposed project would provide recycled water for irrigation of pastureland on Van Vleck Ranch.

As discussed above, lands surrounding Lakes 16/17 and Bass Lake and lands within the proposed Terrace, Highlands, and River Canyon developments where new storage tanks may be installed are designated by the Sacramento County General Plan as Low Density Residential; the WWRP is designated as Public Quasi-Public; and Lookout Hill is designated as Recreation. All project components would be located on land zoned as A-2 and construction of public utilities is a permitted use with the A-2 zoning designation.

The proposed project would not involve changes in the existing environment that could result in inconsistencies with the Low Density Residential, Public and Quasi-Public, or Recreation land use designations or A-2 zoning code. The new pump station at Lakes 16/17 and Bass Lake would be constructed adjacent to the District's existing facilities conveyance pipeline. Improvements to the WWRP disinfection system, construction of one new pump station, and installation of additional seasonal storage would occur within the existing footprint of the WWRP. The new recycled water storage tank and booster pump station on Lookout Hill would be located within asphalt concrete adjacent to the District's existing above-ground tank. New underground pipelines would be installed along existing roadways within the District's existing easements.

The Van Vleck Ranch is designated by the Sacramento County General Plan as General Agriculture (80 acres) and zoned AG-80. Implementation of the proposed project would support the County's land use designation and zoning of Van Vleck Ranch and promote long-term agricultural use of the property by providing recycled water for irrigation of pastureland.

Use of recycled water for landscape irrigation would not alter existing or proposed land uses in Rancho Murieta. The proposed project would serve development that the County would approve in accordance with the goals and policies of the County General Plan, consistent with land use designations shown on the County's land use diagram. Any consistency issues between the proposed project and Sacramento County land use designations and zoning codes would be issues related to land use regulations and not to a physical environmental consequence of project implementation. Therefore, any such consistency issues would not be considered a significant impact under CEQA, in and of itself. Specific impacts associated with other resource and issue areas are addressed in each technical section of this IS/MND as appropriate. These technical sections provide a detailed analysis of other relevant environmental effects resulting from proposed project implementation. No impact related to conflicts with applicable land use plans, policies, or regulations would occur.

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

No Impact. The South Sacramento County Habitat Conservation Plan (SSCHCP) is intended to provide a regional approach to issues related to urban development habitat conservation, agricultural production and open space planning. The SSCHCP is currently being prepared but it has not yet been approved (see Section 3.4, "Biological Resources," for further discussion). Therefore, no adopted or approved habitat conservation or natural community conservation plans are in effect that would apply to the proposed project. No impact would occur.

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3.11 MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☒	☐

3.11.1 ENVIRONMENTAL SETTING

Under the Surface Mining and Reclamation Act (SMARA), the State Mining and Geology Board may designate certain mineral deposits as being regionally significant to satisfy future needs. The Board's decision to designate an area is based on a classification report prepared by the California Geological Survey (CGS) (formerly the California Division of Mines and Geology) and on input from agencies and the public. The project site lies within the designated Sacramento-Fairfield Production-Consumption Region for Portland cement concrete aggregate, which includes all designated lands within the marketing area of the active aggregate operations supplying the Sacramento-Fairfield urban center.

In compliance with SMARA, CGS has established the classification system shown in Table 3.11-1 to denote both the location and significance of key extractive resources.

Portions of the Phase 1 and 2 developments where the proposed recycled water use would occur and where new recycled water facilities would be installed have been classified by Loyd (1984:Plate 7) as MRZ-3a for clay, sand, lignite, gold, copper, and zinc.

The MRZ-3a designation for clay, sand, and lignite has been assigned based on the presence of the Ione Formation. Some areas of the Ione Formation have been known to contain kaolin clay, which is formed from weathering of aluminous minerals such as feldspar, with kaolinite as its principal constituent. Kaolin is used as an anti-caking agent in processed foods and an additive to cosmetics, toiletries, and health products. It is also used as an inert carrier in some pesticides, and enhances the performance of some microbial products. In addition, pisolitic clay and clay for use in ceramic raw material have also been mined from the Ione Formation. One of the most important clay resource areas in California is located southeast of Rancho Murieta. Portions of the Ione Formation have also been known to produce commercial grade specialty sand and lignite. Specialty sand is utilized for purposes other than as an ingredient for aggregate, ballast, or fill. Lignite is a carbonaceous material that is intermediate in grade between peat and subbituminous coal. The Ione Formation represents the only source of montan wax (an extraction product of lignite) in the U.S. (Loyd 1984:19-22.)

Table 3.11-1
California Geological Survey Mineral Land Classification System

Classification	Standard Mineral Land Classification Descriptions	Description of MRZ Categories for Metallic and Industrial Minerals in Nonurban Areas
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence	Areas where available geologic information indicates there is little likelihood for the presence of mineral resources.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists	MRZ-2a: Areas underlain by demonstrated mineral reserves where geologic data indicate that significant measured or indicated resources are present. MRZ-2a areas contain discovered mineral deposits that represent either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information.
		MRZ-2b: Areas underlain by inferred mineral resources where geologic information indicates that significant inferred resources are present. MRZ-2b areas contain discovered deposits that represent either inferred reserves or deposits that are presently regarded as subeconomic.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated from existing data	MRZ-3a: Areas underlain by geologic settings within which undiscovered mineral resources similar to known deposits in the same producing district or region may be reasonably expected to exist (hypothetical resources). Land areas classified MRZ-3a possess geologic characteristics that are favorable for the occurrence of specific mineral deposits.
		MRZ-3b: Areas that contain undiscovered mineral resources that occur either in known types of deposits in favorable geologic settings where mineral discoveries have not been made, or in types of deposits as yet unrecognized for their economic potential (speculative resources). Land areas classified as MRZ-3b are underlain by geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits.
MRZ-4	Areas where available data are inadequate for placement in any other mineral resource zone	Areas where geologic information does not rule out either the presence of absence of mineral resources.

Note: MRZ = Mineral Resource Zone

Source: Loyd 1984:12-17

The MRZ-3a designation for gold, copper, and zinc has been assigned based on the presence of the Gopher Ridge Volcanics and Copper Hill Volocanics. These deposits contain iron sulfides (mainly pyrite) mixed with chalcopyrite, sphalerite, galena, and precious metals. In locations where these minerals have been mined, ore grades have commonly yielded an average of 2-5 percent copper, 2-15 percent zinc, 1-2 percent lead, 2-5 ounces per ton (oz/ton) silver, and 0.01-0.05 oz/ton gold. (Loyd 1984:24-25.)

The Sacramento County General Plan (Sacramento County 2011:Conservation Element Figure 1) indicates that portions of the District are located in areas containing potential kaolin clay deposits.

3.11.2 DISCUSSION

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Less-than-Significant Impact. The use of recycled water, either for landscape or pasture irrigation, would have no impact related to the loss of availability of mineral resources. However, construction of the conveyance pipeline along Stonehouse Road would occur in the Ione Formation (Wagner et al. 1987), which has been classified as MRZ-3a for clay, sand, and lignite. Construction of (1) the new pump station and conveyance pipeline extension of the North Golf Course conveyance pipeline; (2) the new conveyance pipeline along Alameda Drive, and (3) and the new conveyance pipeline along SR 16, would all occur in the Gopher Ridge Volcanics (Wagner et al. 1987), which has been classified as MRZ-3a for gold, copper, and zinc. The proposed water storage tank that may be needed to serve the Terrace, Highlands, and River Canyon developments also has the potential to be sited in the Gopher Ridge Volcanics. The MRZ-3a classification means that although specific mineral deposits have not been identified, mineral resources similar to known deposits in the region may be reasonably expected to exist. However, installation of the proposed pipelines would occur within 30 feet of the centerline of existing roadways; the new pump station would take up an area approximately 40 feet by 40 feet; and the new storage tanks serving the Terrace, Highlands, and River Canyon developments could take up an area approximately 100 feet by 60 feet. Therefore, the new facilities would not interfere with access to any mineral resources, and this impact would be less than significant.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Less-than-Significant Impact. As stated previously, the Sacramento County General Plan (Sacramento County 2011:Conservation Element Figure 1) indicates that portions of the District are located in areas containing potential kaolin clay deposits (i.e., the Ione Formation). As discussed in a) above, construction of the conveyance pipeline along Stonehouse Road would occur in the Ione Formation (Wagner et al. 1987). However, installation of the proposed pipeline would occur within 30 feet of the centerline of the existing roadway. Therefore, the new facilities would not interfere with access to any mineral resources, and this impact would be less than significant.

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3.12 NOISE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

3.12.1 ENVIRONMENTAL SETTING

BASICS OF ENVIRONMENTAL ACOUSTICS AND VIBRATION

Sound, Noise, and Acoustics

Sound is the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is defined as sound that is unwanted (i.e., loud, unexpected, or annoying). Acoustics is the physics of sound.

The amplitude of pressure waves generated by a sound source determines the perceived loudness of that source. A logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The threshold of human hearing (near-total silence) is approximately 0 dB. A doubling of sound energy corresponds to an increase of 3 dB. In other words, when two sources at a given location are each producing sound of the same loudness, the resulting sound level at a given distance from that location is approximately 3 dB higher than the sound level produced by only one of the sources. For example, if one automobile produces a sound pressure level of 70 dB when it passes an observer, two cars passing simultaneously do not produce 140 dB; rather, they combine to produce 73 dB.

The perception of loudness can be approximated by filtering frequencies using the standardized A-weighting network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. All noise levels reported in this section are in terms of A-weighting.

As discussed above, doubling sound energy results in a 3-dB increase in sound. In typical noisy environments, noise-level changes of 1–2 dB are generally not perceptible by the healthy human ear; however, people can begin to detect 3-dB increases in noise levels. An increase of 5 dB is generally perceived as distinctly noticeable and a 10-dB increase is generally perceived as a doubling of loudness.

The following are the sound level descriptors most commonly used in environmental noise analysis:

- **Equivalent sound level (L_{eq})**: An average of the sound energy occurring over a specified time period. In effect, the L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour, A-weighted equivalent sound level ($L_{eq[h]}$) is the energy average of A-weighted sound levels occurring during a 1-hour period.

- **Maximum sound level (L_{max})**: The highest instantaneous sound level measured during a specified period.

- **Day-night average level (L_{dn})**: The energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to A-weighted sound levels occurring during nighttime hours (10 p.m.–7 a.m.).

Sound from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, and the sound level attenuates (decreases) at a rate of 6 dB (hard ground)[1] to 7.5 dB (soft ground)[2] for each doubling of distance from a point/stationary source. Roadways and highways and, to some extent, moving trains consist of several localized noise sources on a defined path; these are treated as "line" sources, which approximate the effect of several point sources. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. Therefore, noise from a line source attenuates less with distance than noise from a point source with increased distance.

Groundborne Vibration

Groundborne vibration is energy transmitted in waves through the ground, and attenuates at a rate of approximately 6 to 9 VdB for each doubling of distance from the source (FTA 2006: 12-11). A reduction rate of 6 VdB per doubling of distance was used in this study. This approach considers only the attenuation from geometric spreading and tends to provide for a conservative assessment of vibration level at the receiver.

Vibration is an oscillatory motion that can be described in terms of the displacement, velocity, or acceleration. Vibration is typically described by its peak and root-mean-square (RMS) amplitudes. The RMS value can be considered an average value over a given time interval. The peak vibration velocity is the same as the "peak particle velocity" (PPV), generally presented in units of inches per second. PPV is the maximum instantaneous positive or negative peak of the vibration signal and is generally used to assess the potential for damage to buildings and structures. The RMS amplitude is typically used to assess human annoyance to vibration.

[1] Any highly reflective surface in which the phase of the sound energy is essentially preserved upon reflection; examples include water, asphalt and concrete. (FHWA, 2011)

[2] Any highly absorptive surface in which the phase of the sound energy is changed upon reflection. (FHWA, 2011)

EXISTING NOISE CONDITIONS

As described in Chapter 2, "Project Description," the project is located in Rancho Murrieta, an unincorporated community in Sacramento County, California. The project is generally located off Jackson Road (SR 16) along the eastern border of Sacramento County approximately 25 miles east of the City of Sacramento. The District is an independent special district formed in 1982 to provide essential services to the community. The District's service area is nearly contiguous with the boundaries of the Rancho Murieta community (see Exhibit 1-1). Of the 3,500 acres within the District service area, approximately 2,000 acres are developed, mostly with residential housing, but also including the RMCC golf courses, a retail complex, the Rancho Murieta Airport and Business Park, a fire station, equestrian center, the WWRP; three water supply reservoirs, Calero, Chesbro, and Clementia; and various park facilities and open space. Rancho Murieta Airport and Van Vleck Airport are located within two miles of the project boundaries (Exhibit 3.12-1).

Noise-sensitive land uses closest to project improvement areas include single family residences, golf courses, open space and natural areas, and natural water areas (Exhibit 2-4). Ambient short term (15 minutes) noise levels were measured at seven noise sensitive locations within the proposed project area, on Wednesday, March 19, 2014, as shown in Table 3.12-1 and (Exhibit 3.12-1). Noise measurements were conducted in locations near the existing noise sources (Murieta Parkway, Stonehouse Road, and Jackson Road), that would also be directly exposed to the planned activities and improvements under the proposed project. As shown, measured short term noise levels ranged from 47 dBA L_{eq} to 55 dBA L_{eq} throughout the community. Given the rural/agricultural nature of the land surrounding the project area, ambient noise levels are expected to be quite low—at or below 55 dBA L_{eq}, 50 dBA L_{eq}, and 45 dBA L_{eq} during the daytime, evening, and nighttime hours, respectively.

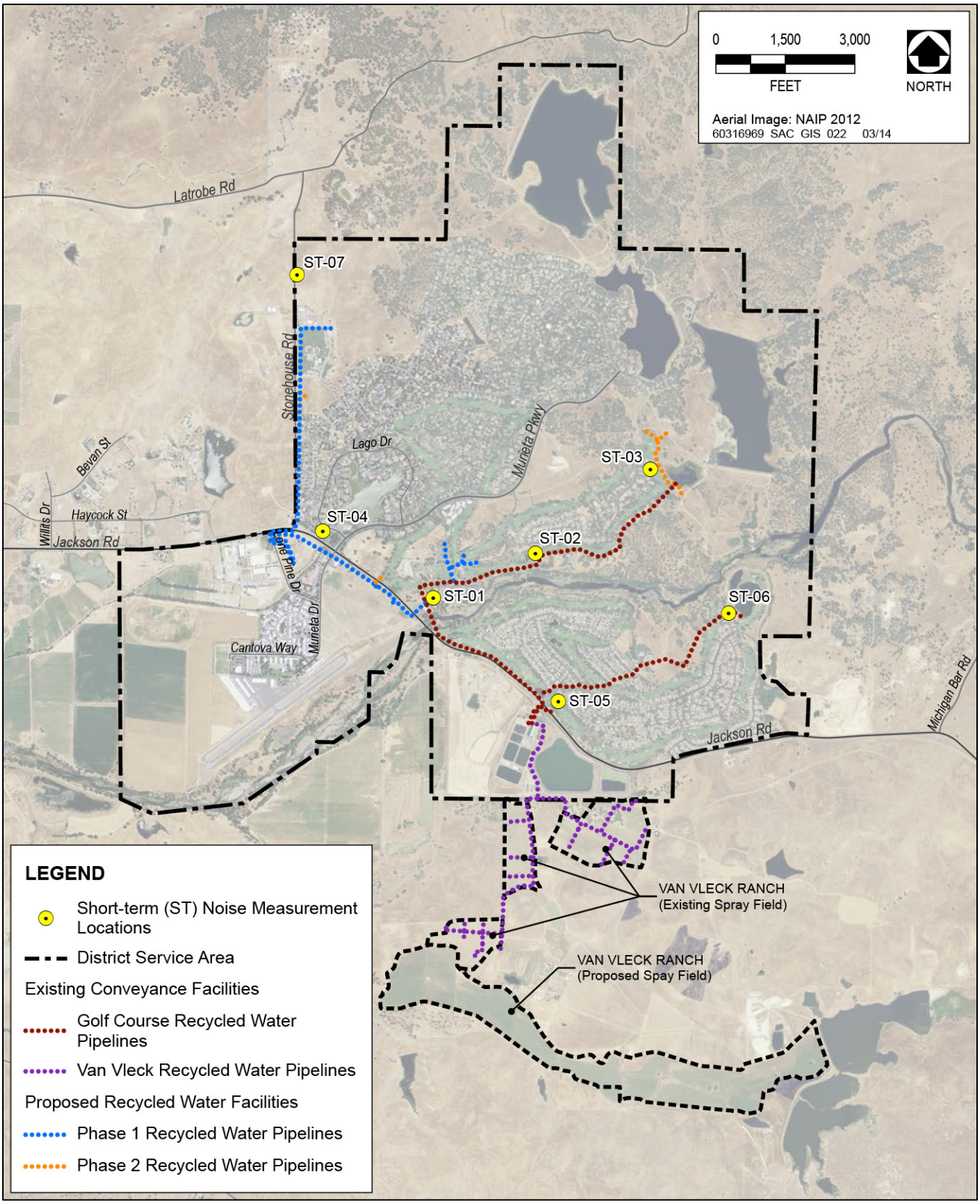
Table 3.12-1
Measured Short Term Noise Levels

Location	Date	Time	Duration	L_{eq}, dBA	L_{50}, dBA	L_{max}, dBA
ST-01	19-Mar-14	13:56:08	15 Minutes	48.9	47	65.2
ST-02	19-Mar-14	14:19:51	15 Minutes	46.6	41.5	63.1
ST-03	19-Mar-14	14:48:13	15 Minutes	47.0	40.5	66.2
ST-04	19-Mar-14	15:17:37	15 Minutes	54.5	48.9	81.6
ST-05	19-Mar-14	15:49:30	15 Minutes	52.2	50.2	64.6
ST-06	19-Mar-14	16:17:56	15 Minutes	40.7	37.2	55.7
ST-07	19-Mar-14	16:45:45	15 Minutes	54.3	47.3	67.5

Notes: dBA = A-weighted decibels; Leq = Equivalent Noise Level; L_{max} = Maximum Noise Level; L_{50} = The median noise level, or level exceeded 50% of the time.

Source: Data compiled by AECOM, 2014

The measured short-term noise levels represent average hourly daytime noise levels at noise sensitive locations close to project improvement areas, and are consistent with the expected typical daytime noise levels of 55 dBA L_{eq} or lower in areas with this type of land use pattern.



Source: AECOM 2014

Exhibit 3.12-1 **Noise Measurement Locations**

APPLICABLE PLANS, POLICIES AND ORDINANCES ADDRESSING NOISE AND VIBRATION

California Department of Transportation

The California Department of Transportation has developed guidelines for assessing the significance of vibration produced by transportation and construction sources (Table 3.12-2). These thresholds address the subjective reactions of people to both short-term vibration (e.g., from temporary construction activities) and long-term/permanent vibration (e.g., from transit operations).

Table 3.12-2
California Department of Transportation Guidelines on Potential Criteria for Vibration Annoyance

Human Response	Impact Levels, VdB re: 1 µin/sec (PPV, in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	80 (0.040)	68 (0.010)
Distinctly perceptible	96 (0.250)	80 (0.040)
Strongly perceptible	107 (0.900)	88 (0.100)
Severe	114 (2.000)	100 (0.400)

Notes: µin/sec = microinches per second; in/sec = inches per second; PPV = peak particle velocity; VdB = vibration decibels

Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2004

Airport Land Use Compatibility Plans

The Sacramento Area Council of Governments develops and maintains comprehensive land use plans (CLUPs), also known as airport land use compatibility plans or simply land use compatibility plans, for the county. These plans are intended to protect public health and safety and ensure compatible land use in areas around public-use airports. Airport land use commissions work with cities and counties to ensure consistency between local land-use plans and CLUPs for areas surrounding public-use airports.

Airport Land Use Policy Plans establish planning boundaries and land use compatibility standards for airports not having an individually-prepared CLUP. Currently, the Rancho Murieta Airport is the only airport in the region for which the Policy Plan serves as a CLUP.

The latest Airport Land Use Policy Plan was adopted in December 1988, and amended in December 1992. Until such time as a specific Comprehensive Land Use Plan (CLUP) is prepared for an airport subject to ALUC law, this plan will serve as the basis for determining the compatibility of General Plans, Specific Plans, Zoning Ordinances, Building Standards, project proposals, and any other activity needing a compatibility determination (County, 1992). Chapter II (FINDINGS, POLICIES AND IMPLEMENTATION), Section C (AIRPORT NOISE RESTRICTION AREA) of the Airport Land Use Policy Plan establishes various land use compatibility criteria for new projects affected by aircraft noise, including a “Compatible” limit of 60 to 65 dB CNEL for single family residences, and compatible limit of 80 dB for golf courses, open space and natural areas, and natural water areas, which would be applicable to the project.

Sacramento County General Plan

The goals presented in the Sacramento County General Plan Noise Element are to: 1) protect the citizens of Sacramento County from exposure to excessive noise, and 2) protect the economic base of Sacramento County by preventing incompatible land uses from encroaching upon existing planned noise-producing uses. The General Plan defines a noise-sensitive outdoor area as the primary activity area associated with any given land use at which noise sensitivity exists. Noise sensitivity generally occurs in locations where there is an expectation of relative quiet, or where noise could interfere with a given activity. For example, a residential backyard would be considered a primary activity area since loud noise (from the outside) could interfere with the ability to engage in normal conversation.

The Noise Element of the Sacramento County General Plan establishes noise exposure criteria to aid in determining land use compatibility by defining the limits of noise exposure for sensitive land uses.

- NO-6. Where a project would consist of or include non-transportation noise sources, the noise generation of those sources shall be mitigated so as not to exceed the interior and exterior noise level standards of Table 3.12-4 at existing noise-sensitive areas in the project vicinity.

- NO-7. The "last use there" shall be responsible for noise mitigation. However, if a noise-generating use is proposed adjacent to lands zoned for uses which may have sensitivity to noise, then the noise generating use shall be responsible for mitigating its noise generation to a state of compliance with the Table 3.12-3 standards at the property line of the generating use in anticipation of the future neighboring development.

- NO-8. Noise associated with construction activities shall adhere to the County Code requirements. Specifically, Section 6.68.090(e) addresses construction noise within the County.

- NO-9. In the case of existing residential uses, sensitive outdoor areas shall be mitigated to 60 dB L_{dn}, when possible, through the application of feasible methods to reduce noise levels. If 60 dB L_{dn} cannot be achieved after the application of all feasible methods of reducing noise, then noise levels up to 65 dB L_{dn} will be allowed.

- NO-13. Where noise mitigation measures are required to satisfy the noise level standards of this Noise Element, emphasis shall be placed on the use of setbacks and site design to the extent feasible, prior to consideration of the use of noise barriers.

Sacramento County Municipal Code

The Sacramento County Noise Control Ordinance, Chapter 6.68.090, *Exemptions,* establishes exemptions to the Chapter 6.68.070 exterior noise exposure limits. Specifically, Section 6.68.090(e) exempts construction noise based on the following.

> Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of 8 p.m. to 6 a.m. on weekdays and Friday commencing at 8 p.m. through 7 a.m. Saturday; Saturdays commencing at 8 p.m. through 7 a.m. on Sunday and on Sunday after the hour of 8 p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to

continue work after 8 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardship for the contractor or owner.

Table 3.12-3
Summary of Non-Transportation Noise Level Standards – Sacramento County Noise Element of the General Plan

New Land Use	Noise Level – L_{50}/L_{max} (dB)		
	Outdoor Area		Interior
	Daytime	Nighttime	Day and Night
All residential	55/75	50/70	35/55
Transient lodging	55/75	---	35/55
Hospitals and nursing homes	55/75	---	35/55
Theaters and auditoriums	---	---	30/50
Churches, meeting halls, schools, libraries, etc.	55/75	---	35/60
Office buildings	60/75	---	45/65
Commercial buildings	---	---	45/65
Playgrounds, parks, etc.	65/75	---	---
Industry	60/80	---	50/70

Notes:

The standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.

Outdoor activity areas of non-residential facilities are not commonly used during nighttime hours.

Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

Where median (L_{50}) noise level data is not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.

Therefore, it is assumed that noise produced by construction activities occurring between 6 a.m. and 8 p.m. on weekdays and between 7 a.m. and 8 p.m. on weekends would be exempt from Sacramento County's noise level criteria.

Rancho Murieta Association Non-Architectural Rules

The Rancho Murieta Association Non-Architectural Rules, Chapter XII, *Construction Controls and Rules*, Section 6, *Work Hours and Days*, establishes work hours and days during which improvement activities may be conducted within residential areas.

> Improvement activity and commercial landscaping shall not commence prior to 7:00 a.m. or past 7:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday**.** Work on Sunday and on the following holidays will not be permitted: New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and the following Friday, and Christmas Day.

3.12.2 DISCUSSION

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

CONSTRUCTION EQUIPMENT

No Impact. Project construction activities could cause short-term potentially significant noise impacts to nearby noise-sensitive receptors. The Sacramento County Noise Ordinance exempts construction activities occurring during the daylight hours of 6 a.m. to 8 p.m., Monday through Friday, and from 7 a.m. to 8 p.m. on Saturday and Sunday, from established noise standards. The Rancho Murieta Non-Architectural Rules require construction activities to occur between 7 a.m. and 7 p.m. Monday through Friday, and between 8 a.m. to 5 p.m. on Saturday. Construction activities are not permitted under these rules on Sunday and certain holidays. As stated in Chapter 2, "Project Description," proposed project construction activities would be conducted in compliance with the noise exempt hours for construction identified in the Sacramento County Noise Ordinance and the Ranch Murieta Non-Architectural Rules, where applicable. Therefore, no impact associated with temporary, direct, and indirect construction noise would occur.

CONSTRUCTION TRAFFIC

Less-than-Significant Impact. Sacramento County employs the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) for the prediction of traffic noise levels. The FHWA model was used to estimate the construction traffic noise levels for the project. The FHWA model is the analytical method currently favored for traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans). The model is based upon the CALVENO noise emission factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. Based on the County traffic counts, current daily traffic volumes along Stonehouse Road and Jackson Road are 2,235 vehicles and 16,424 vehicles, respectively. Also, current daily traffic volume along Murieta Parkway is 3,000 vehicles. Project construction would not require more than a few vehicles for workers, and for deliveries of materials to and from all the project improvement sites. Although the anticipated activities would not be expected to approach 500 daily trips, to provide a conservative estimate of potential impacts, the addition of 500 daily trips was evaluated. When added to the existing traffic volumes, as shown in Table 3.12-4, project-related construction traffic for improvements under both phases could increase traffic noise levels by as much as 0.1 dB to 0.9 dB along the roads within and surrounding the project site.

As presented in the Regulatory Section above, noise-sensitive land uses (i.e., residential) are generally compatible with exterior traffic-related noise exposure not exceeding 60 dB L_{dn}. Where it is not possible to reduce exterior traffic noise exposure to 60 dB L_{dn} or less by incorporating a practical application of the best available noise-reduction technology, an exterior traffic-related noise level of up to 65 dB L_{dn} would be allowed. As shown in Table 3.12-4, noise levels along Stonehouse Road, Jackson Road, and Murieta Parkway would not increase beyond 65 dB L_{dn}, with the addition of construction-related project traffic. Therefore, this impact would be less than significant.

Table 3.12-4
Construction Traffic Noise: Existing Traffic Plus Construction Traffic

Roadway	From	To	Calculated Noise Levels at 100 feet, L_{dn} dBA		
			Existing	Existing + Construction	Increase
Stonehouse Road	SR 16	Latrobe Road	57.0	57.9	0.9
SR 16	East of Murieta Parkway	Murieta Parkway	64.6	64.7	0.1
Murieta Parkway	SR 16	End of Murieta Parkway	51.9	52.6	0.7

Notes: dBA = A-weighted decibels; Ldn = Day-Night Average Level.

Source: Data compiled by AECOM in 2014 (see Appendix A)

PUMP STATIONS AND ASSOCIATED EQUIPMENT

Less-than-Significant Impact. A new 200,000 gallon storage tank along with a 700 gallon per minute (gpm) booster pump station would be installed on 0.5 acres at Lookout Hill to store and deliver recycled water to the developments located in the northwest corner of Rancho Murieta. Also, a new pump station would be constructed at the WWRP to serve the North Golf Course, and a new 1,000 gpm pump station would be installed at Lakes 16/17 to convey recycled water to the Lakeview and Riverview developments for residential landscape irrigation, and then discharge the remaining recycled water into Lakes 10/11.

Pump station noise levels would be affected by pump vibration noise, piping vibration noise caused by pressure pulsation from the pump or other transmitted vibrations, flow in piping, pumping station acoustic characteristics, inlet stream in wet well, and pump cavitation. Pipe bends, branches, and valves cause disturbances in the flow, in which may also emit noise.

Noise control for pump station design depends on location, type, and layout of the station components. The most significant sources of noise associated with pump stations are emergency generators, ventilation equipment, and, in some cases, motor or pump operations. Of these, the emergency generator is most significant.

Noise levels from pumps would be approximately 77 dBA at 50 feet, and from generators, noise levels would be 82 dBA at 50 feet (see Table 3.12-5). Combined noise levels from a station could therefore reach 83 dBA at 50 feet. The nearest on-site sensitive receptors to new pump stations would be located approximately 400 – 1000 feet from station locations, resulting in an unshielded noise level of approximately 58 to 65 dBA L_{eq}. As stated in Table 3.12-3, if the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply. Assuming the pump stations would operate less than 30 minutes per hour, the noise level exposure from the pump stations would be less than the applicable daytime standard of 75 dB L_{max} and night time standard of 70 dB L_{max}, and this impact would be less than significant.

OPERATION AND MAINTENANCE

Less-than-Significant Impact. The operation of the WWRP and maintenance of proposed pipelines and pump stations would not significantly contribute to ambient noise levels, as the daily trips associated with this type of activity would be less than the actual construction traffic trips. Therefore, noise levels resulting from these activities would not significantly increase the current noise levels or adversely affect sensitive receptors. This impact would be less than significant.

Table 3.12-5
Typical Construction Equipment Noise Levels

Equipment Item	Typical Maximum Noise Level (dB) at 50 Feet
Earthmoving	
Backhoes	80
Bulldozers	85
Front Loaders	80
Graders	85
Paver	85
Roller	85
Scrapers	85
Tractors	84
Slurry Trencher	82
Dump Truck	84
Pickup Truck	55
Materials Handling	
Concrete Mixer Truck	85
Concrete Pump Truck	82
Crane	85
Man Lift	85
Stationary Equipment	
Compressors	80
Generator	82
Pumps	77
Impact Equipment	
Compactor	80
Jack Hammers	85
Impact Pile Drivers (Peak Level)	95
Pneumatic Tools	85
Rock Drills	85
Other Equipment	
Concrete Saws	90
Vibrating Hopper	85
Welding Machine / Torch	73

Notes: dB = decibels

Noise levels are for equipment fitted with properly maintained and operational noise control devices, per manufacturer specifications.

Sources: Bolt, Beranek and Newman Inc. 1981, FTA 2006:12-6

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact. Groundborne vibration associated with the proposed project is limited to vibration generated during construction activities. Project construction–related vibration would result from the use of heavy earth-moving equipment for area clearing, grading, and excavation. These activities would produce a vibration level of approximately 87 vibration decibels (VdB) (0.089 inch per second PPV) at a distance of 25 feet (which is the reference vibration level for operation of a large bulldozer [FTA 2006; Caltrans 2004]). The distance between proposed construction activities and the closest acoustically sensitive uses would be approximately 400 feet. Assuming a standard reduction of 6 VdB per doubling of distance, the project-related construction vibration level at the closest sensitive receptors would be approximately 63 VdB. As shown in Table 3.12-2, this level of groundborne vibration is barely perceptible to most people (Caltrans 2004). Also, maintenance, or operation of the proposed project would not use equipment that produces groundborne vibration or that would increase ambient groundborne noise levels. Therefore, this impact would be **less than significant**.

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

Less than Significant with Mitigation Incorporated. The project would not alter the local environment, such as by increasing the noise production/exposure associated with existing, permanent sources of noise from roadways in the project area. However, the project would include maintenance, or operation activities, and new pump stations as permanent sources of noise.

OPERATION AND MAINTENANCE

Maintenance or operation of the proposed project would not use equipment that would produce noise levels in excess of ambient noise levels, and this impact would be less than significant.

PUMP STATIONS AND ASSOCIATED EQUIPMENT

Noise control for pump station design depends on location, type, and layout of the station components. The most significant sources of noise associated with pump stations are emergency generators, ventilation equipment, and, in some cases, motor or pump operations. Of these, the emergency generator is most significant.

As previously described in b), combined noise levels from a station could reach 83 dBA at 50 feet. The nearest on-site sensitive receptors could be located approximately 400 to 1000 feet from the new station locations, resulting in an unshielded noise level of approximately 65 dBA L_{eq}, which is above the ambient noise level of 55 dBA L_{eq}. Therefore this impact would be potentially significant.

Mitigation Measure NOI-1: Provide Noise Shielding for Pump Stations

The District will design the proposed pump stations with shielding, as needed, to achieve noise levels below 55 dBA at 50 feet.

Implementation of Mitigation Measure NOI-1 would reduce the potentially significant impact related to noise from operation of pump stations and associated equipment to a **less-than-significant** level because noise levels would not exceed ambient noise levels at nearby sensitive receptors.

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

Less than Significant with Mitigation Incorporated. Ambient noise levels at the existing rural residential properties in the project vicinity are expected to be approximately 55 dBA, 50 dBA, and 45 dBA $L_{eq[h]}$, respectively, during the daytime (7 a.m.–7 p.m.), evening (7 p.m.–10 p.m.), and nighttime (10 p.m.–7 a.m.) hours. Measured noise levels at sensitive receptor locations closest to project improvement areas ranged from 47 dBA L_{eq} to 55 dBA L_{eq} (Table 3.12-1), which is consistent with daytime noise levels expected in the project area.

Construction would involve activities such as site preparation, grading, excavation, and site restoration. The activities would vary with project components (e.g., WWRP upgrades, storage tanks and pump stations, and pipelines). Staging areas would be located at the WWRP and immediately adjacent to construction disturbance areas within the District's right-of-way. Typical construction equipment necessary to implement improvements to the WWRP facilities and to construct new facilities and transmission pipelines needed to store and convey recycled water to the new use areas would include backhoes, graders, trenchers, cranes, haul trucks, water trucks, compactors, excavators, side-booms, and pipe bending machines. Calculated noise levels from this equipment would be about 87 dBA L_{eq}, at 50 feet from the construction sites. With an attenuation rate of 7.5 dB per doubling of distance from the source, construction activities located within approximately 900 feet of daytime noise-sensitive receptors could result in noise levels in excess of the ambient level of 55 dBA L_{eq}.

Noise levels in excess of 65 dBA $L_{eq[h]}$ (+10 dB above the measured ambient level of 55 dB) would be considered a significant impact. This significance threshold, based on the *Interim Construction Noise Guideline* prepared by Australia's Department of Environment & Climate Change NSW (2009), is considered appropriate for temporary noise exposure like that caused by short-term construction activities. With an attenuation rate of 7.5 dB per doubling of distance from the source, noise-sensitive receptors within approximately 350 feet of construction activities could experience noise levels in excess of 65 dBA L_{eq}. However, this represents a worst-case, conservative scenario for potential noise exposure because noise attenuation associated with shielding from intervening structures and topography is not considered, and all construction equipment included in the construction noise calculation would not be operating at the same time in the same location.

As shown in Table 3.12-4, project-related construction traffic could increase traffic noise levels by as much as 0.1 dB to 0.9 dB along the roads within and surrounding the project site. A significant noise level increase relative to roadway noise sources is defined as follows:

Pre-Project (Ambient) Noise Environment (L_{dn})	Significant Increase
Less than 60 dB	5+ dB
60-65 dB	3+ dB
Greater than 65 dB	1.5+ dB

The increases from project construction traffic are less than 1 dB. Therefore, traffic noise exposure at the closest noise-sensitive receptors (residences) to these roadways would not significantly increase beyond the existing noise levels as a result of the construction traffic.

Because some noise-sensitive receptors, particularly along Stonehouse Road, could be within 350 feet or less of construction activities, construction-generated noise could result in ambient noise levels in excess of the 65 dBA L_{eq} ambient noise threshold at these receptors. Therefore, this impact would be potential significant.

Mitigation Measure NOI-2: Implement Feasible Noise Abatement Measures for Construction Equipment

The District will require its contractors to implement feasible noise abatement measures for noise-producing equipment. These may include, but may not be limited to the following actions:

- Plan noisier operations during times of highest ambient noise levels.
- Keep noise levels relatively uniform; avoid excessive and impulse noises. Operate equipment so as to minimize banging, clattering, buzzing, and other annoying types of noises, especially near residential and other noise sensitive areas.
- Turn off idling equipment.
- Provide upgraded mufflers, acoustical lining or acoustical paneling for noisy equipment, including internal combustion engines.
- To the extent feasible, configure the construction site in a manner that keeps noisier equipment and activities as far as possible from noise sensitive locations and nearby buildings.
- Use construction equipment manufactured or modified to reduce noise and vibration emissions, such as electric instead of diesel-powered equipment.

Implementing Mitigation Measure NOI-2 would reduce temporary and short-term ambient noise impacts associated with construction to a less-than-significant level because noise abatement measures would reduce construction equipment noise levels.

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

No Impact. The project area is located within the area of influence for the Rancho Murieta (Sacramento County, December 1993), and project activities (Lookout Hill storage tank and booster pump station) would occur northeast of and within approximately 0.2 miles of this Airport. The project would not change the project site's current exposure to noise generated from aircraft and would not result in the addition of any noise-sensitive receptors. Project construction workers would be exposed to typical noise levels from heavy construction equipment during their daily activities, which would be substantially louder than noise from aircraft operations at Rancho Murieta Airport. As required by OSHA, construction workers would use hearing protection as needed for heavy equipment use to provide hearing protection during project construction. Therefore, the proposed project would not expose workers or people residing or working in the project area to excessive noise levels from aircraft overflights or other activities associated with the Rancho Murieta Airport and there would be no impact.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project area is located within the area of influence for the Rancho Van Vleck Airport, a private air strip that serves Van Vleck Ranch (Sacramento County, December 1993). However, the private airstrip is no longer being actively used and has been out of service since the passing of Stan Van Vleck in2000 (Crouse, pers. comm., 2014). Therefore, no impact would occur.

3.13 POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Population and Housing. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.13.1 ENVIRONMENTAL SETTING

POPULATION

The proposed project is located in Rancho Murieta along the eastern border of unincorporated Sacramento County. Rancho Murieta is a 3,500-acre planned community located off Jackson Road (State Route [SR] 16) and approximately 25 miles east of the City of Sacramento. In 2010, approximately 5,488 people resided in Rancho Murieta (U.S. Census Bureau 2014).

Sacramento County has experienced population growth in the recent past, with the most population growth occurring within the incorporated cities of Elk Grove and Rancho Cordova (Sacramento County 2013). California Department of Finance (DOF) estimates that Sacramento County's total population increased from 1,223,499 in 2000 to 1,418,788 in 2010, or a 16% increase over the 10-year period (DOF 2012). Approximately 40% (554,554 persons) resided in the unincorporated areas of the county and 60% (864,234 persons) resided in the incorporated cities (DOF 2012).

As of January 1, 2013, Sacramento County's total population increased to 1,445,806 persons with 40% (564,657 persons) residing in the unincorporated areas of the county and 60% (881,149 persons) residing in incorporated cities (DOF 2013a). The population in Sacramento County is expected to increase to 2,191,508 by 2060 (DOF 2013b). This represents an increase of 52% over the 2013 estimated population.

HOUSING

According to the DOF, the total number of housing units in Sacramento County was 555,932 in 2010, with an average household size of 2.71 persons per unit. Approximately 71% of these housing units were attached and detached single-family homes (DOF 2013a).

As of January 1, 2013, the number of households in Sacramento County was 559,806, with an average household size of 2.75 persons (DOF 2013a). The bulk of new housing construction has occurred in the City of Elk Grove followed by the cities of Folsom and Galt (Sacramento County 2013).

Of the 3,500 acres within the District service area, approximately 2,000 acres are developed, mostly with residential housing, including the developments of Rancho Murieta North, located east of Stonehouse Road and north of the Cosumnes River; Rancho Murieta South, located south of the Cosumnes River and northeast of SR 16; and Murieta Village Association, a mobile home community in the southwestern corner of the community (see Exhibit 2-2 in Chapter 2, "Project Description"). Although the Rancho Murieta Master Plan caps development at 5,000 units, future residential build out is currently estimated at 4,400 dwellings units. The U.S. Census Bureau estimates that 2,436 housing units were located in Rancho Murieta in 2010.

3.13.2 DISCUSSION

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. Implementation of the proposed project would consist of improvements to the WWRP disinfection system, construction of the new pump station, and installation of additional seasonal storage within the existing footprint of the WWRP; construction of a new recycled water storage tank and pumping station and refurbishment of an existing above-ground tank within asphalt concrete located at the top of Lookout Hill; and installation of new pipelines along existing roadways. Construction activities would require between four and 20 construction workers, and while the source of the construction labor force is unknown at this time, workers would likely come from the local labor pool and union hiring halls. The District would require four additional full-time employees to support the expanded recycled water program. It is anticipated that these four positions would be filled by workers from the local labor pool.

The primary purpose of the proposed project is to expand the District's approved recycled water use areas to include residential landscaping for the Murieta Gardens, Residences at Murieta Hills, Retreats, Lakeview, Riverview, Terrace, Highlands, River Canyon, Apartments, and Escuela developments and the proposed Industrial/Commercial/ Residential development northeast of the WWRP; and irrigation of Stonehouse Park.

As discussed in Section 3.10, "Land Use and Planning," local land use decisions are within the jurisdiction of Sacramento County, which has adopted a general plan consistent with state law. The *Sacramento County General Plan of 2005–2030* (2011) provides an overall framework for growth and development in the county, including Rancho Murieta. Because the proposed project would not involve constructing new homes or businesses, it would not directly induce population growth. Rather, the proposed project would accommodate growth already approved in the Sacramento County General Plan. In addition, the proposed project would not increase population growth in the surrounding region because it would not result in the provision of new recycled water supply infrastructure that could be used to serve new development beyond that currently projected for the District. Consequently, implementation of the proposed project would not affect current and/or planned population growth patterns or growth rates within Rancho Murieta or Sacramento County and would not affect the population goals as outlined in the County General Plan. No impact would occur.

b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

No Impact. Implementation of the proposed project would consist of improvements to the WWRP disinfection system, construction of the new pump station, and installation of additional seasonal storage within the existing footprint of the WWRP; construction of a new recycled water storage tank and pumping station and refurbishment of an existing above-ground tank within asphalt concrete located at the top of Lookout Hill; and installation of new pipelines along existing roadways. None of these project components would affect existing housing in Rancho Murieta. Therefore, implementing the proposed project would not displace existing housing or necessitate the construction of replacement housing elsewhere. No impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. For the reasons described in the response to item b) above, implementation of the proposed project would not displace a substantial number of people or necessitate the construction of replacement housing elsewhere. No impact would occur.

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3.14 PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☒	☐	☐
Police protection?	☐	☒	☐	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.14.1 ENVIRONMENTAL SETTING

FIRE AND POLICE PROTECTION

Fire protection in Rancho Murieta is provided by the Sacramento Metropolitan Fire District. One station, Station No. 59 is located in the community at 7210 Murieta Drive (Sacramento Metropolitan Fire District 2014). The Sacramento County Sheriff, Central Division, South Bureau provides police protection services from its James L. Noller Safety Center located at 15160 Jackson Road.

SCHOOLS

Rancho Murieta is served by the public schools in the Elk Grove Unified School District. Students attend Cosumnes River Elementary School at 13580 Jackson Road in Sloughhouse, Joseph Kerr Middle School at 8865 Elk Grove Boulevard in Elk Grove, and Elk Grove High School at 9800 Elk Grove-Florin Road in Elk Grove.

PARKS

Recreational facilities in Rancho Murieta include parks, bike trails and open space, the golf courses and tennis courts of the RMCC, and an equestrian center. Stonehouse Park is located on Stonehouse Road just north of the proposed Escuela development (see Exhibit 2-4) and includes baseball and soft ball fields, a playground and other typical park amenities, Bike trails and open space include the Deer Creek Hills Preserve just north of the community, and bike trails around Chesbro Reservoir and Clementia Reservoir.

3.14.2 DISCUSSION

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

FIRE AND POLICE PROTECTION

Less than Significant with Mitigation Incorporated. The Rancho Murieta community would continue to be served by the Sacramento Metropolitan Fire District and Murieta Police Department. Because the project would not include new structures, such as housing or businesses, or indirectly increase housing or businesses in the project vicinity, it would not increase the demand for fire protection, police protection, or other emergency services. However, as discussed in Section 3.8, "Hazards and Hazardous Materials" and Section 3.16, "Transportation/Traffic," project construction (particularly trenching) would temporarily interfere with emergency access because roadways in the project vicinity, such as SR 16 and Stonehouse Road, would be affected intermittently during installation of underground pipelines. These construction activities could result in temporary lane closures, increased truck traffic, and other roadway effects that could interfere with, or slow down emergency vehicles, temporarily increasing response times and impeding existing services. Therefore, this impact is considered potentially significant.

> Mitigation Measure: Implement Mitigation Measure HAZ-2, "Prepare and Implement a Construction Traffic Control Plan."

Implementation of the mitigation measure above would reduce the significant impact associated with increased response times during construction to a less-than-significant level by requiring preparation and implementation of a construction traffic control plan that would provide for adequate emergency access during construction activities.

SCHOOLS, PARKS, AND OTHER PUBLIC FACILITIES

No Impact. The project does not propose new housing and would not generate new residents or students. Therefore, the project would not increase demands for school services or park facilities. There would be no impact.

Implementation of Mitigation Measures PUB-1 would reduce the significant impact associated with temporarily interfering with emergency access during construction to a **less-than-significant** level by requiring preparation and implementation of a construction traffic control plan that would provide for adequate emergency access during construction activities.

3.15 RECREATION

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	**Recreation. Would the project:**				
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☒	☐	☐
b)	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.15.1 ENVIRONMENTAL SETTING

Sacramento County encompasses 15,000 acres of land with a variety of recreational opportunities that include regional parks, open spaces, bike trails, and historical sites (Sacramento County 2014a). The county includes 32 major recreational areas, such as the Deer Creek Hills Preserve located just north of Rancho Murieta, approximately two miles north of the proposed project. The Preserve includes 4,060 acres of rangeland, oak woodlands, grasslands and seasonal creeks, and is co-owned by Sacramento County Regional Parks and the Sacramento Valley Conservancy (Sacramento County 2014b). Recreational opportunities in Rancho Murieta also include bike trails such as the loop trail around Chesbro Reservoir and the trail adjacent to Clementia Reservoir that are both located less than a quarter of a mile from the proposed project.

Rancho Murieta's two golf courses, North Golf Course and South Golf Course, are located in the central and southern areas of the community. Both golf courses are managed by RMCC which is located at 7000 Alameda Drive, Rancho Murieta, just north of SR 16. The existing recycled water system pipelines run underneath the southern portion of the North Golf Course and the central portion of the South Golf Course.

3.15.2 DISCUSSION

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant with Mitigation Incorporated. Increases in overall permanent demand for recreational facilities typically are associated with substantial population increases, either because new residences have been constructed or because a major job generator has been created that would indirectly increase the number of residents in an area. The proposed project would expand the District's approved recycled water use areas, as well as, improve the WWRP disinfection system, install additional seasonal storage and pumping capacity, and construct conveyance facilities. The proposed project would not include any new residences. As local residents or visitors, construction workers may use local parks and recreational facilities; however, the limited number of workers needed for the project would not cause the demand for such facilities to increase substantially, thus accelerating the facilities' physical deterioration. Implementing the proposed project would not result in a

substantial increase in demand for recreational facilities, nor would it adversely affect existing recreational resources in a permanent manner. Furthermore, any effects on the use of these facilities would be minor, temporary, and short-term, and would not cause the use of other recreation facilities to increase; therefore, the project would not have any long-term substantial effects on recreational facilities and uses. Existing recreational uses would not be permanently altered.

Although the proposed project would not result in the physical deterioration of any parks or recreational facilities, construction-related activities could temporarily affect the North Golf Course and South Golf Course by requiring the temporary closure of affected areas of the golf course. Although construction is expected to be confined to paved or disturbed areas within the golf course, access to cart paths and other facilities may be temporarily impaired. Because the proposed project could affect course operations, this impact is considered potentially significant.

Mitigation Measure REC-1: Coordinate with Rancho Murieta Country Club (RMCC) Prior to Construction.

The District shall coordinate with RMCC at least 30 days prior to construction activities that could affect golf course operations, including access to the course and course play. Measures to minimize disruption to golf course operations could include, but may not be limited to:

- Providing notification of scheduled construction activities in highly visible locations within the golf courses (e.g., clubhouse, pro shop) at least 15 days prior to initiation of the work.
- When construction is taking place on the golf course, conducting daily preconstruction meetings between the District contractor and the RMCC manager to minimize disruptions to golf course operations.

Implementation of Mitigation Measure REC-1 would reduce the potentially significant impact associated with access to areas within the golf course during construction to a less-than-significant level by requiring coordination with the RMCC prior to construction to minimize disruptions to golf course operations.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. The proposed project does not include the construction or expansion of new recreational facilities and adverse physical effects on the environment are not anticipated. Therefore, no impact would occur with project implementation.

3.16 TRANSPORTATION/TRAFFIC

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

3.16.1 ENVIRONMENTAL SETTING

As noted in Chapter 2.0, "Project Description," the majority of the project area is located within the District boundary; Van Vleck Ranch is located outside of the District boundary to the south. The project area includes various land uses, including single-family residential, commercial, agricultural, municipal (water supply reservoirs, WTP, and WWRP), and recreational (e.g., RMCC and its two golf courses, parks).

It is anticipated that personnel, equipment, and imported materials would reach the project area via Jackson Road SR 16, Murieta Parkway, Camino Del Lago, Alameda Drive, Stonehouse Road, and Van Vleck Road. The functions of these roadways are briefly described below.

- **SR 16:** SR 16 is a regional east-west facility running from Route 20 in Colusa County to Route 49 just outside Plymouth in Amador County. In the project vicinity, SR 16 provides two travel lanes in each direction.

- **Murieta Parkway:** Murieta Parkway functions as a north-south collector roadway, running from SR 16 in the south to Camino Del Lago in the north. In the project vicinity, Murieta Parkway provides two travel lanes in each direction.

- **Camino Del Lago:** Camino Del Lago functions as a north-south collector roadway, extending south from Puerto Drive. In the project vicinity, Camino Del Lago provides one travel lane in each direction.

- **Alameda Drive:** Alameda Drive functions as a north-south local roadway, extending south from Murieta Parkway. In the project vicinity, Alameda Drive provides one travel lane in each direction.

- **Stonehouse Road:** Stonehouse Road functions as a north-south collector roadway, running from SR 16 in the south to Latrobe Road in the north. In the project vicinity, Stonehouse Road provides one travel lane in each direction.

- **Van Vleck Road:** Van Vleck Road functions as a north-south local / rural roadway, extending south from SR 16. In the project vicinity, Van Vleck Road provides one travel lane in each direction.

The County of Sacramento considers Level of Service (LOS) A through E to be acceptable operating conditions for intersections or roadways in urban areas, and LOS A through D acceptable for intersections or roadways in rural areas. The Rancho Murieta Community lies within the Sacramento County urban policy area. According to the Caltrans Transportation Corridor Concept Report, under existing conditions SR 16 in the vicinity of Rancho Murieta operates at LOS 'E' (Caltrans 2012). Annual average daily traffic volumes on SR 16 are 16,500 west of Murieta Parkway, and 11,600 east of Murieta Parkway (Caltrans 2014).

The community of Rancho Murieta has a single distinct public transit operator within its corporate boundaries; a bus service run by Amador Transit. There are two bus stops within the community; Rancho Murieta South (on Murieta South Pkwy) and Murieta Parkway North (corner of Murieta and Lago Dr.). The bus service runs from downtown Sacramento through Rancho Murieta to the Sutter Hill Transit Station in Sutter Creek (Amador County).

3.16.2 DISCUSSION

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

Less-than-Significant Impact. The purpose of the project is to expand the District's approved recycled water use areas, and includes improvements to the WWRP disinfection system, installation of additional seasonal storage and pumping capacity, and construction of conveyance facilities. Project components would be located within the District's easements and would not alter the location, distribution, density, or growth rate of the population. The expanded recycled water program would require no more than 4 new FTEs and would generate a minimal number of new permanent trips on local roadways resulting from the requirement for inspections of customers' recycled water system components once every four years. As such, buildout and implementation of the proposed project is not expected to substantially affect the surrounding transportation network on a permanent basis. However, it

should be noted that construction-related activities and equipment could temporarily cause a minor increase in traffic on the surrounding local road network.

As described in Chapter 2.0, "Project Description," project construction would involve activities such as site preparation, grading, excavation, and site restoration. Staging areas would be located at the WWRP and immediately adjacent to construction disturbance areas within the District's existing easements. Typical construction equipment necessary to implement improvements to the WWRP facilities and to construct new facilities and transmission pipelines needed to store and convey recycled water to the new use areas would include backhoes, graders, trenchers, cranes, haul trucks, water trucks, compactors, excavators, side-booms, and pipe bending machines. The proposed project would require multiple professionals to operate this heavy equipment. Assumptions for the overall duration of project construction by phase, as well as the number of daily truck and worker trips, is detailed in Table 3.16-1.

Table 3.16-1
Construction Duration and Vehicular Activity of Proposed Phase 1 and 2 Improvements

Improvements		Duration (months)	Daily Truck Trips	Daily Worker Trips
Phase 1:				
1.1	WWRP Disinfection System	6	40	8
1.2	North Golf Course and Van Vleck Pump Stations	4	10	6
1.3	Lakes 16 and 17 Pump Station	4	10	4
1.4	Lookout Hill Storage Tanks and Booster Pump Station (250 cubic yards = 13 truck trips, 26 one-way truck trips)	12	26	11
1.5	Transmission Mains to Murieta Gardens, Lookout Hill, Stonehouse Park, and Residences of Murieta Hills	6 (each)	10	20
1.6	Transmission Mains to the Retreats, Riverview, and Lakeview	6 (each)	2	20
1.7	Bass Lake Pump Station (250 cubic yards / tank x 2 tanks = 25 truck trips, 50 one-way truck trips)	12	50	12
Phase 2:				
2.1	Seasonal Storage Expansion at WWRP	18	3	10
2.2	Transmission Mains to Industrial/Commercial/Residential, Apartments, Escuela, River Canyon, Highlands, and Terrace (135 cubic yards = 7 truck trips, 14 one-way truck trips)	6 (each)	16	20
Van Vleck Ranch:				
2.3	Van Vleck Ranch – 20,000 linear feet of six inch pipe, K-line distribution	2	6	10

Source: Data compiled by AECOM in 2014

The proposed project would be constructed over approximately 50 months for Phase 1, and over approximately 26 months for Phase 2. Construction-related traffic would be spread over the duration of the construction schedule and therefore, would be minimal on a daily basis. However, materials would need to be brought to the site from sources within the Sacramento County area and would use SR 16 to deliver these materials. The proposed project may generate up to 296 total daily truck trips (i.e., 148 inbound trips and 148 outbound trips) on SR 16 over the duration of Phase 1 construction. However, it should be noted that since these truck trips would be spread over the course of at least a day or more, their effect on traffic operations during peak traffic periods would be minimal.

Additionally, the proposed project may generate up to 162 total daily worker trips (i.e., 81 inbound trips and 81 outbound trips) over the duration of Phase 1 construction. However, given that these workers would be dispersed amongst the various project construction sites, and all Phase 1 sites may not be under construction at the same time, their overall effect on the transportation network would be minimal.

The proposed project may generate up to 50 total daily truck trips (i.e., 25 inbound trips and 25 outbound trips) on SR 16 over the duration of Phase 2 construction. However, it should be noted that since these truck trips would be spread over the course of at least a day or more, their effect on traffic operations during peak traffic periods would be minimal. Additionally, the proposed project may generate up to 80 total daily worker trips (i.e., 40 inbound trips and 40 outbound trips) over the duration of Phase 2 construction. However, given that these workers would be dispersed amongst the various project construction sites, and all Phase 2 sites may not be under construction at the same time, their overall effect on the transportation network would be minimal.

Thus, the proposed project is not expected to generate significant vehicle trips or significantly increase the amount of vehicle miles traveled over existing conditions. Minor increases in traffic are expected during each construction period, but such increases would be short term and temporary. No long term increases in traffic would result from implementation of the proposed project. This is considered a less-than significant impact.

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

Less-than-Significant Impact. As discussed above, any increase in traffic resulting from construction of the proposed project would be short term and temporary. Phase 1 construction may generate up to 296 total daily truck trips and 162 total daily worker trips, and Phase 2 construction may generate up to 50 total daily truck trips and 80 total daily worker trips. However, since truck trips would be spread over the course of at least a day or more, their effect on traffic operations during peak traffic periods would be minimal. Also, since workers trips would be dispersed amongst the various project construction sites, and it is unlikely all project sites would be under construction at the same time, their overall effect on the transportation network would be minimal. Because the proposed project is not expected to generate significant vehicle trips, the project is not expected to exceed either individually or cumulatively, LOS standards established by the County. Therefore, it is not anticipated that the proposed project would add sufficient trips to local roadways to degrade levels of service below acceptable standards. This is considered a less-than-significant impact.

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

No Impact. The proposed project would not result in any changes in air traffic patterns, increase air traffic levels, or a change in location that would result in substantial safety risks. Therefore, no impact would occur with project implementation.

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

No Impact. The proposed project would not result in alterations to existing public roadways, and the safety of the public transportation network would not be affected. Project operation would not result in any change in land

uses, and therefore would not alter the compatibility of uses served by the public roadway network. Therefore, there would be no impact to hazards resulting from design features.

e) Result in inadequate emergency access?

Less than Significant with Mitigation Incorporated. Construction-related traffic would be spread over the duration of the construction schedule and therefore, would be minimal on a daily basis. Project components would be located within the District's easements and would not alter the location, distribution, density, or growth rate of the population, and existing fire, police, and medical services would be sufficient to respond to potential emergencies.

Nevertheless, project construction (particularly trenching) would temporarily interfere with emergency access. As roadways in the project vicinity, such SR 16 and Stonehouse Road, would be affected intermittently during installation of underground pipelines. Ongoing construction activities could result in temporary lane closures, increased truck traffic, and other roadway effects that could interfere with, or slow down emergency vehicles, temporarily increasing response times and impeding existing services. This impact is considered potentially significant.

> Mitigation Measure: Implement Mitigation Measure HAZ-2, "Prepare and Implement a Construction Traffic Control Plan."

Implementation of the above mitigation measure would reduce the significant impact associated with decreased emergency response times during construction to a less-than-significant level by requiring preparation and implementation of a construction traffic control plan that would provide for adequate emergency access during construction activities.

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

Less than Significant with Mitigation Incorporated. Project construction (particularly trenching) would temporarily decrease the performance of transit services through the Rancho Murieta community, as roadways in the project vicinity would be affected intermittently during installation of underground pipelines. Ongoing construction activities could result in temporary lane closures, increased truck traffic, and other roadway effects that could interfere with, or slow down transit services. This impact is considered potentially significant.

> Mitigation Measure: Implement Mitigation Measure HAZ-2, "Prepare and Implement a Construction Traffic Control Plan."

Implementation of the above mitigation measure would reduce the significant impact associated with decreased transit performance during construction to a less-than-significant level by requiring preparation and implementation of a construction traffic control plan that would provide for adequate transit service during construction activities.

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3.17 UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☒	☐	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

3.17.1 ENVIRONMENTAL SETTING

As noted in Section 2.0, "Project Description," services provided by the District include water supply collection, treatment and distribution; wastewater collection, treatment, and reuse; storm drainage collection and disposal; flood control; security; and solid waste collection and disposal. The District was formed in 1982 by State Government Code 61000 to provide these essential services in Rancho Murieta. The existing WWRP's secondary and tertiary treatment facilities are designed to treat up to 3.0 MGD respectively. However, the capacity of the overall tertiary treatment process is limited to 2.3 MGD due to limitations associated with the existing disinfection system. The wastewater treatment process utilizes a series of aerobic/anaerobic ponds followed by a tertiary treatment process. The tertiary process utilizes the dissolved air floatation process, followed by filtration and contact with chlorination for disinfection.

Wastewater discharges at Rancho Murieta are controlled by the Central Valley RWQCB. Reuse of the treated wastewater currently takes place on the two golf courses and Van Vleck Ranch. Reclaimed water used for the irrigation of parks, playgrounds, schoolyards, and the golf course, must meet the requirements of Title 22,

Division 4 of the California Code which require an adequately oxidized, coagulated, clarified, filtered, and disinfected wastewater, which is the standard the District's reclaimed water meets (RMCSD 2014a).

Prior to the mid 1980's, storm drainage and flood control jurisdiction had been the overlapping responsibility of property owners and homeowners associations, Sacramento County, and the District. However, after the mid-80's, the District de-annexed from the County storm drainage maintenance district and began providing drainage services to the community. The current storm drainage system for Rancho Murieta is comprised of natural swales, pipelines, and flood control levees. Significant storm drainage facilities within the community include natural drainage courses which convey seasonal run-off, 100-year flood protection along the Cosumnes River, perennial storm drainage detention basins, and scattered marsh and wetland areas. In addition, small to large diameter pipelines and pump station convey runoff to the ditches and river. While the District is responsible for maintenance of the bottoms of natural drainage courses, ditches and canals, and underground pipe systems and detention basins, individual property owners or the homeowners associations are responsible for maintenance of the open space above the ditch bottom and debris removal in the streets and gutters.

As of November of 2005, residential garbage, recycling and green waste services have been provided by the District, through a contract with California Waste Recovery Systems (CWRS). The nearest solid waste disposal facility to the project area is the Kiefer Landfill located at 12701 Kiefer Boulevard, Sloughhouse, CA; approximately 6 miles west of the WWRP. This landfill is owned and operated by Sacramento County and receives up to 900,000 tons of waste annually. Currently only occupying 250 acres, this landfill is permitted to occupy up to 660 acres (Sacramento County 2014).

The District has a utility easement to access meters, service connections, collection systems, and drainage facilities for water, sewer, or drainage purposes within Rancho Murieta (RMCSD 2014b). The District has a blanket utility easement on all public roads that typically includes 12.5 feet from the centerline on the either side of the road but can vary up to 30 feet from the centerline on either side of the roadway (Crouse, pers. comm., 2014). Within District's easement for sewer and water lines includes 6.5 feet on either side of the centerline of the roadways.

Other utility easements include electricity and gas. Sacramento Municipal Utility District (SMUD) provides electricity to Rancho Murieta, and Pacific Gas and Electric Company (PG&E) provides gas service. In addition, there may also be below-ground phone and cable lines within or adjacent to the roadways.

3.17.2 DISCUSSION

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

Less-than-Significant Impact. The proposed project would include disinfection system improvements at the WWRP to meet WDR and Title 22 standards for reuse of treated wastewater to be supplied for residential front and backyard irrigation; and irrigation of parks, greenbelts, playgrounds, athletic fields, common areas, and commercial and street landscaping associated with planned future development; as well as for dust control throughout the District's service area; and for pasture irrigation.

Because WWRP improvements would be designed to meet applicable WDRs and reuse requirements, the proposed project would not cause the WWRP to exceed RWQCB requirements, and this impact would be less than significant.

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

Less than Significant with Mitigation Incorporated. The primary objective of the proposed project is to expand the District's approved recycled water use areas, and construct needed improvements, including WWRP disinfection system upgrades, additional seasonal storage and pumping capacity, and conveyance facilities to supply recycled water to the proposed reuse areas. No new homes or businesses that would increase demand for wastewater treatment, conveyance, and distribution facilities in the District are proposed as part of the project. Rather, the proposed project facilities would be designed to support demand for non-potable water associated with future development in the community. While proposed project facilities would not in and of themselves increase demand for additional wastewater treatment, conveyance, or distribution facilities, construction and operation of the proposed facilities would have potential impacts related to Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, Recreation, and Transportation/Traffic. Therefore, this impact would be potentially significant. The physical effects associated with construction and operation of the WWRP improvements and recycled water systems (i.e., related to air quality, hydrology and water quality, biological resources, etc.) are addressed throughout this Initial Study.

> Mitigation Measures: Implement Mitigation Measures AES-1, AQ-1 through AQ-4, BIO-1 through BIO-8, CUL-1 through CUL-3, GEO-1, GEO-2, HAZ-1, HAZ-2, HYD-1 through HYD-3, NOI-1, NOI-2, and REC-1.

Implementation of Mitigation Measure UTIL-1 would reduce the potentially significant impacts associated with project construction and operation to a less-than-significant level for the reasons stated in Sections 3.1, 3.3, 3.4, 3.5, 3.6, 3.8, 3.9, 3.12, 3.14, 3.15, and 3.16.

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

No Impact. The proposed project would not result in changes to existing stormwater facilities or require the construction of new facilities. No significant adverse environmental effects associated with new stormwater drainage facilities or expansion of existing facilities would result from the project; therefore, no impact would occur.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Existing water entitlements and resources would be sufficient to accommodate the proposed project's minor temporary and short-term water needs during construction. No water would be needed during operation of the project. The proposed project would instead have a beneficial impact on water supply since the reuse of treated wastewater for irrigation of residential and commercial landscaping parks and medians associated with

future planned developments, and existing golf courses and irrigated pastureland would reduce the projected demand for surface water supplied by the Cosumnes River or other sources. Therefore, there would be no impact.

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

No Impact. The project would not generate wastewater, but would instead provide a beneficial reuse for tertiary treated wastewater. Therefore, the project would not result in inadequate wastewater treatment capacity. Therefore, no impact would occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? Comply with federal, state, and local statutes and regulations related to solid waste?

Less-than-Significant Impact. During construction, there would be a temporary increase in solid waste disposal (e.g. excess segments of PVC pipe) associated with construction wastes. Construction debris and excess material requiring disposal in a landfill would be hauled off-site to Kiefer Landfill. Following completion of construction, the proposed project would not require landfill service and thus would not affect landfill capacity. Project operation would not generate solid waste. This impact would be less than significant.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. The proposed project would comply with all relevant federal, state, and local statutes and regulations related to solid waste. Therefore, no impact would occur.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

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

Authority: Public Resources Code Sections 21083, 21083.5.

Reference: Government Code Sections 65088.4.
Public Resources Code Sections 21080, 21083.5, 21095; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

3.18.1 DISCUSSION

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation Incorporated. The analysis conducted in this IS concludes that the proposed project with mitigation would not have a significant effect on the environment. As evaluated in Section 3.4, "Biological Resources," construction of the proposed project could have potential adverse effects on special-status plants (i.e., Tuolumne button-celery, Sanford's arrowhead) and wildlife species (i.e., California tiger salamander, valley elderberry longhorn beetle, and western pond turtle); foraging and nesting habitat for species such as Swainson's hawk, white-tailed kite, and nesting raptors and songbirds; federally protected waters (i.e., ponds, canal, Arkansas Creek) and possible wetlands (i.e., roadside ditches); and oak trees. However, with

implementation of Mitigation Measures BIO-1 through BIO-8 included in Section 3.4, these potentially significant impacts would be reduced to a less-than-significant level by protecting special-status plants and wildlife species, protecting wetlands and drainages, and complying with the Sacramento County Tree Preservation Ordinance.

As discussed in Section 3.5, "Cultural Resources," the proposed project could disturb undiscovered subsurface cultural remains or uncover unknown or undocumented prehistoric burials. Implementation of Mitigation Measures CUL-1 through CUL-3 would reduce potentially significant impacts on prehistory to less-than-significant levels by halting construction activities if any cultural materials or human remains are discovered until it is determined if the cultural material or prehistoric burial should be avoided, preserved, or recovered.

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

Less than Significant with Mitigation Incorporated. Construction of the proposed project would result in temporary impacts that would be primarily limited to the project site. Although impacts related to resources such as air quality, greenhouse gas emissions, and traffic would contribute to regional impacts, these impacts when combined with other past, present, and reasonably foreseeable future projects in the project vicinity would not be cumulatively considerable.

As discussed in item c) in Section 3.3, "Air Quality," the proposed project would exceed the SMAQMD significance thresholds for NOx emissions and projects that would exceed these thresholds would be considered significant on a project level and would also be considered to contribute a cumulatively considerable amount of pollutants to regional emissions. Implementation of Mitigation Measures AQ-1 through AQ-4 would reduce the proposed project's construction-related NOx emissions below the SMAQMD threshold of significance by implementing applicable SMAQMD basic construction emission control practices, providing a comprehensive inventory of off-road construction equipment, developing a plan to reduce construction-related NO_X and PM emissions, and paying SMAQMD's off-site emission mitigation fee, if needed. Therefore, impacts related to a cumulatively considerable net increase of criteria pollutants would be less than significant with mitigation incorporated.

As discussed in this IS, the proposed project would result in less-than-significant impacts or no impacts on the following areas: agriculture and forestry resources, greenhouse gas emissions, land use and planning, mineral resources, population and housing, and utilities and service systems. Furthermore, mitigation measures have been included in this IS that would reduce impacts to a less-than-significant level in the following areas: aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, recreation, and traffic and transportation. Therefore, all impacts would be less than significant or would be reduced to a less-than-significant level through incorporation of required mitigation measures, and the proposed project would not make a cumulatively considerable incremental contribution to significant cumulative adverse impacts on those resource areas. The incremental effects of the proposed project would not be cumulatively considerable when viewed in connection with the effects of past, present, and reasonably foreseeable future projects. This impact would be less than significant.

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

Less than Significant with Mitigation Incorporated. As discussed throughout this IS, construction and operation of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly. The proposed project is intended to expand the District's recycled water use areas. This IS evaluates the potential impacts to water quality associated with the application of recycled water within the proposed new use areas, along with the potential construction- and operations-related impacts of proposed facilities required to treat, store, and convey recycled water to the new reuse areas.

Mitigation measures are provided to reduce the proposed project's potentially significant effects on aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services, and traffic and transportation to a less-than-significant level. Thus, construction and operation of the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly. This impact would be less than significant.

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