PALO ALTO REGIONAL WATER QUALITY CONTROL PLANT RECYCLED WATER PIPELINE PROJECT

Initial Study and Mitigated Negative Declaration

December 2003

Prepared for:

Palo Alto Regional Water Quality Control Plant

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ESA Environmental Science Associates

SECTION 1.0
PROJECT DESCRIPTION

1.1 PROJECT OVERVIEW AND BACKGROUND

The Palo Alto Regional Water Quality Control Plant (RWQCP or Regional Plant) proposes to repair and expand its water reuse system. Under the proposed project (Project), Palo Alto RWQCP would replace a deteriorated pipeline to restore recycled water service to the Shoreline Golf Links. The Project would also extend the pipeline to sites in the Shoreline Area, the City of Mountain View north of Highway 101 and the Moffett Field Development Area to supply recycled water for use in irrigation of parks, golf courses, medians and other green spaces. The proposed pipeline would allow for the distribution of high quality recycled water suitable for unrestricted, non-potable uses. The Project is an expansion of the City of Palo Alto's existing Water Reuse Program. The Program currently serves parts of the City of Palo Alto and ultimately is envisioned to serve recycled water throughout the service area for the Palo Alto Regional Plant.

Currently, the water reclamation facility at the Regional Plant has the capacity to treat up to approximately 4 million gallons per day (mgd) of waste water to the level necessary for unrestricted non potable reuse, as established by Title 22 of the California Code of Regulations. In terms of current total water use, about 1.5 mgd is used for landscape irrigation (Palo Alto Municipal Golf Course and Greer Park), environmental enhancement, and dust control at construction sites throughout the Project area.

There is adequate treatment capacity to produce the additional recycled water for unrestricted use proposed under the Project. No additional treatment facilities or changes to the treatment system are proposed as part of the Project.

Under the proposed Project, use of recycled water could increase by up to 1.4 million gallons per day (mgd) or 1,600 acre feet per year (afy).

BACKGROUND

Palo Alto's Water Reuse Program began in the early 1980s, with the delivery of reclaimed water to Shoreline Golf Links. This system was substantially modified to include the Palo Alto golf course, Greer Park, and the Renzel Marsh. Palo Alto then completed a *Water Reclamation Master Plan for the Palo Alto RWQCP* (Master Plan) in 1992 (Brown and Caldwell, 1992) and the accompanying Final Program EIR in 1993 (CH2MHill, 1993). The Palo Alto RWQCP developed the Master Plan in conjunction with its member agencies to address two main goals:

1) reduce demand on drinking water supplies by providing recycled water suitable for non-potable uses and 2) reduce metals discharge and improve overall water quality in the San Francisco Bay in part by reducing waste water discharge to the bay. The Master Plan includes a phased approach to the expansion of treatment, distribution, storage and use of recycled water. The Program EIR evaluated, at a program-level, development of a regional water reuse system that would ultimately provide service to the entire RWQCP service area including the cities of Palo Alto, Mountain View, Los Altos, East Palo Alto, Los Altos Hills, part of Menlo Park, as well as Stanford University. The Program EIR addressed the environmental effects of the overall Water Reuse Program and also included a focused, project-level review of one specific project the Foothill Main Project. The Foothill Main Project would have established an initial distribution system running from the Regional Plant to the Santa Cruz Mountain foothills, a storage reservoir in the foothills southwest of Stanford University, and the use of recycled water for landscape irrigation at Stanford, several city parks, and a highway interchange.

The Program EIR acknowledged that the Foothill Main Project may or may not be the first project implemented and indicated that no specific arrangements or commitments with potential users had been made. But by providing project-level CEQA analysis of that project, the Program EIR did provide detailed analysis of a potential project that could be representative of the overall Water Reuse Program in terms of the environmental setting affected, the nature and potential for significant impact and the appropriate types of mitigation.

CEQA PROCESS

In compliance with Section 15000 of the CEQA Guidelines, the City of Palo Alto is the Lead Agency for compliance with the California Environmental Quality Act (CEQA) environmental review process for the Project. The City has conducted the CEQA process to prepare and circulate an Initial Study/Draft Mitigated Negative Declaration (MND) to examine potential impacts associated with the Project. The City of Mountain View and the State Water Resources Control Board (SWRCB) are the key responsible agencies for the Project: the City of Mountain View will have an approval role over aspects of the Project siting and construction (e.g., approving encroachments into City streets). The SWRCB has a funding role through the State Revolving Fund program and will use the City's CEQA document for the Project in its decision making process regarding funding approval.

As the Project is an element of the Master Plan adopted by the City and addressed in the 1995 Program EIR, this CEQA document uses that Program EIR as the foundation for the environmental assessment. The environmental analysis builds on the impact and mitigation information developed in the Program EIR and either confirms that the previous analysis remains accurate or provides the necessary update and revision to the analysis to address the specific effects of this Project.

1.2 PURPOSE AND NEED FOR PROJECT

The purpose of the proposed Project is to 1) replace the deteriorated pipe that serves the Mountain View North Bayshore area, 2) facilitate the use of recycled water as a replacement for potable water, and 3) to reduce the Regional Plant's discharge of treated waste water to San Francisco Bay as means of reducing the discharge of pollutants.

Both Palo Alto and Mountain View rely primarily on the San Francisco Public Utilities Commission's (SFPUC) Hetch Hetchy system for water supply. Both cities supplement their SFPUC supply with local groundwater wells. In addition, Mountain View receives some supply from the Santa Clara Valley Water District (SCVWD). While both cities have adequate supply to meet current demands on average, both communities face the need to improve supply reliability during drought periods and emergencies. The SFPUC is currently pursuing a major capital improvement program to upgrade the Hetch Hetchy water supply system, due to vulnerability in a number of places to potential disruption and outage particularly during a significant earthquake. Communities including the cities of Palo Alto and Mountain View that rely on the Hetch Hetchy system can improve their water supply reliability by taking steps locally to manage potable water demand by providing supplemental water sources, such as the proposed recycled water Project. The Regional Plant discharges treated municipal and industrial waste water to the southern reach of the San Francisco Bay (South Bay) via a man-made channel. The quantity of pollutants in the Regional Plant's effluent has continually decreased over time as a result of improved source control and treatment efforts. However, since the South Bay receives less dilution and mixing from tidal action than other areas of the San Francisco Bay, the presence of minute quantities of pollutants in the effluent, and the potential effects of those pollutants on the South Bay environment continues to be of concern.

The Regional Plant is regulated by its National Pollution Discharge Elimination System (NPDES) permit, issued by the RWQCB. In April 1991, the RWQCB established a new set of effluent limits for the Regional Plant. The Regional Plant began efforts to identify and evaluate environmentally beneficial and cost effective ways to limit its discharge of pollutants. In July 1993, the RWQCB issued a new NPDES permit to the Regional Plant with new limits that were substantially lower than the previous limits. The Regional Plant evaluated several programs to achieve compliance with the new metals limit. Water reclamation was selected based on factors including environmental and technical soundness, cost, and benefit. Water reuse was chosen as a key strategy to complement other strategies that were also chosen for implementation

1.3 EXISTING FACILITIES

REGIONAL PLANT

The existing Regional Plant is located off of Embarcadero Road on the north side of Highway 101 (see **Figure 1-1**) and is surrounded by light industrial and office buildings. The Regional Plant is a "tertiary" facility capable of producing disinfected and highly filtered effluent. In 1988, the Regional Plant added its reclaimed water facility, which consists of additional filtering and disinfection to produce recycled water suitable for unrestricted use.

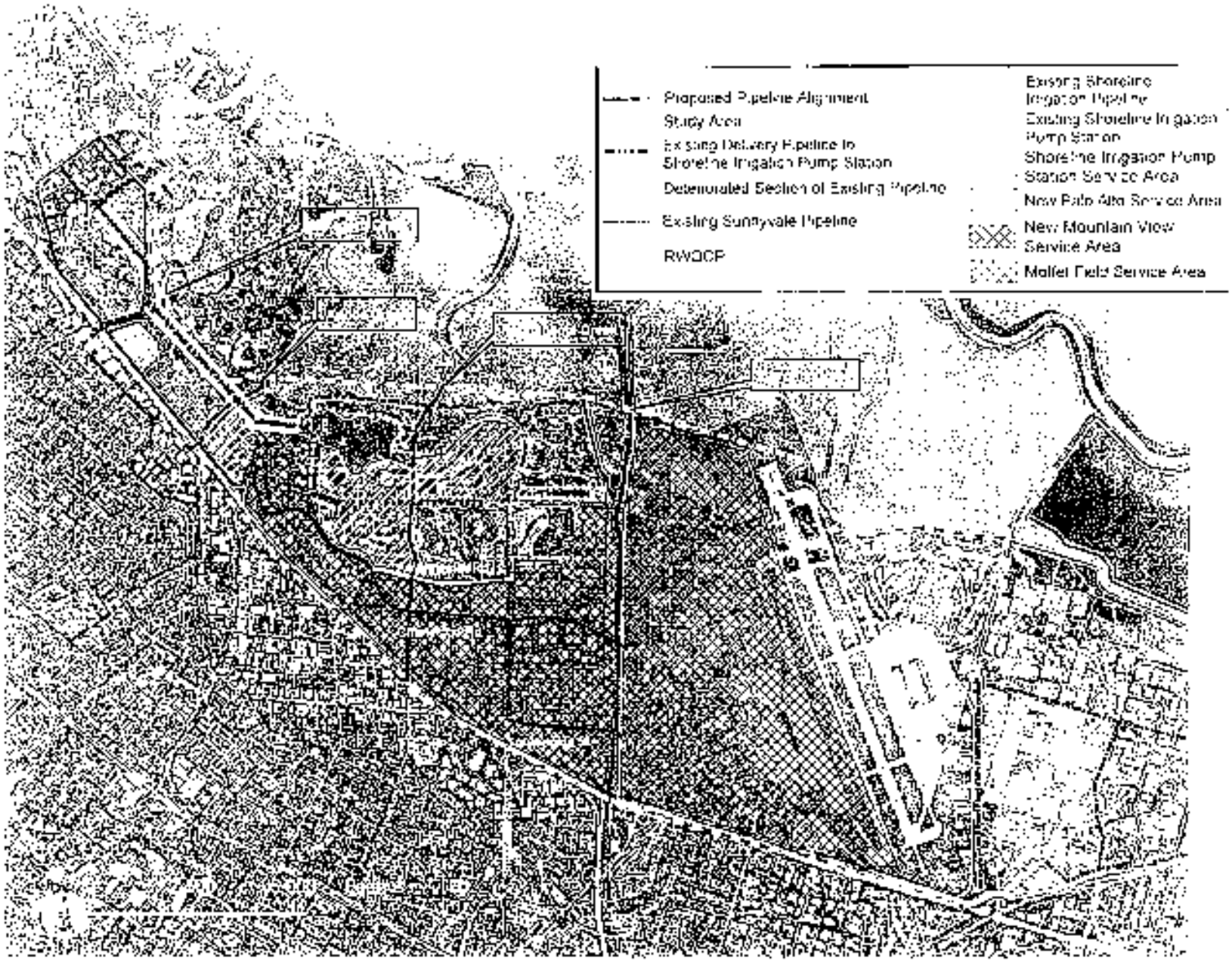

Figure 1-3
Palo Alto RWQCP
Proposed Recycled Water Service Area

Disinfection of the recycled water at the Regional Plant is currently accomplished by chemical disinfection. In the future the Regional Plant may utilize ultraviolet (UV) light and chemical disinfection. The State of California, through its regulations (California Code of Regulations, Title 22, Sections 60301 through 60355), has determined that waste water treated to the level required for unrestricted use, which includes filtration and disinfection, can be used safely for the irrigation of food crops, pasture, and fodder crops, the irrigation of landscapes where humans might come into contact with the water, such as parks and golf courses, and even for direct body contact sports such as swimming.

CURRENT REUSE AREAS

Recycled water is currently used at the Palo Alto Regional Plant, the Palo Alto Golf Course, and Greer Park in Palo Alto, and is also trucked to construction sites throughout the region for dust control. Until recently, recycled water was also delivered to the Shoreline Irrigation Pump Station and ultimately to the Shoreline Golf Links via two buried pipelines, extending from the Regional Plant across the Mayfield and Charleston Sloughs and marsh area. **Figure 1-1** shows the location of the existing delivery pipeline. The pipeline condition has deteriorated within the last couple of years and service has been temporarily curtailed. Currently, Shoreline Golf Links is irrigating its course with a blend of potable water and groundwater pumped from one on site well.

1.4 PROPOSED PROJECT

PIPELINES

A new pipeline is proposed for construction from the Regional Plant south to the Moffett Field area. The existing pipeline that extends across the marsh area to the Shoreline Golf Links would be abandoned in place so as not to disturb the marsh habitat. No new facility construction is proposed in or across the marsh area.

Figure 1-1 shows the proposed pipeline alignment. A summary of the proposed key roads and creek crossings is presented in Table 1-1. The majority of the pipeline would be installed in an open cut trench except for key roadway and creek crossings (**Table 1-1**) where a trenchless construction technique, such as jack and bore or microtunneling would be used to cross under the area with minimal surface disruption. Alternatively, it may be possible in some areas to hang the recycled water pipeline on existing bridges, again making the crossing without surface disruption. The City of Palo Alto will identify the most feasible and cost-effective "trenchless" approaches to use along the pipeline route at key roadway and creek crossings.

The proposed pipeline alignment begins at the RWQCP and the pipeline would be installed either 1) within approximately 1,500 linear feet of the raised levee that extends southwest from the plant, between the landfill area and baylands, and along Matadero Creek to East Bayshore Road or 2) within approximately 2,100 feet of Embarcadero Road south to East Bayshore Road and 1,000 feet of pipeline on East Bayshore Road to Matadero Creek. The pipeline would be installed using a trenchless technology across Matadero Creek (in coordination with the flood control project

TABLE 1-1
PROPOSED PIPELINE ALIGNMENT

Location	Pipeline Alignment is Within	Roadways Crossing Alignment	Construction Method at Roadway Crossings
Palo Alto	Levee or Embarcadero Road (optional)	East Bayshore Road	Open Trench (trenchless at some major intersections)
	East Bayshore Road (optional)	Embarcadero Road	Open Trench
Mountain View	East Bayshore Road	San Antonio Road	Trenchless [1]
	Garcia Avenue	Amphitheatre Parkway	Open Trench
	Charleston Road		Open Trench
	Shoreline Blvd	Pear Avenue	Open Trench
	La Avenida Road		Open Trench

Location	Pipeline Alignment is Within	Creek Crossing	Construction Method at Creek Crossings
Palo Alto	East Bayshore Road	Matadero Creek	Trenchless
Mountain View	Garcia Avenue	Permanente Creek (culvert)	Trenchless / open trench if road depth allows
		Adobe Creek	Trenchless
	La Avenida Road	Stevens Creek	Trenchless

1 Trenchless construction methods minimize the area of surface disruption required for pipeline installation and include: jack and bore, micro tunneling, direct road drilling and tunneling techniques. Hanging pipelines on existing bridge structures is another potential "trenchless approach."

being implemented there by the SCVWD to hang from the existing East Bayshore Bridge structure. The pipeline would be installed in East Bayshore Road in either the roadway and/or parking lane. The pipeline may cross Matadero Creek, using trenchless methods, approximately 850 feet before East Bayshore Blvd. and be installed in the Municipal Service Center parking lot out to East Bayshore Road. The pipeline would extend down East Bayshore Road for approximately 6,500 feet, crossing San Antonio Road. The pipeline would continue in Garcia Avenue, then Charleston Road for approximately 7,000 feet until North Shoreline Blvd. crosses Permanente Creek. The pipeline would be installed using a trenchless technology across Matadero

Creek or installed in the road, if thickness allows. The pipeline alignment continues approximately 2,500 feet south on North Shoreline Blvd, then approximately 2,750 feet east on La Avenida to Stevens Creek. Stevens Creek most likely would be crossed using trenchless technology to provide a point of connection to the system for the Moffett Field Area system. Additionally, a 1,000 foot segment of pipeline may be installed to connect the existing recycled water distribution system supplied by the RWQCP through the Shoreline Irrigation Pump Station to the northern portion of the Moffett Field area along the Steven's Creek Trail. This segment of pipeline would be installed by using trenchless technology under Stevens Creek.

Lateral pipelines would be installed off the main pipeline to deliver water to specific user sites. These short lateral pipelines would typically range from 4 to 12 inches in diameter and would be constructed within public streets. Final locations for those laterals would be determined during Project design in consultation with specific users to identify the best point to tie into the user site irrigation system.

REUSE SITES

Potential reuse sites lie within the City of Mountain View, Palo Alto and the Moffett Field Development Area. The original study area for identifying potential use sites was bounded by the Palo Alto RWQCP to the west, the San Francisco Bay to the north, Middlefield Road to the south and the Moffett Field area to the east. However, reuse sites have not been identified south of Highway 101 for this phase of expansion, therefore the southern Project boundary was redefined to be Highway 101. The study area boundary is illustrated on Figure 1-1. The major sites within the study area are Shoreline Golf Links and Shoreline Park, NASA Ames Research Center, Moffett Field, Charleston Park, median strips, and business area landscape irrigation. The Project area is bounded by Embarcadero Road to the north, San Francisco Bay to the east, Moffett Field Development Area to the south, and the 101 Freeway to the west. Table 1-2 summarizes the projected water reuse demand estimate for each of the potential reuse sites. The reuse demand estimate for each site and the total is approximate and will be refined in consultation with each specific user. The Regional Plant would like to maximize water reuse in accordance with user needs.

SHORELINE PARK AREA AND GOLF COURSE

The City of Mountain View owns and operates the Shoreline Golf Links and Park area, which includes Shoreline Park, Shoreline Golf Links, Shoreline Amphitheatre, and Charleston Park. An irrigation system is currently in place using blended water (recycled water, potable water, and well water). The Shoreline Golf Links has a sophisticated irrigation system that can provide customized levels of potable and non potable water. The system is supplied by the City of Mountain View Shoreline irrigation pump station (Figure 1-1). The proposed Project would restore delivery of recycled water to the pump station. The existing pipeline delivered approximately 512 AFY of recycled water to the Golf Links from the Regional Plant prior to service interruption. The pump station is expected to resume the use of recycled water for

TABLE 1-2
ESTIMATED RECYCLED WATER DEMAND

Recycled Water Use	Estimated Demand: Acre Feet per Year (AFY)	Estimated Demand: Million Gallons per Day (average) (MGD)
Shoreline Golf Links and Park Area Irrigation	512	0.46
Shoreline Area Business Park Landscape Irrigation	707	0.63
Median & Highway Interchange Landscape Irrigation	75	0.07
Moffett Field Landscape Irrigation & Business Usage	262	0.23
Miscellaneous	45	0.04
Total	1,600	1.4

SOURCE: RMC, Preliminary Project Assessment Work, September 2003

irrigation purposes once service is restored. Irrigation would occur through a network of buried pipes that supply spray nozzles, and would occur at night when the clubs are closed. The systems are operated and maintained by well-trained professionals, thereby minimizing ponding and runoff. It is expected that 0.46 MGD of recycled water will be used each day on average in the Shoreline Golf Links and Park area.

MEDIAN AND HIGHWAY IRRIGATION

Caltrans irrigates six landscaped areas of interchanges and intersections (Embarcadero Road, Oregon Expressway, San Antonio Blvd., Rengstorff, Shoreline Blvd., and Moffett Field) within the study area. The RWQCP may provide an estimated 75 AFY of recycled water for irrigation purposes. In addition, the City of Mountain View irrigates medians on Shoreline Blvd., Amphitheatre Parkway, Charleston Road, Crittenden Lane, and Garcia Blvd., that could also be irrigated using recycled water.

MOFFETT FIELD/ NASA AMES DEVELOPMENT

The Moffett Field development area consists of approximately 2,000 acres of land between Highway 101 and the southwestern edge of the San Francisco Bay in the northern portion of Santa Clara County, California. Proposed development under the NASA Ames Development Plan (NADP) includes office space, a research and development area, housing, business and retail spaces, and open spaces. The *NASA Ames Development Plan – Final Programmatic Environmental Impact Statement* (DCE, 2002) indicates that recycled water will be used for

irrigation purposes. Some portions of Moffett Field that will use recycled water are currently built while others will be developed over time. It is estimated that upon complete build out, irrigation of the Ames Research Center, NASA Research Park, and Bay View will use 0.23 MGD of recycled water. **Figure 1-2** illustrates the land use of one proposed alternative for the NASA Ames Research Center.

MISCELLANEOUS USES

It is estimated that miscellaneous uses such as at the City of Palo Alto Municipal Service Center and Animal Control Facility, irrigation of irrigated vegetation near Matadero Creek, as well as use at the City of Mountain View flare station could use an estimated 0.04 MGD on average, of recycled water. Industrial users of recycled water may include other City and County departments as well as private industry.

1.5 SCHEDULE AND CONSTRUCTION METHODS

Pipeline construction will take an estimated thirteen to sixteen months. Construction would start in July 2005 and continue through August 2006. Pipeline construction would consist of between 23,000 to 34,000 feet of pipeline sized between 18 and 30 inches within city and county owned public easements, road right-of-ways, and possibly privately owned parking areas. Pipeline installation for all sections would use standard open-cut trenching techniques using continuous sheet pile shoring, speed shoring, or trench box bracing except possibly the crossing of Matadero Creek, Permanente Creek, Adobe Creek, San Antonio Road, and portions of the raised levee in the vicinity of the landfill.

Standard installation of the pipeline would proceed at the rate of approximately 50 to 100 feet per day in more difficult conditions, and 100 to 150 per day in easier conditions with an overall work zone of 300 to 600 feet long. For work within the roadways, trench width would be approximately four feet, with active work areas of about eight feet on one side of the trench and 10 to 12 feet on the other side for access by trucks and loaders, resulting in a construction easement approximately 20 to 30 feet wide. For the purpose of this analysis, a construction easement of 25 to 30 feet is assumed, and will be used as the Area of Potential Effect (APE). Excavated trench materials would be hauled to an approved landfill for disposal.

For pipeline installation in the levees within the baylands, work and equipment would be confined to the levee. Work areas on the levee would be delineated by construction fencing and work would be conducted in such a way as to not disturb the surrounding sensitive areas (see the biology section in Chapter 2.0 for specific mitigation measures). Construction (open-trench) through sensitive areas such as the creek crossings would not occur from October 16 to June 15, except for trenchless crossing methods.

Trenchless construction techniques, such as bore and jack or micro-tunneling, would be used to 1) cross Matadero Creek, Adobe Creek, and Stevens Creek to protect the sensitive areas, 2) cross San Antonio Road in order to avoid traffic impacts, and 3) align pipe in portions of the raised levee to avoid possible contamination with the adjacent landfill. Damage to the road and non-

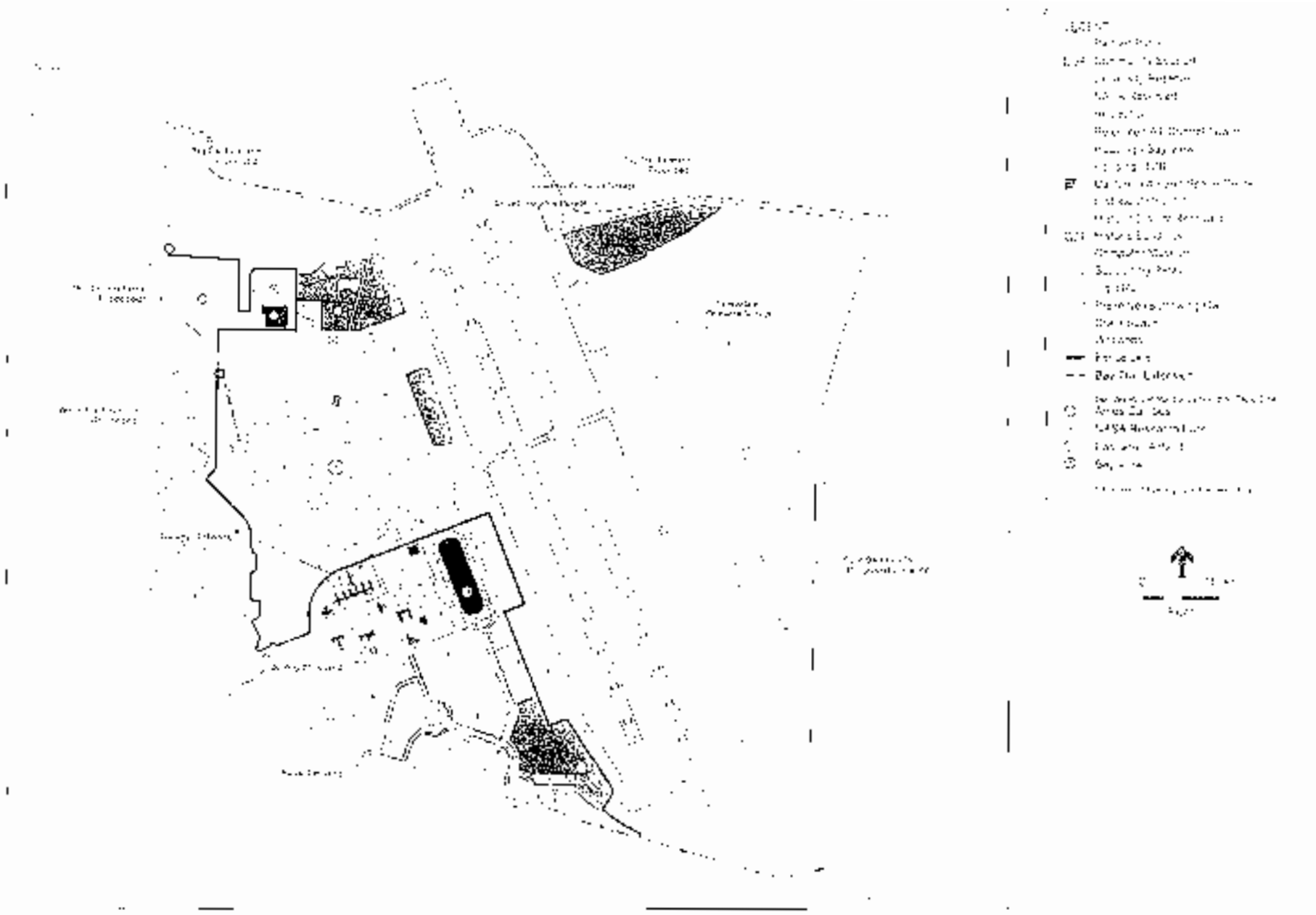

Figure 1-2

Proposed Design of Moffett Field Development Area
(Mitigated Alternative Five)

paved areas would be repaired. Disturbed areas would be revegetated with native plants indigenous to the disturbed area. Revegetation would occur after construction and prior to winter rains. The revegetated area will be periodically monitored and tended for one year to ensure the plants in the revegetated areas are successful.

EQUIPMENT / STAGING

Installation of the pipeline would require, but is not limited to, the following equipment: crane, excavator, backhoe, front end loaders, dump trucks, diesel generator, water tank, flat bed truck, compactors, double transfer trucks for soil hauling, concrete trucks, paving equipment and baker tanks (as needed). Equipment and vehicle staging would be accommodated either at each construction site, therefore increasing the total area of disturbance, or at a centralized staging area (such as the Regional Plant). Staging would be avoided at sensitive areas such as riparian or other habitat, particularly in the wetland area and within the Matadero creek crossing.

1.6 RIGHT-OF-WAY ISSUES / PERMITS REQUIRED

The proposed facilities would be sited within existing Regional Plant easements and through city and county lands (primarily streets). Portions of the pipeline may be within SCVWD and Pacific Gas & Electric (PG&E) easements.

It is anticipated that permits will be required from the following agencies:

- City of Mountain View - Encroachment and Excavation Permit
- City of Palo Alto Public Works Department: Grading and Excavation Permit
- City of Palo Alto: Encroachment and Street Work Permit
- Santa Clara Valley Water District (SCVWD) - for construction across creeks / flood control channels
- Santa Clara Department of Environmental Health - Hazardous Material Business Plan
- California Regional Water Quality Control Board (RWQCB): NPDES permit for construction activities and preparation of SWPPP
- San Francisco Bay Area Air Quality Management District (BAAQMD): Permit to Construct
- San Francisco Bay Conservation and Development Commission (BCDC) - construction near the San Francisco Bay Shoreline
- Caltrans - Encroachment Permit
- CALOSHA - Underground Classification for tunnels
- California Department of Fish and Game (CDFG) - stream alteration agreement (SAA) (although all creek crossings would be constructed with trenchless methods a CDFG SAA may be required)

The Project has been sited to avoid direct impact on wetlands and sensitive habitats, including those that could support special status species. In addition, mitigation has been incorporated into the Project to avoid or minimize the potential indirect effects on habitat or sensitive species, such as erosion or noise. Therefore, no impact or significant impact is expected to these resources and no permits from the US Army Corps of Engineers, RWQCB, USFWS, National Marine Fisheries Service, or CDFG are expected to be required for wetlands or endangered species. These agencies will receive this Draft Mitigated Negative Declaration for review and the City of Palo Alto will continue to coordinate with these agencies to confirm that no permits are required.

SECTION 2.0
ENVIRONMENTAL CHECKLIST FORM

1.	**Project Title:**	Mountain View / Moffett Field Area Recycled Water Project
2.	**Lead Agency Name and Address:**	City of Palo Alto Planning and Community Environment 250 Hamilton Avenue Palo Alto, California 94301 (650) 329-2441
3.	**Contact Person and Phone Number:**	Palo Alto Regional Water Quality Control Plant Daisy Stack 2501 Embarcadero Way Palo Alto, California 94303 (650) 329-2287
4.	**Project Location:**	The Project encompasses portions of the City of Mountain View and the City of Palo Alto on the northern side of Highway 101. The pipeline alignment will be located in raised levees and city streets.
5.	**Project Sponsor's Name and Address:**	Palo Alto Regional Water Quality Control Plant 2501 Embarcadero Way Palo Alto, California 94303
6.	**General Plan Designation:**	City of Palo Alto Service Commercial Open Space / Controlled Development Publicly Owned Conservation Land Research / Office Park City of Mountain View Business Park
7.	**Zoning:**	City of Palo Alto Public Facilities District (PF) Public Facilities District / Site & Design Review Combining District (PF-D) Limited Industrial / Research Park District / Site & Design Review Combining District (LMD3) City of Mountain View Planned Community Districts (P Districts) Shoreline West (P(34)) North Bayshore (P(24)) Charleston South Industrial (P(2)) North Shoreline (P(31))

8. **Description of Project:** The proposed recycled water pipeline would extend from the existing Palo Alto Regional Water Quality Control Plant (RWQCP) Regional plant either along a raised levee that crosses an adjacent marsh then south along East Bayshore Road or south on Embarcadero Road to East Bayshore Road and other main streets to the Shoreline golf course and to the future NASA Ames Moffett Field development (see **Figure 1-1**). The levee is located in both a private area that borders the landfill and is used as an access road for city vehicles and a public recreation area that is used for walking, running and nature viewing. The southern portion of the pipeline is located in a business and office complex area. The portion of the pipeline located in the levee would be within a RWQCP easement. The remaining portion of the pipeline would be placed in roadways. Connections to Shoreline Golf Links, parks, and the Ames Development would be provided by the recycled water user.

9. **Surrounding Land Uses and Setting.** There are two alternate pipe routes for the northern end of the recycled water pipeline. For one of the alternate routes, the northern end of the recycled water pipeline would be located in a raised levee that crosses a bayland area along the bayfront in Palo Alto. Portions of that alternate pipeline alignment will be installed in the immediate vicinity of a landfill. The majority of the levee is accessible to the public for recreation including walking and bird watching.

   The remaining portion of that pipe route, and the other alternate pipe route would extend along roadways in light business and office park settings (see **Figure 1-1**) in both the City of Palo Alto and the City of Mountain View. The Palo Alto Airport is located across Embarcadero Road from the RWQCP outside the Project area.

10. **Other public agencies whose approval is required**

- City of Mountain View: Encroachment and Excavation Permits
- City of Palo Alto Department of Public Works – Grading and Excavation Permit
- City of Palo Alto: Encroachment and Street Work Permit
- Santa Clara Valley Water District (SCVWD) – for construction across creeks / flood control channels
- Santa Clara Department of Environmental Health – Hazardous Material Business Plan
- California Regional Water Quality Control Board (RWQCB): National Pollution Discharge Elimination System (NPDES) permit for construction and preparation of Storm Water Pollution Prevention Plan (SWPPP)
- San Francisco Bay Area Air Quality Management District (BAAQMD): Permit to Construct
- San Francisco Bay Conservation and Development Commission (BCDC) – construction near the San Francisco Bay Shoreline
- Caltrans – Encroachment Permit
- CALOSHA – Underground Classification for Tunnels
- California Department of Fish and Game (CDFG) – stream alteration agreement (SAA) (although all creek crossings would be constructed with trenchless methods a CDFG SAA may be required)

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The key environmental factors checked below would be potentially affected by this Project. However, as described in the checklist below, the Project would not cause significant impacts in any of these areas given measures incorporated into the Project construction design and operation.

[ ] Aesthetics	[ ] Agriculture Resources	[X] Air Quality
[X] Biological Resources	[ ] Cultural Resources	[ ] Geology / Soils
[X] Hazards & Hazardous Materials	[X] Hydrology / Water Quality	[ ] Land Use / Planning
[ ] Mineral Resources	[X] Noise	[ ] Population / Housing
[ ] Public Services	[ ] Recreation	[X] Transportation / Traffic
[ ] Utilities / Service Systems	[ ] Mandatory Findings of Significance	

DETERMINATION: (To be completed by 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.

[X] 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.

Kit Alexander for Steve Sims — December 30, 2003
Signature — Date

Kathy Grotte — Steve Sims
Printed Name — For

ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	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?	☐	☐	☐	☒

INTRODUCTION

The Project proposes the construction of a recycled water pipeline. All proposed pipeline segments would be installed underground or hung from existing bridges. There would be some temporary visual changes, but no permanent changes to the visual condition of the Project area in Palo Alto or Mountain View. Scenic resources such as trees, rock, or historic buildings would not be damaged by construction, and any damaged roads or landscaping as a result of construction would be repaired.

DISCUSSION

a,b) Proposed pipelines would be buried underground causing no permanent changes in the visual condition of the Project area. Project construction would have temporary adverse visual impacts on surrounding areas that would not represent a significant impact. Construction would not damage scenic resources such as trees, rock or historic buildings. The Palo Alto Comprehensive Plan does not designate the Project area as a major view corridor (Palo Alto, 1998). The City of Mountain View General Plan does not designate areas with unique or special views that should be protected (City of Mountain View, 1992) within the Project site. Highway 101 in the vicinity of the Project area is not designated as a Scenic Highway (Caltrans, 2003).

c) Construction activities would have a temporary, adverse effect on the visual quality of the pipeline routes. However, due to the limited duration of construction activities, potential impacts are considered less than significant. As discussed in the Project Description, the City of Palo Alto would repair any damage to the road and revegetate any disturbed landscaping, this would reduce the potential for short term construction impacts to become long term visual impacts.

d) Nighttime construction activities would most likely not occur. However, if nighttime construction was to occur, no residential areas are located in the Project area and no businesses would be disrupted. The Project would not create a new source of light or glare that would adversely affect day or nighttime views in the area. No new lighting of Project facilities is proposed. The pipelines would be buried, thus no new sources of glare would be created.

MITIGATION MEASURES

None required or recommended.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
II. AGRICULTURE 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) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. **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?	[ ]	[ ]	[ ]	[X]
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	[ ]	[ ]	[ ]	[X]
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non agricultural use?	[ ]	[ ]	[ ]	[X]

DISCUSSION

a,b,c) The proposed Project is located within an urban area. There are no agricultural resources located in the Project area; therefore, no effect on agricultural resources would occur.

MITIGATION MEASURES

None required or recommended.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	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 upon 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?	☐	☐	☐	☒

INTRODUCTION

The proposed Project includes excavation activities that would generate fugitive dust and other criteria pollutants. Construction contract provisions should include a dust abatement program as outlined in **Measure AQ-1. Daily** combustion emission impacts from construction vehicles would not be significant due to the relatively small scale of the Project. Criteria pollutant emissions from these emission sources would incrementally add to regional atmospheric loading of ozone precursors during the construction period.

DISCUSSION

a,b,c,d) The proposed Project is located within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), the regional agency empowered to regulate air pollutant emissions from stationary sources in the Bay Area. BAAQMD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review process. The pipeline is not located in a residential area or near schools.

Project construction would generate fugitive dust[1] (including Particulate Matter less than 10 microns in size or PM_{10}) and other criteria pollutants, primarily through excavation activities, construction equipment exhaust and haul truck trips, and related construction worker commute trips. The nearest sensitive receptor that could be potentially affected by construction generated fugitive dust in the vicinity of the construction Project would be the bayland that the levee crosses. Fugitive dust emissions would vary from day to day depending upon the level and type of construction activity, silt content of the excavated soil, and the prevailing weather. **Measure AQ-1** provides for the preparation of a dust abatement program to minimize PM_{10} generation.

Given the total amount of excavation required, along with the intensity of anticipated construction (thirteen to sixteen months for construction of the pipeline), daily combustion emissions from construction vehicles and construction-worker commute trips would not be significant or cumulatively considerable. Criteria pollutant emissions of reactive organic gases (ROG) and nitrogen oxides (NO_x) from these emission sources would incrementally add to regional atmospheric loading of ozone precursors during the construction period.

BAAQMD *Guidelines* recognize that construction equipment emits ozone precursors, but indicate that such emissions are included in the emission inventory that is the basis for regional air quality plans, and that construction emissions are not expected to impede attainment or maintenance of ozone data in the Bay Area (BAAQMD, 1996). Consequently, the BAAQMD recommends determination of significance with respect to construction impacts be based not on quantification of emissions and comparison to thresholds, but upon inclusion of feasible control measures for PM_{10} as provided in **Measure AQ-1**.

With respect to project conformity with the federal Clean Air Act, the Project's potential emissions are below minimum thresholds and are well below 10 percent of the area's inventory specified for each criteria pollutant designated non attainment or maintenance for the Bay Area. As such, further general conformity analysis is not required.

MITIGATION MEASURES

Measure AQ-1: The construction contractor shall implement a dust abatement program, which shall include the following elements:

- Water all active construction areas at least twice daily, depending on type of operation, and wind exposure;
- Designate a person or persons to oversee the implementation of a comprehensive dust control program and to increase watering, as necessary;
- Construction grading activity should be discontinued in high wind conditions that cause excessive neighborhood dust problems, based on the discretion of the construction inspector;
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer) in accordance with Section 23114 of the California Vehicle Code during transit to and from the site;

[1] "Fugitive" emissions potentially contain all exhaust emissions that are released to the atmosphere by some means other than through a stack or tailpipe.

- Apply non-toxic soil stabilizers (e.g., latex acrylic copolymer) if visible soil material is carried onto adjacent public streets, and
- Incorporate Storm Water Best Management Practices throughout the course of the Project

Implementation of these measures would reduce potential impacts to air quality to a less than significant level.

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*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 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, regulations or by the California Department of Fish and Game or 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 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 Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

SETTING OVERVIEW

As discussed in the Project Description, Section 1.0, the majority of the proposed pipeline would be constructed in paved streets or other disturbed areas that are not likely to support biological resources. However, portions of the Project alignment may be located in a raised levee that extends through the Palo Alto Baylands Preserve (Baylands Preserve) between the Regional Plant and East Bayshore Road. Adjacent to the construction disturbance area the Baylands Preserve supports northern coastal salt marsh habitat, a sensitive natural community, and potentially several special status wildlife species. In addition, the pipeline would cross Matadero Creek, Permanente Creek, Adobe Creek and Stevens Creek. A full discussion of biological resources occurring or potentially occurring in and adjacent to the Project site is presented in Appendix A and in the following section.

DISCUSSION

a) Portions of the proposed Project have the potential to impact the following special status plant and wildlife species: Congdon's tarplant, central California coast steelhead, central coast Chinook salmon, California black rail, California clapper rail, salt marsh harvest mouse, salt marsh wandering shrew, burrowing owl, Cooper's hawk, sharp-shinned hawk, northern harrier, tricolored blackbird, and salt marsh common yellowthroat. Appendix A contains descriptions of these species and status information. These species may occur in northern coastal salt marsh and ruderal habitat within the Baylands Preserve, coastal freshwater marsh habitat along East Bayshore Road, the four Project area creeks (Matadero, Permanente, San Antonio, and Adobe), or along the Stevens Creek bank.

Congdon's tarplant was observed in 2002 on the east side of Stevens Creek along the edge of the bank. The occurrence is located approximately one mile downstream of the pipeline crossing of Stevens Creek. Although typical grassland habitat for this species is not present in the Project area, there remains some potential for this plant to occur along the levee. Trenchless construction methods, such as bridge attachment or microtunneling, are proposed for installation of the pipeline across Stevens Creek. Thus, Project construction likely would avoid disturbance of the creek corridor and potential habitat for Congdon's tarplant along the levee. However, some ground disturbance of the levee could occur during construction, resulting in mortality or removal of Congdon's tarplant if present. Measure B-1 would be implemented if construction activity could affect potential habitat for Congdon's tarplant.

Though steelhead and Chinook salmon are not expected to spawn in creeks within the Project site (Matadero Creek, Adobe Creek, Permanente Creek and Stevens Creek), these species may forage in Matadero Creek, Adobe Creek, and Stevens Creek. Direct disturbance of these creeks would not occur since bore and jack or other trenchless techniques would be used to install the pipeline. However, steelhead and Chinook salmon could be impacted by potential releases of construction materials, such as bentonite and/or vehicle and equipment fluids, into the water course, increasing turbidity and decreasing water quality. Measure B-2 would be implemented during construction at Matadero Creek, Adobe Creek, and Stevens Creek.

The northern coastal salt marsh habitat dominated by pickleweed directly adjacent to the raised levee that extends from the Plant to East Bayshore Road is not likely to support breeding California clapper rails or California black rails. However, habitat within 700 feet of the Project area may support these species. Though direct habitat disturbance would not occur, increased human activity and construction noise levels could disrupt breeding and nesting of these species if potential habitat is occupied during breeding season (February 1 – August 31). Though construction activities would avoid salt marsh habitat, construction along the levee would result in the removal of poor

quality ruderal upland habitat adjacent to pickleweed marsh. Salt marsh harvest mouse and salt marsh wandering shrew both have a potential to occur within this pickleweed marsh and to occasionally utilize adjacent upland habitat. Project activities within this upland habitat could result in injury mortality of transient individuals of these species. **Measure B-3** and **Measure B-4** would be implemented for construction along the levee from the Plant to East Bayshore Road.

The Stevens Creek levee and ruderal habitat between the Plant and East Bayshore Road have a low potential to support ground squirrel burrows of suitable size for burrowing owl. During construction, impacts to burrowing owl could occur due to direct mortality from equipment and harassment due to noise or vibration adjacent to burrows. Construction activities near active nesting burrows could result in nest failure and loss of eggs and/or young. **Measure B-5** would be implemented for construction within or adjacent to potential burrowing owl habitat.

Potential nesting habitat for the following raptors and other non-listed special-status birds is located adjacent to the Project alignment in the Baylands Preserve between the Plant and East Bayshore Road, in the restoration ponds along East Bayshore Road, and within riparian habitat along the creeks crossed by the pipeline route: Cooper's hawk, sharp-shinned hawk, northern harrier, tricolored blackbird, and salt marsh common yellowthroat. In addition, nesting water birds, cliff swallows, and other birds protected by the Migratory Bird Treaty Act may be present in the Project area. Other than minimal trimming of vegetation adjacent to Matadero Creek, no nesting habitat would be directly affected by installation of the pipeline. Human disturbance and construction activities could cause nest abandonment and death of young or loss of reproductive potential at active nests located near the Project routes. **Measure B-6** would be implemented during construction adjacent to habitat for nesting raptors and other special-status nesting birds.

Implementation of **Measures B-1, B-2, B-3, B-4, B-5,** and **B-6** would decrease potential impacts to special status plant and wildlife species to a less than significant level.

b) With the exception of limited tree trimming within the riparian habitat along the bike path adjacent to Matadero Creek, construction activities would not result in the removal of riparian habitat. No significant impacts to riparian habitat would occur. No impacts to wetlands or other sensitive natural communities would occur.

c) No wetlands are located within the construction disturbance area. Trenchless construction techniques will avoid disturbance of instream wetlands along Matadero Creek, Adobe Creek, Permanente Creek, and Stevens Creek. No disturbance or fill of wetlands protected by Section 404 of the Clean Water Act would occur.

d) Proposed Project activities could temporarily disturb habitat for many common wildlife species that exist along the Project routes. Animals within these habitats could be temporarily displaced during pipeline installation, and animals in habitats adjacent to the Project routes would be subjected to noise and other human disturbances. However, the following factors minimize the potential for effects on common wildlife species to a less-than-significant level:

- Much of the proposed Project area is already disturbed and/or developed.
- The construction corridor is linear and narrow (i.e., 30 feet).
- Activities related to the proposed Project are temporary, and vegetation is expected to recover quickly, particularly within disturbed areas.

Because of the reasons stated above, the proposed Project would result in a less-than-significant impact on common wildlife species. Proposed Project activities would not impact the long-term ability of the western portion of the Project site and surrounding areas to serve as a corridor for migrating wildlife species.

e) No trees protected by City of Palo Alto and / or City of Mountain View ordinances would be removed by the proposed Project. The proposed Project may involve construction activities within the San Francisco Bay shoreline band under the jurisdiction of the Bay Conservation and Development Commission (BCDC). Project activities that proceed within areas of BCDC jurisdiction without a permit would violate the policies of this local commission. **Measure LU-1 (Section IX)** would be implemented for construction activities within BCDC jurisdiction.

MITIGATION MEASURES

The mitigation measures below address potential effects to biological resources in the Baylands Preserve between the Plant and East Bayshore Road, coastal freshwater marsh habitat along East Bayshore Road, the four Project area drainages, and along the Stevens Creek levee. The measures identify best management practices for creek crossings, preconstruction surveys, exclusion fencing and seasonal restrictions on construction activities. Seasonal constraints on construction activities are summarized in **Table 2-1**.

Measure B-1: Conduct preconstruction surveys for Congdon's tarplant and avoid this species during construction.

Prior to construction, a qualified botanist will conduct surveys for Congdon's tarplant during the flowering period of this species in all areas to be disturbed during the construction of the Stevens Creek crossing. If Congdon's tarplant is not identified within 50 feet of the construction area, no further mitigation is required. If Congdon's tarplant is identified within 50 feet of the construction area, these plants will be avoided by construction activities. In addition, orange construction fencing will be constructed and maintained between the construction area and Congdon's tarplant to prevent impacts to this area.

Measure B-2: The Project applicant will implement the following measures to prevent impacts to central California coast steelhead and central coast Chinook salmon:

- Utilize directional boring, bore and jack, or other trenchless construction technique to install the pipeline at all creek crossings.
- Restrict construction at streams that could support steelhead and Chinook salmon to the dry season (June 15-October 15) when flows are reduced, aquatic species are least likely to be present, and the inadvertent release of materials such as bentonite clay would least influence steelhead and Chinook salmon.
- A spill prevention plan for potentially hazardous materials will be prepared and implemented. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills.
- No refueling or fuel storage will occur within 100 feet of waterways.

TABLE 2-1
SUMMARY OF SEASONAL CONSTRAINTS ON CONSTRUCTION

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
Chipdon's tarplant	At Stevens Creek, Measure B-1 must be performed prior to construction at all times.											
Central California coast steelhead Central coast Chinook salmon	Construction cannot be performed at creek crossings (Oct. 16 to Jan. 14)					Construction at creek crossings may occur during the dry season (Jun. 15 to Oct. 15) with implementation of Measure B-2.				Construction cannot be performed at creek crossings (Oct. 16 to Jan. 14)		
California clapper rail California black rail	Construction can occur without mitigation (Sept. 1 to Jan. 31)	In levee across Baylands Preserve, construction can occur with implementation of Measure B-3 prior to construction (Feb. 1 to Aug. 31).							Construction can occur without mitigation (Sept. 1 to Jan. 31).			
Salt marsh harvest mouse Salt marsh wandering shrew	In levee across Baylands Preserve, Measure B-4 must be performed prior to construction at all times.											
Burrowing owl	In levee across Baylands Preserve and at Stevens Creek, Measure B-5 must be performed prior to construction at all times.											
Cooper's hawk Sharp-shinned hawk Northern harrier Tricolored blackbird Salt marsh common yellowthroat	Construction can occur without mitigation (Aug. 16 to Feb. 14).	Construction can occur with implementation of Measure B-6 prior to construction (Feb. 15 to Aug. 15).							Construction can occur without mitigation (Aug. 16 to Feb. 14).			

- Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the creeks. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e., away from the creeks).

- A qualified biological monitor will be on site during stream crossing activities. The biological monitor will be authorized to halt construction if impacts to aquatic species are evident.

- In the event that equipment needs to operate in any watercourse with flowing or standing water for any reason (for example, cleanup of an accidental bentonite clay spill) the biological monitor would be present at all times to alert construction crews to the possible presence of aquatic species at risk during boring operations. If any harm or harassment to occupied aquatic habitat could occur, the monitor would immediately and directly notify the construction supervisor to halt the activity and modify the construction technique to eliminate any chance of harm to the species. In the case of an accidental substance release into one of these streams, resource agencies would be contacted within 24 hours of the incident; sooner, depending upon the severity of the incident.

Measure B-3: Avoid disturbing active nests of California clapper rail and California black rail.

If construction activities are scheduled to occur during the nonbreeding season (September 1 through February 31), no mitigation is required.

If construction activities are scheduled to occur during the breeding season (February 1 through August 31), the following measures are required to avoid potential adverse effects on nesting rails.

- A qualified rail biologist will conduct preconstruction surveys of all potential nesting habitat within 700 feet of construction activities.

- If active California clapper rail or California black rail nests are found during preconstruction surveys, a 700-foot no-disturbance buffer will be created around active nests during the breeding season or until the qualified biologist determine that all young have fledged.

- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required.

Measure B-4: Exclude salt marsh harvest mouse and salt marsh wandering shrew habitat from the construction work area.

Prior to the commencement of construction activities, a qualified biologist will flag the location of the exclusion fence in the field. The fence will be located outside of salt marsh habitat above the high tide line. The exclusion fencing shall be comprised of a 4-foot high silt fence with the base dug in a minimum 6 inches. Fence installation shall be overseen by the qualified biological monitor. Installation should be timed such that no exceptional high tides have occurred in the week prior to installation. The exclusion fence will be maintained and repaired during the entirety of the construction activities. The fencing will be monitored by a qualified biologist at minimum once per week to ensure the integrity of the fence.

Measure B-5: The following measures will be conducted prior to construction to prevent impacts to burrowing owl.

No more than two weeks before construction in potential burrowing owl habitat, a survey for burrowing owls and occupied burrows shall be conducted by a qualified biologist within 500 feet of the construction disturbance area. The survey will conform to the protocol described by the California Burrowing Owl Consortium (1993), including up to four surveys on different dates if there are suitable burrows present.

- If occupied owl burrows are found within the survey area, a determination shall be made by a qualified biologist in consultation with CDFG whether or not construction will impact the occupied burrows or disrupt reproductive behavior.
- If it is determined that construction will not impact occupied burrows or disrupt breeding behavior, construction will proceed without any restriction or mitigation measures.
- If it is determined that construction will physically impact occupied burrows or disrupt reproductive behavior during the nesting season (March through August), construction will be delayed within 250 feet of occupied burrows until it is determined that the owls are not nesting or until a qualified biologist determines that juvenile owls are self-sufficient or are no longer using the natal burrow as their primary source of shelter.
- If it is determined that construction will impact occupied burrows during August through February, one-way doors will be used to passively relocate owls out of the Project area. Under current practice, prior to undertaking this procedure, there shall be at least two unoccupied burrows suitable for burrowing owls within 300 feet of the occupied burrow prior to installation of the one-way doors. The unoccupied burrows can be natural burrows or artificial burrows constructed according to currently accepted design. Artificial burrows shall be in place at least one week before one-way doors are installed on occupied burrows. One-way doors will be in place for a minimum of 48 hours before burrows are excavated.

Measure B-6: Avoid disturbing active special-status raptor nests and nests of other special-status birds.

If construction activities are scheduled to occur during the nonbreeding season (August 16 through February 14), no mitigation is required.

If construction activities are scheduled to occur during the breeding season (February 15 through August 15), the following measures are required to avoid potential adverse effects on nesting special-status raptors and other birds:

- A qualified wildlife biologist will conduct preconstruction surveys of all potential nesting habitat within 500 feet of construction activities.
- If active nests are found during preconstruction surveys, a 500 foot no disturbance buffer will be created around active raptor nests and a 250 foot no disturbance buffer will be created around active nests of other special-status birds during the breeding season or until it is determined that all young have fledged. The size of individual buffers can be adjusted based on an evaluation of the site by a qualified raptor biologist. The evaluation would be based on the presence of topographical features that obstruct the line of site from the construction activities to the nest or observations of the nesting pair during construction based on the level of ongoing disturbance (e.g., road traffic) and the

observed sensitivity of the birds. Site evaluations and buffer adjustments would be done in consultation with the local CDFG representative.

- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required.

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*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 §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §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?	☐	☒	☐	☐

DISCUSSION

a,b) A records search of all pertinent survey and site data was conducted at the Northwest Information Center at Sonoma State University. The records were accessed by utilizing the Mountain View USGS 7.5 minute quadrangle map, Township 3 South, Range 1 East, in Santa Clara County. The review followed the alignment along, with a 1,000 foot Area of Potential Effect (APE) buffer. Previous surveys and studies and archaeological site records were accessed as they pertained to the APE. Records were also accessed and reviewed in the *Directory of Properties in the Historic Property Data File for Santa Clara County* for information on sites of recognized historical significance within the *National Register of Historic Places*, the *California Register of Historic Resources*, the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1996), and the *California Points of Historical Interest* (1992). A field reconnaissance of the proposed alignment was also conducted by ESA archaeologist, Dean Martorana.

The records and information search indicated that no archaeological or historical resources have been previously identified within the footprint of the alignment itself. However, a number of archaeological sites have been recorded within ¼ mile of the Project area. Segments of the alignment have been surveyed before (see Table 2-2), the surveys were negative for cultural resources, but did indicate that previously recorded sites did occur in the area. For example, **CA-SCI-211** and **CA-SCI-24** were recorded just east of the northeast cloverleaf of the 101/Moffett Blvd. ramoff (approximately 0.25 miles from the proposed alignment). Eight additional sites have been formally recorded within one mile of the 101/85 interchange (**CA-SCI-1, SCI-16, SCI-17, SCI-18/H, SCI-19, SCI-20/H, SCI-23,** and **SCI-4391**.

TABLE 2-2
ARCHAEOLOGICAL SURVEYS CONDUCTED
WITHIN 1/4 MILE OF THE PROJECT ALIGNMENT

Date/#	Author	Title	Recorded Resource Attributes	Resources in Project Area?
2000/ S-22704	Ballard, H.	Cultural Resources Survey of the Point to Point Web TV Service Connection, Santa Clara.	Survey was negative.	None identified
2000/ S-23589	Basin Research Assoc.	Archaeological Survey Report, Route 85/101 Interchange Project, City of Mountain View, Santa Clara County.	Survey was negative.	None identified
1999/ S-23100	Busby, C.I.	Negative Archaeological Survey Report, 101/85 Interchange, CA Department of Transportation	Survey was negative	None identified
1980/ S-8370	Chavez, D.	Cultural Resources Evaluations for the Proposed Navy Housing Locations at Moffett Field, Santa Clara County.	Survey was negative; re evaluation of SCI-21/H and SCI-24	None identified.
N/A/ S-4779	Riley, T.	Archaeological Reconnaissance, Proposed Site of Sanitary Land Fill, Santa Clara County.	Survey was negative.	None identified

SOURCE: On file at the Northwest Information Center, Sonoma State University, Rohnert Park, CA

CA-SCI-21/H was described as a "dirt midden" when originally recorded and was assigned "Nelson 355". The site was also described as "an occupation site"; burials were recovered (Loud 1912).

CA-SCI-24, also a "dirt midden" and "occupation mound" did not reveal any burials and no site dimensions were provided (Loud 1912). More recent work to further illuminate the dimensions and constituents of these two sites has revealed that no evidence of intact archaeological deposits still exist and have likely been completely destroyed (Chavez 1981).

As of its recordation in 1979, The Henry A. Rengstorff House (CA-SCI-381; listed on the National Register of Historic Places) was located on Stierlin Road (now Shoreline Blvd.). The house was moved (date of relocation unknown) and now resides in the Shoreline Regional Park, approximately .5 miles north of Project area.

Survey Findings

Archaeological inventories in urban areas are constrained due to low to zero surface visibility from the presence of contemporary buildings, structures, pavement, landscaping, etc. As a result, no evidence of archaeological resources was observed. Much of the Project area has been recently

developed, with principally business parks. Therefore, no extant historical resources are in the Project area. Approximately one half mile of proposed pipeline that runs north through the Palo Alto Baylands was not accessible.

The Project area is located in an area that was attractive to prehistoric inhabitants in light of the proximity to brackish and fresh water resources. Therefore, ground-disturbing activities have the potential to directly impact unidentified cultural resources. The potential for encountering and disturbing known or unknown cultural resources would be minimized to a less than significant level with the implementation of **Mitigation Measure CR-1**.

Because implementation of the proposed Project includes funding from the State Revolving Fund (SRF) loan, it is necessary to comply with Section 106 of the National Historical Preservation Act (NHPA). The SRF is administered by the California State Water Resources Control Board (SWRCB) on behalf of the federal government, which provides money for the SRF program. As the de facto lead federal agency for compliance with the NHPA, it is the SWRCB's responsibility to consult with State Historic Preservation Officer (SHPO) before granting permits, funding, or other authorization of the undertaking. The Section 106 review process normally involves a four step procedure described in detail in the regulations implementing Section 106 of the NHPA (36 CFR Part 800):

- Identify and evaluate historic properties in consultation with the SHPO and interested parties;
- Assess the effects of the undertaking on properties that are eligible for inclusion in the NRHP;
- Consult with the SHPO, other agencies, and interested parties to develop an agreement that addresses the treatment of historic properties and notify the Advisory Council on Historic Preservation;
- Proceed with the Project according to the conditions of the agreement.

An archaeological inventory report will be prepared subsequent to the MND that will address the above issues.

c) The Project site contains mostly artificial fill material, especially in areas of development. Moreover, the surrounding bay marsh system consists of mostly bay mud materials and some recent alluvium of stream channel, stream overflow, and alluvial fan deposits. Given the relatively young geomorphic characteristics of this area, the probability of encountering paleontological resources is substantially reduced.

This notwithstanding, significant fossil discoveries can be made even in areas designated as having low potential, and may result from the excavation activities related to the proposed Project. This impact would be reduced to a less than significant level with the incorporation of **Mitigation Measure CR-2**.

d) Human remains have been identified in the Project vicinity; however, subsequent investigations have indicated that the sites have been destroyed and do not still contain evidence of human remains or funeral remains. This notwithstanding, the subsurface excavation required for construction of the proposed Project could potentially disturb or destroy human remains from both prehistoric and historic time periods, including those interred outside of formal cemeteries. This is considered a potentially significant impact that would be reduced to a less than significant level by implementation of **Mitigation Measure CR-3**.

MITIGATION MEASURES

Measure CR-1: Pursuant to CEQA Guidelines 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the City shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the City and the qualified archaeologist and/or paleontologist would meet to determine the appropriate course of action. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

The following measure addresses potential impacts to paleontological resources.

Measure CR-2: The Project proponent shall notify a qualified paleontologist of unanticipated discoveries, made by either the cultural resources monitor or construction personnel and subsequently document the discovery as needed. In the event of an unanticipated discovery of a bones, tree, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find.

The following measure addresses potential disturbance to human remains during Project construction.

Measure CR-3: In the event of the discovery of human remains, CEQA Guidelines 15064.5 (e)(1) shall be followed, which is as follows:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The Coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American:

1. The coroner shall contact the Native American Heritage Commission within 24 hours.

2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

Implementation of this measure would reduce potential human remains disturbance impacts to less than significant.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	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 Division of Mines and Geology 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 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), 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?	☐	☐	☐	☒

OVERVIEW

The proposed Project would involve excavation through a variety of geologic features. The Project would not expose people to substantial adverse risks because no habitable structures are being built. The site is not located within an Alquist-Priolo "Earthquake Fault Zone" for fault rupture hazard, potential for ground failure is low, and landslide potential is low. The Project is located in an area that is partly reclaimed tidal wetlands, and therefore classified as having a high liquefaction potential. Furthermore,

the Project could undergo very strong to violent ground shaking in the event of an earthquake. Soil disturbance as a result of the Project construction can be controlled by standard erosion control techniques to prevent pollution of surface waters.

DISCUSSION

a) The proposed Project would not expose people to substantial adverse risks of loss, injury, or death since the proposed Project does not include construction of habitable structures. The site is not located within an Alquist Priolo "Earthquake Fault Zone" for fault rupture hazard, and the potential for fault rupture to damage the pipeline is considered low.

The Project alignment is located in an area that is partly reclaimed tidal baylands and therefore the Project site is classified as having a high liquefaction potential, however, the proposed pipeline will be sited in a raised levee reducing the liquefaction potential. In addition, adherence to generally accepted construction practices would reduce the impact of liquefaction hazards to less than significant. Landslide potential is considered low due to the flat terrain at the Project site.

Extreme earth movement could impact the integrity of the proposed Project as the result of pipeline rupture. Because the pipeline is located within a previously graded, engineered, and developed area, potential for ground failure is considered to be low.

b) Construction activities involving soil disturbance, such as excavation, stockpiling, and grading could result in increased erosion and sedimentation to surface waters. Substantial erosion is considered unlikely because of the relatively small scale of earthmoving activities necessary for Project implementation. Implementation of standard engineering erosion control techniques (see **Measure WQ-1**, in Section VIII, Hydrology and Water Quality) would reduce potential impact to water quality to a less-than significant level.

c) The pipeline alignment is located in an area that would experience very strong to violent shaking in the event of a major earthquake along the San Andreas or Hayward fault. With proper engineering, the construction and operation of the Project is not expected to result in any significant adverse short- or long term impacts related to geology, soils or seismicity.

d) The Project alignment is not located in expansive soils as defined by the UBC.

e) No septic tanks are proposed for the Project; therefore, no impacts are anticipated.

MITIGATION MEASURE

None required or recommended.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. 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 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?	☐	☐	☐	☒

OVERVIEW

Uncontrolled release of hazardous materials during the construction phase of the Project would be a potentially significant impact, which is mitigated by **Measures HM-1** and **HM-2**. No hazardous materials would be used routinely during Project operation, and there are no known hazardous material contaminated sites in the immediate Project area.

DISCUSSION

a) No changes to treatment operations at the Regional Plant would occur as part of the Project. There would be no change in the use, transport, storage, or disposal of chemicals used at the plant from existing conditions.

b) Construction activities would involve the use of certain potentially hazardous materials such as paints, fuels, oils, and solvents. These materials would generally be used for excavation equipments, generators, and other construction equipment, and would be contained within vessels engineered for safe storage. Spills during onsite fueling of equipment or an upset conditions (e.g., puncture of a fuel tank through operator error) could result in a release of fuel or oils into the environment.

Storage of large quantities of these materials at the construction site is not anticipated; however, the uncontrolled release of these materials would be a potentially significant impact. **Measures HM-1 and HM-2** would reduce impacts from hazardous materials release to a less-than-significant level. **Measure HM-1** requires that a Hazardous Materials Management/Spill Prevention Plan (Plan) be developed and given to all contractors working on the Project. The purpose of the Plan is to provide on-site construction personnel, environmental compliance monitors, and regulatory agencies with a detailed description of hazardous materials management, spill prevention, and spill response/cleanup measures associated with the construction of Project elements. **Measure HM-2** requires that the Regional Plan update the existing Hazardous Materials Business Plan and submit it to the Santa Clara Department of Environmental Health. This Plan specifies requirements for storage and disposal, measures for protection of personnel, and procedures to be followed in the event of a spill at times other than construction. This Plan also has drawings depicting the facilities and distribution systems that will be required to be updated.

c) The closest schools, Palo Verde Elementary, in Palo Alto and Crittenden Junior High in Mountain View are located 0.5 miles and 0.4 miles, respectively, south of the Project. As discussed above, no hazardous materials would be routinely used during the operation of the pipeline. Any hazardous materials used during construction would limited and mitigated to a less-than-significant level by **Measures HM-1 and HM-2**.

d) The proposed pipeline would be located through areas zoned as public facilities and business and research and office parks. Based on the results of an environmental database search, there are no known hazardous material contaminated sites in the immediate Project area that may affect the Project.[2] The RWQCP shall require contractors to prepare and submit a Health and Safety Plan, with specific provisions to protect both workers and the public during construction (see **Measure HM-1**), and shall revise the Regional Plant's Hazardous Materials Business Plan, with protection measures for all other times (see **Measure HM-2**). The implementation of these measures, if contamination is encountered, would reduce potential impacts to a less-than significant level.

Contaminated sites may be encountered during construction of the recycled water pipeline in the Moffett Field Area. Section 3.7 of the NASA Ames Development Plan discusses contamination of the Moffett Field Area and mitigation measures in place to reduce the hazard.

e,f) The Palo Alto Airport is located across Embarcadero Road from the RWQCP. However, as discussed in the Project Description, the Project consists of an underground pipeline and is not located on the airport property. Therefore, the Project would not interfere with any airport operations.

[2] Database search conducted by BBL Environmental Information on October 18, 2005. A copy of the complete search will remain on file with the City of Palo Alto.

g) The pipeline would not be expected to interfere with an emergency response plan or emergency evacuation plan. Please also refer to the Traffic section for a discussion of emergency access during construction.

h) The proposed Project is located within an urban setting and would not expose people to wildfire risks, therefore, no impacts are anticipated.

MITIGATION MEASURE

Measure HM-1: Prepare a Health and Safety Plan. The RWQCP shall require the contractor to prepare a Health and Safety Plan that includes a Project specific contingency plan for hazardous materials and waste operations before construction activities could begin. The Santa Clara Department of Environmental Health shall review and approve the Plan. The Health and Safety Plan shall be applicable to all construction activities, and shall establish policies and procedures to protect workers and public from potential hazards. The plan shall be prepared according to federal and California OSHA regulations for hazardous materials Health and Safety Plans.

Elements of the plan shall include, but not be limited to, the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, temporary hazardous waste storage areas;
- Notification and documentation procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

Measure HM-2: The Palo Alto Regional Plant shall revise the existing Hazardous Materials Business Plan for the WTP to reflect changes in hazardous material handling and storage, including containment, site layout, and emergency response and notification procedures for a spill or release from tanks. The plan must include:

- An inventory of hazardous materials with specific quantity data, storage or containment descriptions, ingredients of mixtures, and physical and health hazard information;
- Site and facility layouts that must be coded to chemical storage areas and other facility safety information;
- Emergency response procedures for a release or threatened release of hazardous materials;
- Procedures for immediate notification of releases to the administering agency;
- Evacuation plans and procedures for the facility;
- Description of employee training in evacuation and safety procedures in the event of a release or threatened release of hazardous materials consistent with employee responsibilities, and proof of implementing such training on an annual basis; and
- Identification of local emergency medical assistance appropriate for potential hazardous materials incidents.

Implementation of these measures would reduce potential impacts to a less-than significant level.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY -- Would the Project:				
a) Violate any water quality standards or waste discharge requirements?	[ ]	[ ]	[X]	[ ]
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 which would not support existing land uses or planned uses for which permits have been granted)?	[ ]	[ ]	[ ]	[X]
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 erosion of siltation on or off-site?	[ ]	[ ]	[X]	[ ]
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 flooding on- or off-site?	[ ]	[ ]	[X]	[ ]
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	[ ]	[ ]	[ ]	[X]
f) Otherwise substantially degrade water quality? (erosion potential)	[ ]	[X]	[ ]	[ ]
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?	[ ]	[ ]	[ ]	[X]
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	[ ]	[ ]	[ ]	[X]
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?	[ ]	[ ]	[ ]	[X]
j) Inundation of seiche, tsunami, or mudflow?	[ ]	[ ]	[ ]	[X]

During construction, standard erosion control techniques should be implemented to reduce any impacts to less than significant (Measure WQ-1). Operation of the Project would be conducted in accordance with all applicable federal and state requirements. Use of tertiary recycled water that this Project hopes to accomplish would reduce demand placed upon the local aquifer, so potential impacts to groundwater are considered beneficial. Project implementation would not affect any Wild and Scenic River designated waterways. Installation of the proposed pipeline would not substantially alter the drainage patterns in the Project vicinity because of the relatively small amount of impermeable surfaces that would be installed. No impacts on downstream flood conditions are anticipated.

DISCUSSION

a) Operation (Water Reuse). Operation of the proposed water recycling Project would be conducted in accordance with all applicable federal and state requirements. The major federal legislation governing the water quality aspects of the proposed Project is the Clean Water Act, as amended by the Water Quality Act of 1987. The State of California's Porter-Cologne Water Quality Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. The State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions throughout the state, while the Regional Water Quality Control Board (RWQCB) conducts planning, permitting, and enforcement activities. The Porter-Cologne Water Quality Control Act designates the SWRCB responsible for formulating and adopting state policy for water reclamation, while the California Department of Health Services (DHS) is responsible for establishing uniform statewide reclamation criteria to ensure that the use of recycled water would not be detrimental to public health.

There are no federal standards governing waste water reclamation and reuse in the United States, although the U.S. Environmental Protection Agency has sponsored the preparation of *Guidelines for Water Reuse* (Camp Dresser & McKee, 1992). Many states, including California, have developed waste water reclamation regulations. In all cases, the regulations have been established with the objective of protecting public health and allowing for the safe use of recycled effluent. The DHS established water quality criteria, treatment process requirements, and treatment reliability criteria for reclamation operations, which are set forth in Title 22, Division 4, Chapter 3, of the *California Code of Regulations (CCR) Water Recycling Criteria*. The RWQCB has responsibility for reviewing proposed recycled water projects, and for issuing water recycling requirements through the RWQCB's permitting process. DHS has the responsibility for reviewing proposed water recycling projects, and for providing comments and/or recommendations to the RWQCB.

The existing *Water Recycling Criteria* address treatment requirements for three main types of recycled water uses: Landscape Irrigation, Recreational Impoundments, and Industrial Uses. The treatment requirements are based on the expected degree of human contact with recycled effluent under each type of use. Treatment requirements are expressed as treatment process requirements (e.g., bio oxidation, coagulation) as well as performance standards (e.g., disinfection standards and contaminant reduction).

The existing Title 22 standards are among the most stringent standards in the world for public health protection, and are about 100 times more stringent than comparable standards established by the World Health Organization. Since the adoption of Title 22 in 1978, the use of recycled water for non-potable uses has expanded throughout the state and is projected to continue to grow over the next several decades. Under Title 22, the Regional Plant's tertiary recycled water has previously qualified for the highest allowable uses, including landscape irrigation with high public contact. To be used as a source supply for this designation, the recycled effluent shall be at all

times adequately oxidized, coagulated, clarified, filtered, and disinfected effluent; this process requirement constitutes the most stringent treatment practicable. To be considered adequately disinfected, the median number of coliform organisms in the effluent may not exceed a Most Probable Number (MPN) of 2.2 per 100 milliliters over a seven day period.

The DHS has also produced *Guidelines for Use of Recycled Water*, which apply to recycled water use areas receiving water that meets Title 22 *Water Recycling Criteria*. The guidelines focus on application and management specifications for various recycled water uses, including general use requirements, landscape irrigation requirements, impoundment requirements, and agricultural reuse area guidelines. (DHS, 1988) General requirements include:

- posting signs to inform the public in areas where recycled water is in use;
- confining recycled water to authorized use areas;
- use of purple recycled water distribution and transmission system piping to indicate that it contains recycled water; and
- other requirements designed to ensure that recycled water use does not adversely affect public health.

Specific requirements established by Title 22 that are applicable to the proposed Project are contained in Article 4, Section 60310 – *Use Area Requirements*. This section restricts irrigation of disinfected tertiary recycled water within 50 feet of any domestic water supply well, and prohibits the over-application or any direct runoff of applied recycled water. Project implementation would not be anticipated to affect water quality of surface waters, as golf course operators would be required to comply with Title 22 requirements regarding the prohibition of direct runoff to adjacent waterways. The RWQCP will provide additional operational guidelines and work with the end users to implement the guidelines to further overspraying and ponding. Additionally, recycled water used for irrigation would be of very high quality, with an estimated total dissolved solids (TDS) of 800 mg/l. Additionally, nitrates in the recycled water are readily taken up by plants, although over-application of recycled water could result in the percolation of recycled water through the root zone and into the soil column.

Recycled water could potentially contain trace amounts of pharmaceutical compounds such as antibiotics, steroids, antidepressants, painkillers, estrogen and other hormones (endocrine disruptors). These compounds can pass through the body unmetabolized or partially metabolized, and can be present in domestic waste water in the range of a few parts per billion to a few parts per trillion. These and other compounds are collectively known within the water industry as "emerging contaminants", and are not presently regulated at the federal, state or local level, although their environmental fate, transport, and health effects are the subject of on-going research.

Current treatment methods (including physical, chemical and biological processes) at the Regional plant remove a large percentage of these compounds from the waste water. These compounds may be present in the recycled water but at minute concentrations, non or below current analytical detection limits. The presence of trace amounts of these compounds in the recycled water would not adversely affect landscape irrigation or any other proposed uses of the recycled water within the Project area. Natural processes, such as biological and photo-degradation at or below the ground surface would further break down residual contamination. Residual traces of chemicals, if any would not adversely affect groundwater quality. During irrigation, recycled water is applied to landscaped areas only to meet the evapotranspiration requirements, and would not produce surface runoff or percolate through the soil to groundwater. The use and application of recycled water would follow the *Guidelines for Use of Recycled Water* (DHS, 1988). It is unlikely that the minute quantities of these compounds, if present, could migrate through the soil and into groundwater

during the wet weather season, and then subsequently migrate to the near shore waters of San Francisco Bay or the surrounding lowlands. If this migration were to occur, the concentrations would be extremely low, if even detectable, and would likely be comparable to existing background levels in the bay water.

Adherence of the proposed Project to all appropriate Title 22 requirements (**Measure WQ-2**) would assure that potential impacts to water quality or public health would be reduced to a less-than significant level.

h) The Cities of Palo Alto and Mountain View receive potable drinking water from the Hetch Hetchy system and the City of Mountain View supplements its supply with additions from the Santa Clara Valley Water District (SCVWD) and city-owned groundwater wells. The Shoreline Golf course currently irrigates with potable water and groundwater pumped from a single onsite well. Use of tertiary recycled water would alleviate a portion of the demand placed upon the local aquifer thereby preserving the aquifer for other uses. Therefore, potential impacts to groundwater are considered beneficial.

c,d,e) The proposed pipeline would be installed within existing levees and roadways. Project implementation would not affect any Wild and Scenic River designated waterways. Ground cover or surface pavement above installed pipelines would be restored after construction is completed. Therefore, the installation of the proposed pipeline would not substantially alter the existing drainage patterns in the Project vicinity because of the relatively small amount of impermeable surfaces that would be installed as a result of Project implementation and the restoration of disturbed landscape areas. Storm drainage conditions would not be expected to change. The proposed Project would thus have no impact on downstream flood conditions.

f) Construction. Without mitigation, earthmoving activities associated with pipeline construction could contribute to soil erosion and a subsequent degradation in water quality. Implementation of standard erosion control techniques during Project construction activities (see **Measure WQ-1**) would reduce the potential water quality impacts to a less-than significant level. A formal Storm Water Pollution Prevention Plan (SWPPP) would be required for construction activities. The RWQCP would be required to apply for coverage under the SWRCB's General Construction NPDES Permit and develop a Project-specific SWPPP prior to commencement of any construction activities. Development of a SWPPP, implementation of Best Management Practices (BMPs), and compliance with SWRCB NPDES permit requirements would reduce potential impacts associated with sedimentation or pollutant concentrations in storm water runoff originating from construction activities. In addition, BMPs as required by **Measure WQ-1** for erosion control would avoid potential erosion and sedimentation to storm drains and/or receiving waters.

g,h,i) Executive Order 11988 requires federal agencies to prepare floodplain assessments for actions located within or affecting floodplains, and similarly, Executive Order 11990 places similar requirements for actions in wetlands. The proposed pipeline is located within a 100-year floodplain and a wetland, however proposed construction would not affect them. The Project does not propose homes or other habitable structures within the 100-year flood boundary. The Project does not include any new structures that would impede or redirect flood flows. Therefore, no impacts relative to flooding are anticipated.

j) The Project area is not subject to seiches, tsunamis, or mudflows, and no impacts are anticipated.

MITIGATION MEASURES

Measure WQ-1: Best Management Practices shall be implemented to minimize potential water quality impacts during construction.

The RWQCP shall require contractors to implement Best Management Practices (BMPs) for construction activities as specified by the California Storm Water Best Management Practices Handbook (Storm Water Quality Task Force, 1993) and/or the Manual of Standards for Erosion and Sediment Control Measures (ABAG, 1995). The BMPs include measures guiding the management and operation of construction sites to control and minimize the potential contribution of pollutants to storm runoff from these areas. These measures address procedures for controlling erosion and sedimentation and managing all aspects of the construction process to ensure control of potential water pollution sources. Erosion and sedimentation control practices typically include:

- limiting construction to the dry-weather months;
- installation of silt fencing and/or straw wattle;
- soil stabilization;
- revegetation; and
- runoff control to limit increases in sediment in storm water runoff (e.g., straw bales, silt fences, check dams, geofabrics, drainage swales, and sand bag dikes).

Measure WQ-2: The proposed Project shall be designed and operated in accordance with the applicable requirements of Title 22.

As proposed, the Project shall provide disinfected tertiary effluent to provide the highest quality recycled water. All landscape irrigation systems shall be operated in accordance with the requirements of Title 22 of the California Code of Regulations and any reclamation permits issued by the California Regional Water Quality Control Board, San Francisco Bay Region. Reclamation permits typically require that irrigation rates match the evapotranspiration rates of the plants being irrigated, and that no irrigation occur within 50 feet of any domestic supply wells.

In addition, it is recommended that the golf course operators re-evaluate their present fertilizer loading rates to account for the nitrate level in the applied recycled water.

Implementation of these measures would reduce potential impacts to water quality to a less than significant level.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
IX. 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 the 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?	☐	☐	☒	☐

Construction of the proposed Project in certain areas of Palo Alto and Mountain View may require short-term detours or delays in traffic. Proposed alignments would not result in a disproportionately high and adverse human health or environmental effects on minority populations or low income populations. Since the Project is in part to replace a deteriorated unusable section of pipeline, the Project is classified as a utility upgrade. No conflicts with recovery plans or habitat conservation plans would be associated with Project implementation.

DISCUSSION

a) The proposed Project would construct a recycled water pipeline on a levee and roadways, and possibly through parking lots, roadway shoulders, or trails. Construction in certain areas may require short-term detours or delays since construction progresses at an approximate rate of 100 to 150 feet per day any detours would be in the short term only.

With respect to environmental justice, the proposed Project involves the installation of water recycling pipeline to serve existing irrigation needs at golf courses and parks. Project implementation would take place within the City of Palo Alto and the City of Mountain View, which have annual median incomes of $90,377 and $69,362, respectively. (US Census, 2000). The pipeline would connect an existing park and a developed golf course. Proposed alignments were identified based upon available routes, and would not result in a disproportionately high and adverse human health or environmental effects on minority populations or low-income populations.

A result of Project implementation will be the reduction of source waste water discharge at the Dumbarton Bridge Outfall. The area near the outfall is used as a local fishing spot used primarily by low-income individuals. Reduction in discharge would reduce concentrations of metals and other chemicals into the area resulting in a cleaner environment for fishing and other recreation. This would be considered a beneficial impact.

b) The proposed recycled water pipeline would be constructed in a levee on a bayland and in roadways, and possibly through parking lots, roadway shoulders, or trails. Since the Project is in part to replace a broken unusable section of pipeline, the Project is classified as a utility upgrade. The portion of the pipeline that is within the bayland falls under the jurisdiction of the Palo Alto

Department of Planning zone of Public Facilities District (PFD) for Site and Design Review. The Department of Planning has determined that the proposed Project will not have to be reviewed by the Design Review Board.

The Project area is within the jurisdiction of the BCDC. With implementation of **Measure LU-1**, the proposed Project would not conflict with any local land use policies or ordinances.

With implementation of **Measure B-8**, the proposed Project would not conflict with any local policies or ordinances protecting biological resources.

c) Please see Section IV.f. The proposed Project is limited to installation of a water recycling pipeline within existing roadways, levees, and golf course areas. No conflicts with recovery plans or habitat conservation plans would be associated with Project implementation.

MITIGATION MEASURES

Measure LU-1: Prior to construction, the Project applicant will apply for and receive a BCDC permit for construction activities within areas of BCDC jurisdiction. The Project applicant will comply with all provisions of the permit during and after construction. Typical permit requirements include measures to maintain public access to the San Francisco Bay, construction methods to prevent impacts to water quality, and mitigation measures to offset adverse environmental impacts of the Project.

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
X. 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?	[ ]	[ ]	[ ]	[X]
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?	[ ]	[ ]	[ ]	[X]

DISCUSSION

a) The California Division of Mines and Geology (CDMG) has classified lands within the San Francisco-Monterey Bay region into Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act (SMARA) of 1975 (Stinson *et al.*, 1984). The CDMG classified urbanized lands within the South San Francisco Bay Production Consumption Region according to the presence or absence of significant sand, gravel, or stone deposits that are suitable as sources of aggregate. Areas classified as MRZ-1 are areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little or no likelihood exists for their presence. MRZ-2 areas are those where adequate information indicates that significant deposits are

present. Areas classified as MRZ-3 contain mineral deposits, but their significance cannot be evaluated from available data. Areas are classified as MRZ-4 where available information is inadequate for assignment to any other MRZ category.

The majority of the City of Palo Alto and the City of Mountain view, including the Project site, is classified as MRZ-1 indicating areas where adequate information exists that no significant mineral deposits are present or where it is judged that little likelihood for their presence exists (Stinson, *et al.*, 1983).

MITIGATION MEASURES

None required or recommended.

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
XI. 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 applicable standards of other agencies?	☐	☒	☐	☐
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?	☐	☐	☒	☐

Project construction would result in intermittent, elevated noise levels within the nearby commercial and residential areas, and would increase ambient noise levels, which is mitigated by **Measure N-1**.

DISCUSSION

a,b,d) Construction noise would result from operation of equipment and vehicles, including heavy trucks, a crane and concrete trucks. Peak noise levels generated by construction would be typically less than 60 dBA within 50 feet, although occasional noise levels may reach 80 dBA within 50 feet, for short periods of time.

The increase in ambient noise levels would have a temporary impact on nearby land uses. There are no residences, schools or hospitals or other such land uses in the immediate Project area that would be particularly sensitive to construction noise disturbance. The area is adjacent to Highway 101 and commercial areas as well as public open space and the Baylands. The Baylands habitat itself is the chief sensitive receptor in the area, where resident wildlife could be affected by construction noise. Without mitigation, the temporary and intermittent noise levels from construction activities could constitute a significant impact. Implementation of Measure N-1 would reduce potential noise impacts associated with construction activities to a less-than significant level. These measures include limitation of construction hours and the use of special construction equipment.

MITIGATION MEASURES

Measure N-1: The following measures shall be implemented to minimize potential noise impacts during construction:

To reduce daytime noise impacts due to construction, the District shall require that construction contractors muffle or control noise from construction equipment through implementation of the following measures:

- Daytime construction activities in the City of Palo Alto shall be limited to between 8:00 a.m. and 5:00 p.m. Monday through Friday, as per Section 9.10.060 of the Palo Alto Municipal Code and between the hours of 7:00 a.m. and 6:00 p.m. in the City of Mountain View as per Section 8.23 of the City of Mountain View Code. Access to the construction site may occur between the hours of 7:00 a.m. and 6:00 p.m. For construction at the intersection of Embarcadero Road and East Bayshore Blvd., night time construction will occur between the hours of 10:00 pm and 6:00 am.

- Equipment and trucks used for construction should utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields and shrouds, and installation of blankets around the Project site, wherever feasible and necessary). Construction vehicles should be properly maintained and equipped with exhaust mufflers that meet state standards.

- Impact tools (e.g., jackhammers and pavement breakers) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10dBA. External jackets on the tools themselves should be used where feasible, and this could achieve a reduction of 5dBA. Quieter procedures shall be used such as drilling rather than impact equipment whenever feasible; and

- Stationary noise sources shall be located as far from sensitive receptors as possible. If they must be located near sensitive receptors, they shall be muffled to the extent feasible and enclosed within temporary sheds.

Implementation of these measures would reduce potential noise impacts to a less-than-significant level.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. 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 housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No impacts related to growth inducement or population and housing would be associated with the proposed Project, and no existing housing would be displaced. No long-term visual impacts due to construction are anticipated.

DISCUSSION

a) Project implementation would result in improved water resources management, by reducing existing irrigation demands on groundwater supplies and other potable water during peak summer months. Because the irrigation demands that would be met with recycled water are seasonal in nature, the implementation of recycled water distribution systems does not represent a new potable water supply that can be dedicated to other uses on a year-round basis. Rather, the distribution of recycled water facilities provides the Cities of Palo Alto and Mountain View with a better ability to manage peak season demands during summer periods and to maintain irrigation to landscaped areas during drought periods on the groundwater basin. As such, Project implementation would not provide additional water supplies that would support growth beyond that envisioned under the City of Palo Alto and the City of Mountain View General Plans. Therefore, no impacts related to growth inducement or population and housing would be associated with the proposed Project.

b,c) The proposed Project would not displace existing housing, therefore, this Project would not necessitate the construction of replacement housing elsewhere.

MITIGATION MEASURES

None required or recommended.

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES --				
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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?	☐	☐	☐	☒

DISCUSSION

a) Construction of the proposed water recycling and distribution facilities would not involve alteration of government facilities, nor would it require new public services. In addition, the Project would not induce growth, which would require the creation of increased public services. The proposed Project would decrease the burden on imported surface water, as described in the Project Description and in Section VIII.b, but would not expand treatment capacity or potable water supply. Therefore, no physical or environmental impacts associated with the provision of new or altered governmental facilities would results.

MITIGATION MEASURE

None required or recommended.

Issues (and Supporting information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XIV. RECREATION --				
a) Would the Project 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) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION

a,b) The portions of the Project site are located within Shoreline Park and the Palo Alto Baylands and Nature Preserve (see **Figure 1-1**). Implementation of **Measure R-1** would reduce potential impacts associated with construction activities to a less than-significant level. No new recreational facilities will be built due to construction of the proposed Project, and implementation of the proposed Project would not be expected to increase use of recreational facilities.

MITIGATION MEASURES

Measure R-1: Pipeline alignment through recreation facilities shall be routed as to minimize disruption.

The RWQCP shall be required to coordinate with the Palo Alto Transportation Department, Palo Alto Parks Division and the City of Mountain View Parks Division about pipeline routing in order to minimize disturbance from construction. Appropriate signage, pedestrian / user management, and detours shall be provided by the contractor.

Issues (and Supporting Information Sources):	Potentially significant impact	Less than significant With Mitigation Incorporation	Less than significant impact	No impact
XV. TRANSPORTATION / TRAFFIC -- Would the Project:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard 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) Result in inadequate parking capacity?	☐	☒	☐	☐
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☒	☐	☐

Pipeline installation activities would temporarily disrupt transportation and circulation patterns in the vicinity of the Project. Traffic analysis found that the Project would significantly affect roadway segments and intersections on all pipeline segments if the construction zone were to reduce the travel width during peak traffic periods. Potential conflicts along the major pipeline route as well as along the lateral route could occur between construction traffic and bicyclists and pedestrians. Temporary effects on the potential for accidents, emergency access, displacement of on-street parking, and disruptions to transit service could also occur. All traffic impacts would be mitigated to less than significant by Measure T-1.

DISCUSSION

a,b) As discussed in Chapter 1, the Palo Alto Regional Water Quality Control Plant (RWQCP) proposes installation of new underground pipeline that would distribute recycled water to the City of Mountain View and the Moffett Field Area. The pipeline would be installed within roadway

rights-of-way using standard open-cut trenching techniques by means of speed shoring or trench box bracing.

Traffic-generating construction activities related to pipeline installation would consist of the daily arrival and departure of construction workers to the work site; trucks hauling equipment and materials to the work site; and the hauling of excavated spoils from, and import of new fill to, each work site. An estimated 10 workers would be used for the pipeline construction crew. Construction equipment used for pipeline construction would include backhoes, front end loaders, dump trucks, flatbed delivery trucks, cranes, compactors, concrete trucks, and paving equipment.

Based on the estimated crew size, and assuming some overlap in construction activities at the work site, construction worker trips traveling to and from the work site are not anticipated to exceed 40 round trips (20 one-way trips) per day.

As discussed in Section 1, the trench size for open cut installation within paved roadways would be approximately four feet wide, with active work areas of about four feet on one side of the trench and 10 to 12 feet on the other side for access by trucks and loaders. This would result in a construction easement of approximately 25 feet in width. It is expected that open trench construction within paved roadways would proceed at the rate of approximately 100 feet per day, with an overall work zone of 300 to 600 feet. Using the above trench size and construction rate estimates, and assuming full backfilling of soil, it is estimated that up to 89 cubic yards (CY) of trench spoils would be hauled off-site daily, and 77 CY of new fill would be imported daily. Using an average haul load of 10 CY per truck, this would amount to up to 17 truck haul round trips (33 one-way trips) generated per work day. Accounting for the delivery of pipes and other construction components (which would be shipped on demand to the Project site throughout the construction period), the total number of off-site construction truck trips would be approximately 20 round trips (40 one-way trips) per work day.

The proposed pipeline alignment would follow within and/or across several roadways. The exact placement of the pipeline in the roadways is not known at this time, but regardless of where it would be installed, pipeline installation activities would temporarily disrupt existing transportation and circulation patterns in the vicinity. Impacts would include direct disruption of traffic flows and street operations. Lane blockages during pipe installation would result in a reduction in travel lanes and on-street parking. Pipe installation work within and/or across high traffic volume arterials could significantly affect traffic flow and operations at these locations.

Traffic analysis of the proposed pipeline alignment found that the Project would significantly affect roadway segments and intersections on all pipeline segments if the construction zone were to reduce the travel width during peak traffic periods. The impacts during peak traffic periods would be significant because they would result in either roadway or intersection levels of service that would be unacceptable (*i.e.*, worse than LOS D). The decrease in traffic volumes outside the peak periods typically, but not universally, is sufficient to allow the reduced number of travel lanes to accommodate the traffic flow without significant delays. Delays also would be experienced by drivers during off-peak hours, but because of the lower volume, fewer people would be affected by the delays during those periods.

The temporary construction easement width that would be required for proposed pipe installation in public roadways would be approximately 20 to 30 feet. As specified under Construction Vehicle Trip Generation, above, open trench construction within paved roadways would be expected to proceed at a rate of about 100 linear feet per day. Consequently, impacts would be relatively brief at any one location along the pipeline alignment, at most a few days.

East Bayshore Road is a two-lane roadway within pipeline segments for which the 25 foot wide construction zone would result in insufficient remaining width to maintain two-way traffic flow, requiring alternate one-way traffic flow. Bicycle lanes on East Bayshore Road would be disrupted during construction and bicyclists would need to be accommodated in the alternate one-way traffic flow.

Garcia Avenue is a two-lane roadway with a center left turn lane and bicycle lanes. The proposed construction zone width of about 25 feet could be accommodated in the roughly 47 foot paved cross-section. The configuration of the road during construction would eliminate the center left-turn lane in order to maintain two-way traffic flow. Bicycle lanes on Garcia Avenue would be disrupted during construction and bicyclists would be accommodated in the reduced lane traffic flow.

La Avendia Road is a two-lane roadway with parking on both sides. The pipeline construction zone of 25 feet would leave roughly 25 feet of pavement to provide two-way traffic flow. On-street parking in the construction zone would be eliminated during the installation period.

Shoreline Blvd. and Charleston Road have four travel lanes, divided by a raised median. On those roads, the pavement on each side of the median is about 28 feet wide. The proposed construction zone width of about 25 feet would generally occupy the pavement on one side of the median, with two-way traffic flow accommodated on the opposite side of the median. The existing four through-traffic lanes (plus turn lanes and/or bike lanes) divided by the median would need to be transitioned to two through-traffic lanes on one side of the median.

Embarcadero Road (an alternate installation route) varies from four travel lanes at its intersection with East Bayshore Road, to three travel lanes near its termination. The pipeline construction zone of about 25 feet could be accommodated in the paved cross-section and would leave ample pavement width to provide two-way traffic flow. Bicycle lanes on Embarcadero Road would be disrupted during construction and bicycle would be accommodated in the reduced lane traffic flow. On-street parking in the construction zone would be eliminated during the installation period.

Faber Avenue is a two-lane cul-de-sac with parking on both sides. The pipeline construction zone of 25 feet would result in insufficient remaining width to maintain two-way traffic flow, requiring alternate one-way traffic flow. On-street parking in the construction zone would be eliminated during the installation period.

Table B-1 in Appendix B identifies all roadways in which the alignment for the new pipeline would occur within or across. Directional boring, a special construction technique, is proposed to install pipes beneath San Antonio Road.

Construction-generated traffic would be temporary and therefore would not result in any long term degradation in operating conditions or level of service on any Project roadways. The primary impacts from the movement of construction trucks would include short-term and intermittent lessening of roadway capacities due to slower movements and larger turning radii of the trucks compared to passenger vehicles. The proposed alignment for the pipeline would be located within the paved section of major collectors and arterials.

As discussed above, pipe installation could generate up to 10 off-site construction worker vehicle round trips (20 one-way trips) and 17 off-site truck round trips (33 one-way trips) per day. These Project-generated trips would not be substantial relative to background traffic conditions on all roadways in the affected areas, and would fall within the daily fluctuations of traffic volumes for these roadways. Therefore, this short-term increase in vehicle trips would not significantly affect level of service and traffic flow on roadways. If there is a scheduled event at Shoreline

Amphitheatre, construction activities on Shoreline Blvd. would add to the existing roadway congestion in the area. Construction hours on roadways near the Shoreline Amphitheatre would take into consideration the events schedule.

Level of service standards for roadways that are part of county Congestion Management Program (CMP) networks are intended to regulate long-term traffic increases from operation of new development, and do not apply to temporary construction projects. As such, the proposed Project would not exceed level-of-service standards established by the applicable Congestion Management Agency for designated CMP roadways.

Proposed hours of construction are Monday through Saturday, 7:00 a.m. to 5:00 p.m. for most pipeline segments. Most Project-related hauling and deliveries would be dispersed throughout the day, thus lessening the effect on peak hour traffic. Project truck traffic occurring weekdays during the hours of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. would coincide with peak-period traffic, and therefore, would have the greatest potential to impede traffic flow. The section of pipeline on Embarcadero Road would be laid using the open-trench method at night, to avoid peak-hour traffic.

As specified under **Measure T-1**, RWQCP shall obtain all necessary local road encroachment permits prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. Specific requirements that may be included in the traffic control plan are identified under **Measure T-1**. Implementation of **Measure T-1** would ensure potential impacts associated with temporary increases in construction traffic would be mitigated to a less-than significant level.

Construction of recycled water pipelines in the Moffett Field Project area are discussed in Section 4.3.1 of the NASA Ames Development Plan EIS (DCE, 2002).

c) As discussed in Chapter 1, Project Description, the proposed Project would involve the construction of a buried pipeline. Therefore, there would be no impact to air traffic patterns or increase in safety risks as a result of the proposed Project.

d) The Project would not change the configuration (alignment) of area roadways, and would not introduce types of vehicles that are not already traveling on area roads. However, heavy equipment operating adjacent to or within a road right-of-way would increase the risk of accidents. Construction-generated trucks on Project area roadways would interact with other vehicles. Potential conflicts also could occur between construction traffic and bicyclists and pedestrians.

Implementation of **Measure T-1** would require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction, including compliance with roadside safety protocols, so as to reduce the risk of accident. Specific requirements that may be included in the traffic control plan are identified under **Measure T-1**. Thus, implementation of **Measure T-1** would ensure temporary increases in the potential for accidents would be mitigated to a less-than-significant level.

e) The proposed Project would have temporary effects on traffic flow, particularly with routes within road rights of way. Pipeline installation within or across streets and temporary reduction in travel lanes could result in delays for emergency vehicle access in the vicinity of the work site.

Implementation of **Measure T-1** would require the construction contractor to establish methods for maintaining traffic flow in the Project vicinity and minimizing disruption to emergency vehicle access to land uses along the alignment. Specific requirements that may be included in the traffic

control plan are identified under **Measure T-1**. Implementation of **Measure T-1** would ensure potential impacts associated with temporary effects on emergency access would be mitigated to a less-than-significant level.

f) The proposed Project would create limited new, temporary parking demand for construction workers and construction vehicles the crew moves along the installation alignment. As discussed, the Project would not generate a substantial number of construction workers along the alignment; therefore, the number of parking spaces required would not be substantial. Construction along the alignment would also temporarily displace existing on-street parking on La Avenida Street and Fabor Avenue. If the Embarcadero Road alignment alternative is selected, then existing on-street parking would be temporarily displaced. However, given the proposed rate of new pipe installation, impacts to on-street parking would be relatively brief at any one location along the alignment.

Implementation of **Measure T-1** would require the construction contractor to establish methods for minimizing construction effects on parking. Specific requirements that may be included in the traffic control plan are identified under **Measure T-1**. Implementation of **Measure T-1** would ensure potential impacts associated with potential temporary displacement of on-street parking would be mitigated to a less than significant level.

g) The proposed Project would have no lasting impact on demand for alternative transportation or on alternative transportation facilities. However, pipeline construction could disrupt access to bus stops and slow bus movements for Route 40 operated by the Valley Transportation Authority. Route 40, which provides service between San Antonio Shopping Center and La Avendia Street, operates on La Avendia Street continuously, and provides scheduled trip service on Shoreline Blvd. and Charleston Road. Bus stops may need to be temporarily relocated along Route 40.

Implementation of **Measure T-1** would require the construction contractor to establish methods for minimizing construction effects on transit service. Specific requirements that may be included in the traffic control plan are identified under **Measure T-1**. Implementation of **Measure T-1** would ensure potential impacts associated with temporary disruptions to transit service would be mitigated to a less than significant level.

MITIGATION MEASURES

Measure T-1: Obtain and comply with local road encroachment permits.

RWQCP would obtain all necessary local road encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan could include the following requirements:

- Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.

- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.
- Include detours for bicycles and pedestrians in all areas potentially affected by Project construction.
- Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.
- Develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, ask affected jurisdictions to identify detours, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary.

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the Project:				
a) Exceed waste water treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or waste water 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 waste water treatment provider which 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?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS – (cont.)				
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?	☐	☐	☐	☒

Project operation would not result in any exceedance of waste water treatment requirements, since the use of recycled water would be in accordance with Title 22 and the RWQCB-issued NPDES permit. The Project would not require additional facilities other than those proposed, and would not increase the need for additional off-site storm water drainage facilities. No waste water will be generated, so no impacts will occur concerning the regional waste water treatment facilities. No long-term solid waste generation would be associated with the Project, and the construction contractor would be required to comply with all pertinent regulations regarding the disposal of solid waste.

DISCUSSION

a) The Project is limited to construction and operation of recycled water pipeline. Pipeline operation and use of recycled water would be in accordance of Title 22 and the RWQCB-issued NPDES permit and Waste Discharge Requirements for use of recycled water would detail any waste water treatment and monitoring requirements held by the RWQCP. Therefore, Project implementation would not result in any exceedance of waste water treatment requirements.

b) The proposed Project consists of distribution pipelines and would not create the need for additional facilities other than those proposed. The Project is proposed in order to provide for the beneficial use of recycled water within the Cities of Palo Alto and Mountain View, and provides benefits to both waste water and water resource management, through provision of a disposal mechanism and providing a reliable irrigation supply source.

c) Ground cover above distribution pipelines would be replaced to prior existing conditions. In addition, the use and amount of irrigation water would not increase due to change in source of water. Therefore, the proposed Project would not increase the need for additional off-site storm water drainage facilities.

d) The proposed Project does not require water entitlements; therefore, no impacts would occur.

e) The proposed Project is limited to distribution facilities, and would not generate waste water for treatment. Therefore, no adverse effects on the regional waste water treatment facilities are anticipated.

f) Solid waste generation would be limited to construction activities, and would not affect available solid waste disposal capacity in the region. No long term solid waste generation would be associated with the proposed Project.

g) The contractor would be required to comply with all pertinent regulations regarding the disposal of solid waste generated by construction activities, therefore, no impacts would occur.

MITIGATION MEASURES

None required or recommended.

Issues (and Supporting Information Sources)	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the Project have the potential to 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 a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	[ ]	[ ]	[ ]	[X]
b) Does the Project have impacts that are individually limited, but cumulative considerable? ("Cumulative 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)?	[ ]	[ ]	[ ]	[X]
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	[ ]	[ ]	[ ]	[X]

SECTION 3.0

MITIGATION SUMMARY AND MONITORING AND REPORTING PLAN

The following is a summary of mitigation measures integrated into the Project that are adequate to reduce all potentially significant impacts to a less-than-significant level. These are the same exact mitigations measures presented in Section 2, above. Following each measure is a table that presents the mitigation monitoring and reporting steps that the RWQCP will implement to ensure mitigation compliance.

3.1 AIR QUALITY

Measure AQ-1: The construction contractor shall implement a dust abatement program, which shall include the following elements:

- Water all active construction areas at least twice daily, depending on type of operation, and wind exposure;
- Designate a person or persons to oversee the implementation of a comprehensive dust control program and to increase watering, as necessary;
- Construction grading activity should be discontinued in high wind conditions that cause excessive neighborhood dust problems, based on the option of the construction inspector;
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least two fee of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer) in accordance with Section 23114 of the California Vehicle Code during transit to and from the site;
- Apply non-toxic soil stabilizers (e.g., latex acrylic copolymer) if visible soil material is carried onto adjacent public streets; and
- Incorporate Storm Water Best Management Practices throughout the course of the Project.

Implementation of these measures would reduce potential impacts to air quality to a less-than significant level.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP includes preparation of a dust abatement program in construction specifications	1. RWQCP reviews dust abatement program	1. RWQCP	1. Prior to construction
2. Contractor implements measures in the program	2. Sign-off by RWQCP that measures are being implemented	2. RWQCP	2. During construction

3.2 BIOLOGICAL RESOURCES

Measure B-1: Conduct preconstruction surveys along Steven's Creek for Congdon's tarplant and avoid this species during construction.

Prior to construction, a qualified botanist will conduct surveys for Congdon's tarplant during the flowering period of this species in all areas to be disturbed during the construction of the Stevens Creek crossing. If Congdon's tarplant is not identified within 50 feet of the construction area, no further mitigation is required. If Congdon's tarplant is identified within 50 feet of the construction area, these plants will be avoided by construction activities. In addition, orange construction fencing will be constructed and maintained between the construction area and Congdon's tarplant to prevent impacts to this area.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall include construction limitations and requirements in contractor specifications and procedures associated with encountering of Congdon's tarplant. Biological monitor to conduct a pre-construction survey.	1. RWQCP or qualified biologist	1. RWQCP or qualified biologist	1. Prior to construction
2. Contractor implements measures in the program.	2. Sign-off by RWQCP or qualified biologist that measures are being implemented. Retain monitoring reports in RWQCP file.	2. RWQCP or qualified biologist	2. During construction

Measure B-2: The Project applicant will implement the following measures to prevent impacts to central California coast steelhead and central coast Chinook salmon. This mitigation applies to all creek crossings.

- Utilize directional boring, bore and jack, or other trenchless construction technique to install the pipeline at all creek crossings.
- Restrict construction at streams that could support steelhead and Chinook salmon to the dry season (June 15–October 15) when flows are reduced, aquatic species are least likely to be present, and the inadvertent release of materials such as bentonite clay would least influence steelhead and Chinook salmon.
- A spill prevention plan for potentially hazardous materials will be prepared and implemented. The plan will include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting of any spills.
- No refueling or fuel storage will occur within 100 feet of waterways.

- Proper and timely maintenance for vehicles and equipment used during construction will be provided to reduce the potential for mechanical breakdowns leading to a spill of materials into or around the creeks. Maintenance and fueling will be conducted in an area that meets the criteria set forth in the spill prevention plan (i.e., away from the creeks).

- A qualified biological monitor will be on site during stream crossing activities. The biological monitor will alert the Construction Manager and/or the project Sponsor so that they may authorize halt of work if impacts to aquatic species are evident.

- In the event that equipment needs to operate in any watercourse with flowing or standing water for any reason (for example, cleanup of an accidental bentonite clay spill) the biological monitor would be present at all times to alert construction crews to the possible presence of aquatic species at risk during boring operations. If any harm or harassment to occupied aquatic habitat could occur, the monitor would immediately and directly notify the construction supervisor to halt the activity and the construction technique modified to eliminate any chance of harm to the species. In the case of an accidental substance release into one of these streams, resource agencies would be contacted within 24 hours of the incident; sooner, depending upon the severity of the incident.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP includes construction limitations and requirements in contractor specifications	1. RWQCP or qualified biologist	1. RWQCP or qualified biologist	1. Prior to construction
2. Contractor implements measures in the program.	2. Sign-off by RWQCP or qualified biologist that measures are being implemented. Retain monitoring reports in RWQCP file	2. RWQCP or qualified biologist	2. During construction

Measure B-3: Avoid disturbing active nests of California clapper rail and California black rail. This measure applies to work in or adjacent to the Baylands marsh area.

If construction activities are scheduled to occur during the nonbreeding season (September 1 through January 31), no mitigation is required.

If construction activities are scheduled to occur during the breeding season (February 1 through August 31), the following measures are required to avoid potential adverse effects on nesting rails:

- A qualified rail biologist will conduct preconstruction surveys of all potential nesting habitat within 700 feet of construction activities.

- If active California clapper rail or California black rail nests are found during preconstruction surveys, a 700-foot no disturbance buffer will be created around active nests during the breeding season or until the qualified biologist determine that all young have fledged.

- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP includes construction limitations and requirements in contractor specifications	1. RWQCP or qualified biologist	1. RWQCP or qualified biologist	1. Prior to construction
2. Contractor implements measures in the program	2. Sign off by RWQCP or qualified biologist that measures are being implemented. Retain monitoring reports in RWQCP file.	2. RWQCP or qualified biologist	2. During construction

Measure B-4: Exclude salt marsh harvest mouse and salt marsh wandering shrew habitat from the construction work area. This measure applies to work in or adjacent to the Baylands marsh area.

Prior to the commencement of construction activities, a qualified biologist will flag the location of the exclusion fence in the field. The fence will be located outside of salt marsh habitat above the high tide line. The exclusion fencing shall be comprised of a 4 foot high silt fence with the base dug in a minimum 6 inches. Fence installation shall be overseen by the qualified biological monitor. Installation should be timed such that no exceptional high tides have occurred in the week prior to installation. The exclusion fence will be maintained and repaired during the entirety of the construction activities. The fencing will be monitored by a qualified biologist at minimum once per week to ensure the integrity of the fence.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP includes construction limitations and requirements in contractor specifications.	1. RWQCP or qualified biologist	1. RWQCP or qualified biologist	1. Prior to construction
2. Contractor implements measures in the program	2. Sign off by RWQCP or qualified biologist that measures are being implemented. Retain monitoring reports in RWQCP file	2. RWQCP or qualified biologist	2. During construction.

Measure B-5: The following measures will be conducted prior to construction to prevent impacts to burrowing owl. This measure applies to work in or adjacent to the Baylands marsh area.

No more than two weeks before construction in potential burrowing owl habitat, a survey for burrowing owls and occupied burrows shall be conducted by a qualified biologist within 500 feet of the construction disturbance area. The survey will conform to the protocol described by the

California Burrowing Owl Consortium (1997), including up to four surveys on different dates if there are suitable burrows present.

- If occupied owl burrows are found within the survey area, a determination shall be made by a qualified biologist in consultation with CDFG whether or not construction will impact the occupied burrows or disrupt reproductive behavior.

- If it is determined that construction will not impact occupied burrows or disrupt breeding behavior, construction will proceed without any restriction or mitigation measures.

- If it is determined that construction will physically impact occupied burrows or disrupt reproductive behavior during the nesting season (March through August), construction will be delayed within 250 feet of occupied burrows until it is determined that the owls are not nesting or until a qualified biologist determines that juvenile owls are self-sufficient or are no longer using the natal burrow as their primary source of shelter.

- If it is determined that construction will impact occupied burrows during August through February, one-way doors will be used to passively relocate owls out of the Project area. Under current practice, prior to undertaking this procedure, there shall be at least two unoccupied burrows suitable for burrowing owls within 300 feet of the occupied burrow prior to installation of the one-way doors. The unoccupied burrows can be natural burrows or artificial burrows constructed according to currently accepted design. Artificial burrows shall be in place at least one-week before one-way doors are installed on occupied burrows. One-way doors will be in place for a minimum of 48 hours before burrows are excavated.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP includes construction limitations and requirements in contractor specifications	1. RWQCP or qualified biologist	1. RWQCP or qualified biologist	1. Prior to construction
2. Contractor implements measures in the program	2. Sign off by RWQCP or qualified biologist that measures are being implemented. Retain monitoring reports in RWQCP file	2. RWQCP or qualified biologist	2. During construction

Measure B-6: Avoid disturbing active special-status raptor nests and nests of other special-status birds. This measure applies to work in or adjacent to the Baylands marsh area.

If construction activities are scheduled to occur during the nonbreeding season (August 16 through February 14), no mitigation is required.

If construction activities are scheduled to occur during the breeding season (February 15 through August 15), the following measures are required to avoid potential adverse effects on nesting special-status raptors and other birds:

- A qualified wildlife biologist will conduct preconstruction surveys of all potential nesting habitat within 500 feet of construction activities.

- If active nests are found during preconstruction surveys, a 500 foot no disturbance buffer will be created around active raptor nests and a 250 foot no disturbance buffer will be created around active nests of other special-status birds during the breeding season or until it is determined that all young have fledged. The size of individual buffers can be adjusted based on an evaluation of the site by a qualified raptor biologist. The evaluation would be based on the presence of topographical features that obstruct the line of site from the construction activities to the nest or observations of the nesting pair during construction based on the level of ongoing disturbance (e.g., road traffic) and the observed sensitivity of the birds. Site evaluations and buffer adjustments would be done in consultation with the local CDFG representative.

- If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP includes construction limitations and requirements in contractor specifications	1. RWQCP or qualified biologist	1. RWQCP or qualified biologist	1. Prior to construction
2. Contractor implements measures in the program	2. Sign off by RWQCP or qualified biologist that measures are being implemented. Retain monitoring reports in RWQCP file.	2. RWQCP or qualified biologist	2. During construction

3.3 CULTURAL RESOURCES

Measure CR-1: Pursuant to CEQA Guidelines 15064.5 (f), "provisions for historical or unique archaeological resources accidentally discovered during construction" should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the City shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the City and the qualified archaeologist and/or paleontologist would meet to determine the appropriate course of action. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.

The following measure addresses potential impacts to paleontological resources.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall include procedures associated with encountering of paleontological resources in construction specifications.	1. RWQCP reviews construction specifications	1. RWQCP	1. Prior to construction
2. In the event that paleontological resources are found, construction shall stop and a qualified archaeologist shall be consulted	2. Sign-off by RWQCP that measures have been implemented	2. RWQCP	2. During construction

Measure CR-2: The Project proponent shall notify a qualified paleontologist of unanticipated discoveries, made by either the cultural resources monitor or construction personnel and subsequently document the discovery as needed. In the event of an unanticipated discovery of a breas, true, and/or trace fossil during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall include procedures associated with encountering of paleontological resources in construction specifications.	1. RWQCP reviews construction specifications	1. RWQCP	1. Prior to construction
2. In the event that paleontological resources are found, construction shall stop and a qualified archaeologist shall be consulted	2. Sign-off by RWQCP that measures have been implemented.	2. RWQCP	2. During construction

Measure CR-3: In the event of the discovery of human remains, CEQA Guidelines 15064.5 (e)(1) shall be followed, which is as follows:

(1) There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

(A) The Coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and

(B) If the coroner determines the remains to be Native American

1. The coroner shall contact the Native American Heritage Commission within 24 hours.

2. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American.

3. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

Implementation of this measure would reduce potential human remains disturbance impacts to less than significant.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall include procedures associated with encountering pre-historic remains in construction specifications.	1. RWQCP reviews contractor specifications.	1. RWQCP	1. Prior to construction
2. In the even prehistoric human remains are found, work shall stop and procedures identified shall be followed	2. RWQCP retains agreement with Native Americans in RWQCP files	2. RWQCP	2. During construction; before construction recommences

3.4 HAZARDS AND HAZARDOUS MATERIALS

Measure HM-1: Prepare a Health and Safety Plan. The RWQCP shall require the contractor to prepare a Health and Safety Plan that includes a Project-specific contingency plan for hazardous materials and waste operations before construction activities could begin. The Santa Clara Department of Environmental Health shall review and approve the Plan. The Health and Safety Plan shall be applicable to all construction activities, and shall establish policies and procedures to protect workers and public from potential hazards. The plan shall be prepared according to federal and California OSHA regulations for hazardous materials Health and Safety Plans.

Elements of the plan shall include, but not be limited to, the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, temporary hazardous waste storage areas;
- Notification and documentation procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall include preparation of a Health and Safety Plan in construction specifications	1. RWQCP reviews Health and Safety Plan	1. RWQCP	1. Prior to construction
2. Contractor implements the Health and Safety Plan	2. Sign-off by RWQCP that measures have been implemented.	2. RWQCP	2. During construction

Measure HM-2: The Palo Alto Regional Plant shall revise the existing Hazardous Materials Business Plan for the WTP to reflect changes in hazardous material handling and storage, including containment, site layout, and emergency response and notification procedures for a spill or release from tanks. The plan must include:

- An inventory of hazardous materials with specific quantity data, storage or containment descriptions, ingredients of mixtures, and physical and health hazard information;
- Site and facility layouts that must be coded to chemical storage areas and other facility safety information;
- Emergency response procedures for a release or threatened release of hazardous materials;
- Procedures for immediate notification of releases to the administering agency;
- Evacuation plans and procedures for the facility;
- Description of employee training in evacuation and safety procedures in the event of a release or threatened release of hazardous materials consistent with employee responsibilities, and proof of implementing such training on an annual basis; and
- Identification of local emergency medical assistance appropriate for potential hazardous materials incidents.

Implementation of these measures would reduce potential impacts to a less-than-significant level

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall submit a revised Hazardous Material Business Plan to the SCDEH	1. RWQCP reviews Hazardous Materials Business Plan and retains a copy in RWQCP files	1. RWQCP	1. Prior to operation of Project.

3.5 HYDROLOGY AND WATER QUALITY

Measure WQ-1: Best Management Practices shall be implemented to minimize potential water quality impacts during construction.

The RWQCP shall require contractors to implement Best Management Practices (BMPs) for construction activities as specified by the California Storm Water Best Management Practices Handbook (Storm Water Quality Task Force, 1993) and/or the Manual of Standards for Erosion and Sediment Control Measures (ABAG, 1995). The BMPs include measures guiding the management and operation of construction sites to control and minimize the potential contribution of pollutants to storm runoff from these areas. These measures address procedures for controlling erosion and sedimentation and managing all aspects of the construction process to ensure control of potential water pollution sources. Erosion and sedimentation control practices typically include:

- limiting construction to the dry-weather months;
- installation of silt fencing and/or straw wattle;
- soils stabilization;
- revegetation; and
- runoff control to limit increases in sediment in storm water runoff (e.g., straw bales, silt fences, check dams, geofabrics, drainage swales, and sand bag dikes).

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall incorporate BMPs in construction specifications.	1. RWQCP reviews dust abatement program.	1. RWQCP	1. Prior to approval of construction specification
2. Contractor shall implement the BMPs.	2. Sign-off by RWQCP that measures have been implemented.	2. RWQCP	2. During construction

Measure WQ-2: The proposed Project shall be designed and operated in accordance with the applicable requirements of Title 22.

As proposed, the Project shall provide disinfected tertiary effluent to provide the highest quality recycled water. All landscape irrigation systems shall be operated in accordance with the requirements of Title 22 of the California Code of Regulations and any reclamation permits issued by the California Regional Water Quality Control Board, San Francisco Bay Region. Reclamation permits typically require that irrigation rates match the evapotranspiration rates of the plants being irrigated, and that no irrigation occur within 50 feet of any domestic supply wells.

In addition, it is recommended that the golf course operators re-evaluate their present fertilizer loading rates to account for the nitrate level in the applied recycled water.

Implementation of these measures would reduce potential impacts to water quality to a less than significant level.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall incorporate Title 22 requirements and any additional reclamation permit requirements into project design and operation.	1. RWQCP reviews design documents operation procedures, and all user agreements.	1. RWQCP	1. Prior to approval of project design and documents and user agreements.
2. Contractor shall implement requirements as identified in construction specifications.	2. RWQCP signs off that measures have been implemented.	2. RWQCP	2. During Construction

3.6 LAND USE

Measure LU-1: Prior to construction, the Project applicant will apply for and receive a BCDC permit for construction activities within areas of BCDC jurisdiction. The Project applicant will comply with all provisions of the permit during and after construction. Typical permit requirements include measures to maintain public access to the Bay, construction methods to prevent impacts to water quality, and mitigation measures to offset adverse environmental impacts of the Project. See **Measures AQ-1** – dust abatement; **Measures B-1** through **B-6** biological resources; **Measure HM-1** – hazardous materials; **Measures WQ-1** – best management practices (BMPs); and **Measure R-1** – recreation.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP to oversee implementation of all measures including those referenced above that address BCDC permit issues	1. RWQCP reviews project design and construction specifications	1. RWQCP	1. Prior to construction
2. Contractor implements measures in the program	2. Sign off by RWQCP that measures are being implemented	2. RWQCP	2. During construction

3.7 NOISE

Measure N-1: The following measures shall be implemented to minimize potential noise impacts during construction:

To reduce daytime noise impacts due to construction, the RWQCP shall require that construction contractors muffle or control noise from construction equipment through implementation of the following measures.

- Construction activities in the City of Palo Alto shall be limited to between 8:00 a.m. and 5:00 p.m. Monday through Friday, as per Section 9.10.060 of the Palo Alto Municipal Code and between the hours of 7:00 a.m. and 6:00 p.m. in the City of Mountain View as per Section 8.23 of the City of Mountain View Code. Access to the construction site may occur between the hours of 7:00 a.m. and 6:00 p.m. For construction at the intersection of Embarcadero Road and East Bayshore Blvd., night time construction will occur between the hours of 10:00 pm and 6:00 am.

- Equipment and trucks used for construction should utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically attenuating shields and shrouds, and installation of blankets around the Project site, wherever feasible and necessary). Construction vehicles should be properly maintained and equipped with exhaust mufflers that meet state standards.

- Impact tools (e.g., jack hammers and pavement breakers) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10dBA. External jackets on the tools themselves should be used where feasible, and this could achieve a reduction of 5dBA. Quieter procedures shall be used such as drilling rather than impact equipment whenever feasible; and

- Stationary noise sources shall be located as far from sensitive receptors as possible. If they must be located near sensitive receptors, they shall be muffled to the extent feasible and enclosed within temporary sheds.

Implementation of these measures would reduce potential noise impacts to a less-than-significant level.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall include noise-control requirements in construction specifications.	1. RWQCP reviews construction specifications.	1. RWQCP	1. Prior to approval of construction specifications.
2. Contractor shall implement noise measures.	2. Sign-off by RWQCP that measures have been implemented.	2. RWQCP	2. During construction

3.8 RECREATION

Measure R-1: Pipeline alignment through recreation facilities shall be routed as to minimize disruption.

The RWQCP shall be required to coordinate with the Palo Alto Parks Division and the City of Mountain View Parks Division about pipeline routing in order to minimize disturbance from construction. Appropriate signage and pedestrian / user management shall be provided by the contractor.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. The RWQCP shall coordinate with the City of Palo Alto Planning and Community Environment and the City of Mountain View Community Services regarding pipeline routing. RWQCP reviews pipeline alignment in design documents.	1. Incorporate results in pipeline alignment design.	1. RWQCP	1. During design
2. Contractor implements measures in the program.	2. Sign-off by RWQCP that measures have been implemented.	2. RWQCP	2. Prior to and during construction activities.

3.9 TRANSPORTATION/TRAFFIC

Measure T-1: Obtain and comply with local road encroachment permits.

RWQCP would obtain all necessary local road encroachment permits, prior to construction and would comply with all the applicable conditions of approval. As deemed necessary by the governing jurisdiction, the road encroachment permits will require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction. The traffic control plan could include the following requirements:

- Identify all roadway locations where special construction techniques (e.g., directional drilling or night construction) would be used to minimize impacts to traffic flow.
- Develop circulation and detour plans to minimize impacts to local street circulation. This may include the use of signing and flagging to guide vehicles through and/or around the construction zone.
- Schedule truck trips outside of peak morning and evening commute hours.
- Limit lane closures during peak hours to the extent possible.
- Use haul routes minimizing truck traffic on local roadways to the extent possible.

- Include detours for bicycles and pedestrians in all areas potentially affected by Project construction.
- Install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones.
- Develop and implement access plans for highly sensitive land uses such as police and fire stations, transit stations, hospitals and schools. The access plans would be developed with the facility owner or administrator. To minimize disruption of emergency vehicle access, ask affected jurisdictions to identify detours, which will then be posted by the contractor. Notify in advance the facility owner or operator of the timing, location, and duration of construction activities and the locations of detours and lane closures.
- Store construction materials only in designated areas.
- Coordinate with local transit agencies for temporary relocation of routes or bus stops in works zones, as necessary.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. RWQCP shall include traffic requirements in construction specifications	1. RWQCP reviews traffic requirements.	1. RWQCP	1. Prior to construction
2. Contractor implements construction requirements	2. Sign off by RWQCP that measures are being implemented.	2. RWQCP	2. During construction