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**INITIAL STUDY
NEGATIVE DECLARATION**

**PORTOLA REDWOODS STATE PARK
WATERLINE AND TANK REPLACEMENT PROJECT**

June 2010

State of California
DEPARTMENT OF PARKS AND RECREATION
Acquisition and Development
One Capitol Mall
Sacramento, CA 95814



NEGATIVE DECLARATION

PROJECT: WATERLINE AND TANK REPLACEMENT PROJECT

LEAD AGENCY: California Department of Parks and Recreation

AVAILABILITY OF DOCUMENTS: The Initial Study for this Negative Declaration is available for review at:

- Northern Service Center
California Department of Parks & Recreation
One Capitol Mall - Suite 410
Sacramento, CA 95814
- Santa Cruz District Headquarters
California Department of Parks & Recreation
303 Big Trees Park Rd
Felton, CA 95018-9660
- Portola Redwoods State Park
9000 Portola State Park, #F
La Honda, CA 94020
- San Mateo County Library
765 Portola Rd
Portola Valley, CA 94028

California Department of Parks and Recreation Internet Website
http://www.parks.ca.gov/?page_id=980

PROJECT DESCRIPTION:

The Department of Parks and Recreation proposes to replace and upgrade the waterlines tanks and valves in Portola Redwoods State Park. The following is a brief summary of the proposed work:

- Replace four redwood storage tanks in four locations around the park.
- Replace the booster pump and shed located next to the roadway by the park entrance.
- Install approximately 17,875 linear feet of new water supply and distribution lines through the park to connect the four water tanks locations to the water treatment plant while tying into the new booster pump, fire hydrants and to existing distribution lines.
- Install a telemetry system to control the water level in the system at the water treatment plant.
- Remove the abandoned water treatment plant equipment and structure.
- Replace approximately 10 fire hydrants throughout the park.

A copy of the Initial Study is attached. Questions or comments regarding this Initial Study/Negative Declaration should be submitted in writing to:

Stephanie Coleman – Environmental Coordinator
California Department of Parks & Recreation
Northern Service Center
One Capitol Mall - Suite 410
Sacramento, CA 95814

Submissions must be in writing and postmarked, or received by fax or e-mail, no later than July 23, 2010. The originals of any faxed document must be received by regular mail within ten (10) working days following the deadline for comments, along with proof of successful fax transmission.

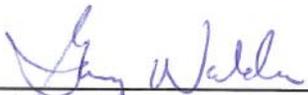
Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR) has independently reviewed and analyzed the Initial Study and Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR. DPR, as lead agency, also confirms that the project mitigation measures detailed in these documents are feasible and will be implemented as stated in the Negative Declaration.



Stephanie Coleman
Environmental Coordinator
Acquisition and Development

6/23/10

Date

for 

Kathy Amann
Assistant Deputy Director
Acquisition and Development

6-23-2010

Date

Waterline and Tank Replacement Project
Portola Redwoods State Park
California Department of Parks & Recreation

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/Negative Declaration (IS/ND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Waterline and Tank Replacement Project at Portola Redwoods State Park, San Mateo County, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq.*, and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq.*

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, a Mitigated Negative Declaration may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/ND conforms to the content requirements under CEQA Guidelines §15071.

1.2 LEAD AGENCY

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency will normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is DPR. The contact person for the lead agency is:

Gary Leach
Project Manager
California Department of Parks and Recreation
Northern Service Center
One Capitol Mall, Suite 410
Sacramento, California 95814
916-445-8691

Questions or comments regarding this Initial Study/Negative Declaration should be submitted to:

Stephanie Coleman – Environmental Coordinator
California Department of Parks and Recreation
Northern Service Center
One Capitol Mall, Suite 410
Sacramento, California 95814

Email: CEQANSC@parks.ca.gov

Fax: 916-445-8883

Submission must be in writing and postmarked or received by fax or e-mail no later than July 23, 2010. The original of any faxed document must be received by regular mail within ten (10) working days following the deadline for comments, along with proof of successful fax transmission.

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the proposed Waterline and Tank Replacement Project at Portola Redwoods State Park. Project Requirements have also been incorporated into the project to eliminate any potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

- Chapter 1 - Introduction.
This chapter provides an introduction to the project and describes the purpose and organization of this document.
- Chapter 2 - Project Description.
This chapter describes the reasons for the project, scope of the project, and project objectives.
- Chapter 3 - Environmental Setting, Impacts, and project requirements.
This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental (Initial Study) Checklist. Project Requirements are incorporated, where appropriate, to reduce potentially significant impacts to a less-than-significant level.
- Chapter 4 - Mandatory Findings of Significance
This chapter identifies and summarizes the overall significance of any potential impacts to natural and cultural resources, cumulative impacts, and impact to humans, as identified in the Initial Study.
- Chapter 5 - Summary of Project Requirements.

This chapter summarizes the conditions incorporated into the project as a result of the Initial Study.

- Chapter 6 - References.
This chapter identifies the references and sources used in the preparation of this IS/ND. It also provides a list of those involved in the preparation of this document.
- Chapter 7 - Report Preparation
This chapter provides a list of those involved in the preparation of this document.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document contains the Environmental (Initial Study {IS}) Checklist that identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project. Based on the IS and supporting environmental analysis provided in this document, the proposed Waterline and Tank Replacement Project would result in less-than-significant impacts for the following issues: aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, transportation/traffic, and utilities and service systems.

In accordance with §15064(f) of the CEQA Guidelines, a ND shall be prepared if the proposed project will not have a significant effect on the environment after the inclusion of mitigation measures in the project. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, after the incorporation of mitigation measures, the proposed project would have a significant effect on the environment. It is proposed that a Negative Declaration be adopted in accordance with the CEQA Guidelines.

CHAPTER 2

PROJECT DESCRIPTION

2.1 INTRODUCTION

This Initial Study/Negative Declaration (IS/ND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Waterline and Tank Replacement Project at Portola Redwoods State Park, located in San Mateo County, California.

2.2 PROJECT LOCATION

Portola Redwoods State Park (PRSP) is located in the Santa Cruz Mountains. The Santa Cruz Mountains give PRSP a remote feeling even though urban areas are less than 10 miles away by air from the park. The narrow winding road leading to the park requires visitors to take their time and results in an approximately hour and a half to drive from most Bay Area locations. From Highway 35, turn west onto Alpine Road, continue 3.5 miles, and turn onto Portola State Park Road that dead ends in the park. This area is predominantly forested with stands of Redwoods, Douglas fir and Oak trees, meadows and an abundance of wildlife.

2.3 BACKGROUND AND NEED FOR THE PROJECT

The existing water storage and distribution system has exceeded its 40-50 year life expectancy and routine maintenance cannot keep pace with the system's deterioration. The existing water storage tanks and distribution pipes leak causing inadequate water supplies for the drinking and fire suppression systems. In addition, the fire hydrants and the alarm and control system are no longer functional. A failure of one of these components could result in Park closure and revenue loss.

Without this replacement, the park water system would fail leaving no potable water, no restrooms for both visitors and staff living within the Park and endanger public health and safety with no fire suppression ability.

2.4 PROJECT OBJECTIVES

The mission of the California Department of Parks and Recreation is to provide for the health, inspiration, and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality recreation. This is also stated in the *California's Recreation Policy* adopted by the California State Park and Recreation Commission on September 23, 2005.

This project would

- Improve the water storage and distribution system to protect public health and safety.
- Meet current federal Department of Homeland Security and California Department of Health Services public safety requirements for water supply facilities.
- Improve operating efficiency and water treatment quality to comply with current California Department of Health Services water quality requirements.
- Save water that is currently escaping from leaking water tanks and distribution lines.

2.5 PROJECT DESCRIPTION

The Department of Parks and Recreation proposes to replace and upgrade the waterlines, tanks and valves in Portola Redwoods State Park. The proposed project would

- Replace four redwood storage tanks in four locations around the park.
- Replace the booster pump and shed by the entrance of the park.
- Install a new 2" supply line from the water treatment plant, through the campgrounds to the new 25,000-gallon tank at Tank Site #2. Install a 6" distribution line from Tank Site #2 and tie-into the distribution system that runs through the campground.
- Install a new 2" supply line from the water treatment plant to the new 50,000-gallon tank at Tank Site #4 and a new 6" distribution line from the tank back through the campgrounds.
- Install a 2" supply line from the campgrounds to Tank Site #2 continuing to Tank Site #1, transitioning to a 6" line at the new booster pump. A dual use, supply and distribution, 6" line from the booster pump to Tank Site #1.
- Install a 4" supply line to the new 25,000-gallon tank at Tank Site #3. From Tank Site #3, install an 8" distribution line to the fire hydrant at the park maintenance shops.
- Install all lines in a trench approximately 36 inches deep by 23 inches wide.
- Repave the roadway where the trench was excavated and re-stripe.
- Install a telemetry system at the water treatment plant to control the water level in the system and connect Tank sites #2 and #4 to the water treatment plant. Excavate a trench from the Hillside group camp

campsite restroom to the new waterline trench to power tank site #2; conductors will utilize the same trench as the new water lines.

- Remove the abandoned water treatment plant equipment and structure.
- Replace approximately 10 fire hydrants throughout the park.

2.6 PROJECT IMPLEMENTATION

Construction of facilities would occur in spring 2010 or soon thereafter, and continue for approximately 18 months. Would occur only during daylight hours; however, weekend work could be implemented to accelerate construction or address emergency or unforeseen circumstances.

Heavy equipment, such as backhoe, excavator, grader, bodcat, compactor, compressor, and dump truck would be used during construction of facilities. Most equipment would be transported to the site and remain until associated work is completed. Transport vehicles for materials including the water tanks or equipment delivery trucks, and crew vehicles would also be present intermittently at the site. Staging areas of equipment would be confined to existing disturbed areas.

Best Management Practices (BMPs) would be incorporated into this project design to ensure that any natural and cultural resources in and around the project area are adequately protected during and after construction. The BMPs discussed in this document and used in the implementation of this project were obtained from the *California Stormwater Quality Association (CSQA), Stormwater Best Management Practices Construction Handbook*. Temporary BMPs would be used to keep sediment on-site throughout the duration of the project. During construction, BMPs would be checked weekly, maintained, and modified as needed; BMPs would be used after construction to stabilize the site and minimize erosion.

The Department of Parks and Recreation has consistently referenced CSQA BMPs and has identified them as an acceptable standard for use in all State Parks.

2.7 Project Requirements

Under CEQA, the Department of Parks and Recreation has the distinction of being considered a lead agency, a public agency that has the primary responsibility for carrying out or approving a project and for implementing CEQA. A responsible agency is a public agency other than the lead agency that has responsibility for carrying out or approving a project and for complying with CEQA. A trustee agency is a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. With this distinction comes the responsibility to ensure that actions that protect both cultural and natural resources are always taken on all projects.

Therefore, DPR maintains a list of Project Requirements that are included in project design to reduce impacts to resources.

DPR has developed a list of Standard Project Requirements that are actions that have been standardized statewide for the use of avoiding significant project-related impacts to the environment. From this list, standard project requirements are assigned, as appropriate to all projects. For example, projects that include ground-disturbing activities, such as trenching; would always include standard project requirements addressing the inadvertent discovery of archaeological artifacts. However, for a project that replaces a roof on an historic structure, ground disturbance would not be necessary; therefore standard project requirements for ground disturbance would not be applicable and would not be assigned to the project.

DPR also makes use of specific project requirements. These are project requirements that are developed to address project impacts for projects that have unique issues; they would not typically be standardized for projects statewide.

AESTHETICS

PROJECT SPECIFIC REQUIREMENT AESTHETICS 1

- Steel tanks would be finished or colored to blend into the surrounding environment and prevent glare.

PROJECT SPECIFIC REQUIREMENT AESTHETICS 2

- The topsoil from the trench would be stockpiled adjacent to the meadow excavation area. After excavation and backfill of the meadow trench is complete, the topsoil and vegetation duff will be returned to the surface of the trench alignment to provide seed bank material for re-vegetation.

AIR QUALITY

STANDARD PROJECT REQUIREMENT AIR 1 –a-d

- a) All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions.
- b) All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.
- c) All construction –related equipment engines will be maintained in proper tune (according to manufacturer’s specifications), and in compliance with all state and federal requirements.

- d) Earth or other material that has been transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.

BIOLOGICAL RESOURCES

PROJECT SPECIFIC REQUIREMENT BIO 1: CALIFORNIA RED-LEGGED FROG

- A DPR-approved Biologist will instruct construction personnel in the life history of the California red-legged frog and its habitat as well as the appropriate protocol to follow in the event that a California red-legged frog is found onsite.
- A survey for CRLF within the project area will be conducted by a DPR-approved monitor prior to the start of construction. Periodic spot checks for CRLF within the project area will be conducted by the DPR-approved monitor.
- If a CRLF is located within the active work site work will stop at that location until the species moves out of the site on its own accord, or is relocated to a safe location in suitable habitat by a biologist that is approved by the USFWS to handle CRLF.
- Project excavations will be covered at night with plastic or by other methods authorized by a DPR-approved biologist that will prevent animals from becoming trapped.

PROJECT SPECIFIC REQUIREMENT – BIO 2: MARBLED MURRELET AND NESTING MIGRATORY BIRD AND RAPTOR SPECIES

- All tree removal and construction activities will occur during the non-breeding season (September 16 – January 31) for raptors and migratory bird species unless approved in advance by a DPR-approved biologist.
- No trees equal to or greater than 12 inches diameter at breast height (dbh) will be removed, unless authorized in advance by a DPR-approved biologist. Any trees less than 12 inches dbh proposed for removal will be inspected by a DPR-approved biologist to ensure that removal will not reduce the quality of the habitat or increase the potential for visual disturbance of marbled murrelet nest sites
- If construction-related activities are conducted between February 1 and March 22 (prior to the beginning of marbled murrelet nesting season), then focused surveys for nesting migratory bird and raptor species will be conducted by a DPR-approved biologist before construction activities occur in these months to identify active nests.
- Surveys for active raptor nests will be conducted within a 500-foot radius of the project area. The survey will be conducted within 10 days prior to the beginning of construction. If nesting raptors are found, no construction will occur within a 500-foot radius of the nest tree between February 1 and March 22.
- Surveys for active migratory bird nests will be conducted within a 100-foot radius of the project area 10 days prior to the beginning of construction. If active nests

are located, no construction activities will occur within a 100-foot radius of the nest tree between February 1 through March 22 until the young have fledged and the young will no longer be impacted by project activities (as determined by a DPR-approved biologist).

- No construction-related activities will occur between March 23 and September 15 (i.e., nesting season for the marbled murrelet).

SPECIFIC PROJECT REQUIREMENT - BIO-3: DUDLEY'S LOUSEWORT

- All occurrences found within the project area will be identified, flagged on the ground, and avoided.

STANDARD PROJECT REQUIREMENT - BIO-4 SENSITIVE NATURAL COMMUNITIES

- All patches of the native *Nasella pulchra* Alliance will be avoided and protected from project activities, including trenching for the new water line from Tank #1 to the paved Portola State Park Road and staging of construction equipment. Trenching operations at this location will be monitored by a DPR-approved biologist to insure there are no impacts to this sensitive natural community.
- If complete avoidance is not possible then prior to construction patches of grassland that could be impacted by project activities will be transplanted nearby to suitable locations during the appropriate season, as determined by a DPR-approved biologist.
- No roots with a diameter of 2 inches or greater will be severed by project activities within the root health zone (5 times dbh) of any native tree with a dbh of 12 inches or greater unless authorized in advance by a DPR-approved biologist

STANDARD PROJECT REQUIREMENT BIO-5: SUDDEN OAK DEATH

- All project activities that could spread *Phytophthora ramorum* to new locations will be subject to Best Management Practices developed by the California Oak Mortality Task Force available online at http://www.suddenoakdeath.org/html/best_management_practices.html

CULTURAL RESOURCES

STANDARD PROJECT REQUIREMENT CULT-1a and b ARCHAEOLOGICAL RESOURCES

- a) In the event that previously unknown cultural resources (including but not limited to dark soil containing shellfish, bone, flakes stone, ground stone, or deposits of historic trash) were encountered during project construction by anyone, the state representative will put work on hold at that specific location and contractors will be redirected to other tasks. A DPR-qualified archaeologist will record and evaluate

the find and work with state representative to implement avoidance, preservation, and recovery measures as appropriate prior to any work resuming at that specific location.

- b) If significant cultural resources are found during construction activities, a qualified historian, archaeologist and/or Native American representative (if appropriate) will monitor all subsurface work including trenching, grading and excavation in the area of the find.

STANDARD PROJECT REQUIREMENT CULT-2a, b and c ARCHAEOLOGICAL RESOURCES

- a) In the event that human remains are discovered, work will cease immediately in the area of the find and the project manager/site supervisor will notify the appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. The DPR District Superintendent (or authorized representative) will notify the County Coroner, in accordance with 7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor were on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American authorities.
- b) If the coroner or tribal representative determines the remains represent Native American interment, the Native American Heritage Commission in the Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC 5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed for the site prior to determination.
- c) If it is determined the find indicates a sacred or religious site; the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Officer and review by the Native American Heritage Commission/Tribal Cultural representatives will also occur as necessary to define mitigation measures or future restrictions.

GEOLOGY AND SOILS

PROJECT SPECIFIC REQUIREMENT Geo-1 – Seismic Restraint Requirements

- The new water tanks would be anchored in place to meet seismic restraint requirements.

STANDARD PROJECT REQUIREMENT Geo-2a and 2b – Erosion Control

- a) Prior to the start of construction, Contractor would prepare a Storm Water Pollution Prevention Plan (SWPPP) for DPR approval that identifies the Best

Management Practices to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, and repaving.

- b) If construction activities extend into the rainy season or if an un-seasonal storm is anticipated, the contractor would cover (tarp) any stockpiled materials or soils and install silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.

HAZARDS AND HAZARDOUS MATERIALS

Standard Project Requirement Haz 1 a-c Spill Prevention

- a) Prior to the start of construction, the Contractor would inspect all equipment for leaks and inspect equipment daily thereafter until it is removed from the project site.
- b) Prior to the start of construction, the contractor would prepare a Water Pollution Control Plan (WPCP) that would include Best Management Practices (BMPs) for materials management, fueling, repair, and maintenance of vehicles and equipment, and spill prevention and control. The Contractor would maintain a spill kit on-site throughout the life of the project. The WPCP would include a map that delineates construction staging areas and where refueling, lubrication, and maintenance of equipment may occur. Areas designated for refueling, lubrication, and maintenance of equipment shall be at least 50 feet away from all streams. In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of the Park during construction, the contractor would immediately notify the appropriate DPR staff (e.g., project manager, supervisor, or State Representative).
- c) Equipment would be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds would be disposed of outside park boundaries, at a lawfully permitted or authorized destination.

Standard Project Requirement Haz- 2 Hazardous Substances Health and Safety Documents

- DPR would include, in any contract documents or in internal work plan documents, health and safety specifications on how to manage any potential hazardous incidents. The specifications would include methods for safe handling, collection, and proper disposal of any contaminated soil and refuse uncovered during the excavation and grading procedures. The specifications would discuss the proper personal protection during construction, the use of an exclusion zone if necessary to prevent exposure to the public, and the proper disposal procedures for any hazardous substances encountered.

Project Specific Requirement Haz 3 a-c - Construction Fire Management

- a) A fire safety plan would be developed by the contractor and/or DPR and approved by DPR prior to the start of construction. This plan would include the emergency reporting procedures of the CalFire.
- b) Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers would be required for all heavy equipment.
- c) Construction crews would be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment would be parked over asphalt or concrete to reduce the chance of fire. The contractor would also be required to have fire extinguishers on site.

HYDROLOGY AND WATER QUALITY

STANDARD PROJECT REQUIREMENT Hydro 1 a-c

- a) Prior to the start of work, Water Pollution Control Plan that identifies Best Management Practices (BMPs) to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all ground disturbing activities.
- b) The project would comply with all applicable water quality standards as specified in the SFRWQCB Water Quality Control Plan (Basin Plan).
- c) For construction activities that extend into the rainy season or if an unseasonal storm is anticipated, the site would cover (i.e., tarp) any stockpiled materials or soil and install silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and areas of ground disturbance.

NOISE

STANDARD PROJECT REQUIREMENT Noise 1 a-b

- a) Construction activities would be limited to the daylight hours Monday – Friday from 7:00 a.m. to 7:00 p.m.
- b) Internal combustion engines used for any purpose at the job site would be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction would utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields, or shrouds, intake silencers, ducts, etc.).

2.8 VISITATION TO PORTOLA REDWOODS STATE PARK

Year	PAID DAY USE	FREE DAY USE	OVERNIGHT CAMPING	TOTAL ATTENDANCE
1996	11,549	3,961	32,127	47,637
1997	12,908	4,366	34,908	52,182
1998	11,119	3,832	30,830	45,781
1999	11,869	2,699	29,643	44,211
2000	13,611	3,923	33,545	51,079
2001	15,407	6,135	37,420	58,962
2002	16,048	11,365	24,501	51,914
2003	12,952	2,583	30,222	45,757
2004	12,306	2,548	27,831	42,685
2005	10,243	1,821	24,013	36,077
2006	7,978	388	19,603	27,969
2007	13,665	537	28,189	42,391
2008	13,159	710	28,861	42,730
Average Attendance	11,512	3,397	27,141	42,050

2.9 CONSISTENCY WITH LOCAL PLANS AND POLICIES

The proposed project to replace the waterlines and storage tanks is consistent with Local plans and Policies including the County of San Mateo General Plan.

2.10 DISCRETIONARY APPROVALS

DPR retains approval authority for the proposed Waterline and Tank Replacement at Portola State Park. The project also requires approval from the following government agencies:

- California Department of Health Services
- California Department of Fish and Game
- United States Fish and Wildlife Service

Additional internal document reviews include compliance with Public Resources Code § 5024. DPR would acquire all necessary reviews and permits prior to implementing any project components requiring regulatory review.

2.11 RELATED PROJECTS

The Department of Parks and Recreation often has smaller maintenance programs and rehabilitation projects planned for a park unit. According to District

Staff, there are no additional projects planned for the project area in the foreseeable future:

CHAPTER 3 ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title: Waterline and Tank Replacement Project
2. Lead Agency Name & Address: California Department of Parks and Recreation
3. Contact Person & Phone Number: Gary Leach, 916-445-8691
4. Project Location: Portola Redwoods State Park
5. Project Sponsor Name & Address: California Department of Parks and Recreation
Acquisition and Planning Division
Northern Service Center
One Capital Mall - Suite 410
Sacramento, California 95814
6. General Plan Designation: Park and Recreation Facility
7. Zoning: Resource Management District
8. Description of Project:
 - Replace four redwood storage tanks in four locations around the park.
 - Replace the booster pump and shed located next to the roadway by the park entrance.
 - Install new supply and distribution lines through the park to connect the four tanks locations to the water treatment plant while tying into the new booster pump, fire hydrants and to existing distribution lines.
 - Install a telemetry system to control the water level in the system at the water treatment plant.
 - Remove the abandoned water treatment plant equipment and structure.
 - Replace approximately 10 fire hydrants throughout the park.
9. Surrounding Land Uses & Setting: Refer to Chapter 3 of this document (Section IX, Land Use Planning)
10. Approval Required from Other Public Agencies: Refer to Chapter 2 of this document (Section 2.10: Discretionary Approvals)

1. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact", as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | <input type="checkbox"/> None |

DETERMINATION

On the basis of this initial evaluation:

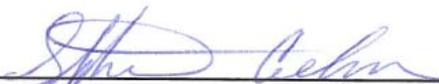
I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared.

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. 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** or its functional equivalent will be prepared.

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents.

I find that, although the proposed project could have had a significant effect on the environment, because all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required.


Stephanie Coleman
Environmental Coordinator

6/23/10
Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except "No Impact", that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on general or project-specific factors (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must consider the whole of the project-related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more "Potentially Significant Impact" entries, an Environmental Impact Report (EIR) is required.
4. A "Mitigated Negative Declaration" (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact with Mitigation." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR (including a General Plan) or Negative Declaration [CCR, Guidelines for the Implementation of CEQA, § 15063(c)(3)(D)]. References to an earlier analysis should:
 - a) Identify the earlier analysis and state where it is available for review.
 - b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.
 - c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.
6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g., general plans, zoning ordinances, biological assessments). Reference to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.
7. A source list should be appended to this document. Sources used or individuals contacted should be listed in the source list and cited in the discussion.
8. Explanation(s) of each issue should identify:
 - a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question **and**
 - b) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

ENVIRONMENTAL ISSUES

I. AESTHETICS.

ENVIRONMENTAL SETTING

Portola Redwoods State Park (PRSP) is located in the Santa Cruz Mountains occupying an area that includes several ridges and valleys. The Santa Cruz Mountains give PRSP a remote feeling even though urban areas are less than 10 miles away by air from the park. The narrow winding road leading to the park requires visitors to take their time and results in an approximately hour and a half to drive from most Bay Area locations. The mountains also give the park a temperate climate with summer highs between 70's to 80's °F. This can be a treat for San Francisco residents who have annual summer temperatures in the 60's.

This area is predominantly forested with stands of Redwoods, Douglas fir and Oak trees, meadows (Figure 1) and an abundance of wildlife. A narrow paved road links a visitor center, day-use areas, campgrounds, the water treatment plant, and a maintenance area (see appendix A for location map). However, trees and other vegetation adjacent to the road gives each area a secluded feeling (Figure 2).

The four water storage tank locations or sites, booster pump, and water treatment plant areas are out of view of most visitors shielded by vegetation. Tank site 1 is at the end of a maintained gravel road on a hillside above the entrance to the park and is surrounded by trees and other vegetation. Tank site 2 (Figure 3) is at the end of a dirt road just off the paved road between the entrance and the visitor's center and is enclosed by tall trees that block the view of the tank. Tank site 3 (Figure 4) is located next to the Summit Trail and visible to hikers for a short amount of time as they walk by the tanks. The surrounding vegetation obscures the view of these tanks unless you are right next to them. Approximately one-third of the one lane road leading to the tank site 3 is paved and the other part is compacted dirt. Tank site 4 is located on a forested hill above the water treatment plant along a compacted dirt fire road. The booster pump is located between the main road and a small meadow obscured from view by trees and shrubs downhill of Tank Site 1. The abandoned water treatment plant (replaced in 1996 – Figure 5) is downhill of the current water treatment plant next to Peters Creek and is obscured from view by vegetation.



Figure 1. Meadow next to Tank Site #1



Figure 2 – Road leading to Tank site #3



Figure 3 – Tank Site 2



Figure 4. Tank Site #3 Water Tank to be Replace



Figure 5. Abandoned Water Treatment Plant

The California Legislature initiated the California Scenic Highway Program in 1963, with the goal of preserving and protecting the state’s scenic highway corridors from changes that would reduce their aesthetic value. The State Scenic Highway System consists of eligible and officially designate routes. A highway may be identified as eligible for listing as a state scenic highway if it offers travelers scenic views of the natural landscape, largely undisrupted by development. Eligible routes advance to officially designated status when the local jurisdiction adopts ordinances to establish a scenic corridor protection program and receives approval from the California Department of Transportation. SR 35 has been designated as a Scenic Highway (Caltrans 2009).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

The analysis of determining the significance of impacts of the Proposed Action to Aesthetics is based on criteria I a-d, described in the environmental checklist above.

DISCUSSION

- a) Project components that could effect aesthetics include replacement of the four water tanks, replacement of the booster pump shed, removal of the abandoned water treatment facility, trenching to install new waterlines and general construction activities. The majority of the work would be in previously disturbed areas out of site from park visitors.

Water Storage Tanks - All of the tank locations are generally out of view from park visitors except for tank site 3, which is located next to a public use trail. The oldest of the two redwood tanks at this site would be replaced with a steel tank. The change to steel tanks would not be visually intrusive or change the intended visitor experience. Integration of **PROJECT SPECIFIC REQUIREMENT AESTHETICS 1** (See Chapter 2, Project Description) would reduce the potential impacts to less than significant.

Booster Pump Shed - Replacement of the booster pump shed would be done with in-kind materials so the visual characteristics of the area would not change.

Abandoned Water Treatment Plant – The old treatment plant is mostly obscured by vegetation however, removal of the dilapidated structure would improve the area.

Waterlines - All trenching except for a small portion of the waterline to tank site 1 are in previously disturbed areas either along or through the existing roadways. Work would include the excavation of soil and removal of a limited amount of vegetation, primarily consisting of small trees, shrubs, and ground vegetation. Approximately 200 feet of supply line would go through a meadow (see Figure 1 above). Integration of **PROJECT SPECIFIC REQUIREMENT AESTHETICS 2** (See Chapter 2, Project Description), would reduced visual impacts associated with excavation of the trench line through the meadow to a less than significant impact.

All Work Locations –The presence of construction materials and equipment could adversely impact the view within the Park. However, due to the temporary nature of the work, these impacts would be less than significant.

- b) The project would take place entirely within PRSP approximately 3.5 miles from SR 35 and no part of the project could be seen from SR 35. No Impact.
- c) There could be temporary adverse visual physical impacts with trenching used to lay the distribution line through the meadow but the area would be returned to original condition once the project is complete. With the temporary nature of the disturbance and tree protections integrated, this is a less than significant impact.

- d) The steel tanks installed would be finished to prevent glare and no additional lighting is planned as part of this project. No Impact.

II. AGRICULTURAL AND FOREST RESOURCES

ENVIRONMENTAL SETTING

Portola Redwoods State Park (PRSP) is located on a series of ridges between Peters, Slate, Pescadero, Evans and Iverson Creeks, approximately 30 miles south of San Francisco. The park unit is located in San Mateo County, which encompasses roughly 353,450 acres. Approximately 54,885 acres of it are in agricultural production and 29,238 in timber production (San Mateo 2010). Farming and agricultural interests in San Mateo County produce not only fruit, nut, and vegetable crops but also seed, mushrooms, nursery, and cut flower crops. Livestock and poultry farms are also found in the County.

There are approximately 8,425 acres of prime or otherwise important farmland, and 46,292 acres of grazing land (California Department of Conservation 2006). San Mateo County also has 42,960 acres under contract as Williamson Act agricultural use lands (Holbrook, personal communication). In addition, 33.7% of San Mateo County is listed as forest Land (San Mateo 2002) that produced 2,742,000 board feet of forest products valued at \$1,801,000 in 2008 (San Mateo County 2008). There are no agricultural or timber operations within PRSP.

PRSP is vegetated with second growth coniferous forests dominated by redwood trees and Douglas fir trees. There is a small stand of old growth redwood forest within the park. Most of the park is forested with a visitor center, trails, campsites, picnic areas, park employee housing, paved roadways, and maintenance areas. The proposed project would be constructed entirely within PRSP and is zoned recreation (San Mateo 1999).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by government Code § 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

* 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 for use in assessing impacts on agricultural and farmland.

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Agricultural Resources is based on criteria II a-c, described in the environmental checklist above.

DISCUSSION

- a-b) As stated in the Environmental Setting, PRSP does not support any agricultural operations. No land within PRSP is zoned as agricultural land, or is used for grazing purposes, as defined by the United States Department of Agriculture land inventory and monitoring criteria (modified for California). This project would have no impact on any category of California Farmland, conflict with any existing zoning for agricultural use or Williamson Act contract. No impact.
- c) PRSP does not support and is not zoned for timber production. The project would take place entirely within PRSP and would have no impact on any timber zoning or cause rezoning of any land. No Impact.
- d) PRSP is located within a forest area dominated by redwood and Douglas fir trees. All project locations would stay in their current use (e.g. areas for water storage and treatment) there would be no loss of forestland or conversion of land to non-forest use. No impact.
- e) All project locations would stay in their current use and the project would not expand as this is a replacement of existing facilities. There would be no conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

III. AIR QUALITY.

ENVIRONMENTAL SETTING

The proposed project is located in San Mateo County and air quality is managed by the Bay Area Air Quality Management District (BAAQMD) and under the jurisdiction of the United States Environmental Protection Agency Region IX (USEPA). The BAAQMD is comprised of Southern Sonoma, Napa, Marin, San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, and Western Solano Counties. San Mateo County is located within the southwest portion of the air basin and Portola Redwoods State Park (PRSP) is located in a series of canyons surrounded by the Santa Cruz Mountains.

Climate

San Mateo County is characterized by dry, mild summers and moist, cool winters. The large saltwater bodies to the east and west of the County and the Santa Cruz Mountains influence these temperatures. This combination of features results in a variety of microclimates throughout the County with hill and ridge top areas, valley floors and coastal areas each experiencing different temperatures and precipitation patterns. Bayside climates are generally warm and sunny, particularly in the summer months when hot air from the valleys moves to the east warming the prevailing cool ocean breeze. Average annual temperatures are about 58-59°F. (San Mateo County 1986)

About 74% of the annual precipitation in the County occurs from December through March. Annual precipitation generally increases with elevation and ranges from 15 inches at sea level to approximately 50 inches in the mountains (San Mateo County 1986).

Air Quality Designations

The California Air Board makes state area designations for ten criteria pollutants (an air pollutant for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set): ozone, suspended particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), carbon monoxide, nitrogen dioxide, sulfur dioxide, sulfates, lead, hydrogen sulfide, and visibility reducing particles (VRPs). At the State level, ozone, PM₁₀ and PM_{2.5} are designated as non-attainment; Hydrogen sulfide and visibility reducing particles are designated unclassified; and nitrogen dioxide, sulfur dioxide, sulfates, carbon Monoxide and lead are designated in attainment.

If a pollutant concentration is lower than the standard, the area is classified as “attainment” for that pollutant. If an area exceeds the standard, the area is classified as “non-attainment” for that pollutant. If there are not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified”. Non-attainment/transitional is a subcategory of the non-attainment designation; an area is designated non-attainment/transitional to signify that the area is close to attaining the standard for that pollutant

In contrast to the State area designations, the USEPA makes National area designations for five criteria pollutants: ozone (8 hour standard; the National 1-hour standard was revoked in June 2005), particulate matter (PM), carbon monoxide, nitrogen dioxide, and sulfur dioxide. At the National level: ozone is designated non-attainment; carbon monoxide, PM_{2.5}, and nitrogen dioxide are designated unclassified/attainment; PM₁₀ is designated unclassified and sulfur

dioxide is designated Attainment.

If an area does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant, it is designated as non-attainment. If an area meets the national primary or secondary ambient air quality standard for the pollutant, it is designated in attainment. An area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant is designated unclassifiable (USEPA, 2008)

The following table illustrates the criteria pollutant designations at both the State and federal levels.

Criteria Pollutant Designations

Criteria Pollutant	State	Federal
Ozone	Non-Attainment	Non-Attainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
PM ₁₀	Non-Attainment	Unclassified
PM _{2.5}	Non-Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

State designations were updated July 2007; National designations were current as of February 2009.

Source: California Air Resources Board

Sources

During personal and business activities, Californians release thousands of tons of pollutants into the air every day. Although each person may only produce a small amount of air pollution, the combined pollution from the 33 million Californians adds up to problems. Some air pollutants are formed and released during the combustion (burning) of petroleum-based products and other fuels such as wood. Examples include gasoline and diesel-powered vehicles and fireplaces, respectively. Many tons of pollutants also enter the air through evaporation, such as fuel from gasoline storage and dispensing facilities, and car and truck gasoline tanks, and gasoline storage containers (CARB).

In the Bay Area, as in the entire state of California, a certain amount of air pollution comes from stationary industrial sources, such as refineries and power plants. For example, Petroleum Refineries produced one percent of the PM₁₀ and none of the Nitrogen Dioxide annual average emissions in 2005. However, a greater percentage of harmful air emissions come from cars and trucks, construction equipment, and other mobile sources. On-Road Motor Vehicles produced five percent of the PM₁₀ emissions and 45 percent of the Nitrogen Dioxide annual average emissions in 2005. California has more cars per household (1.8) than any other state, along with a continually expanding population. All of these factors contribute to the state and regional air quality challenges. (BAAQMD 2009)

Air Monitoring Stations

The monitoring stations in the state are operated by the California Air Resources Board (CARB), by local Air Pollution Control Districts (APCD) or Air Quality Management Districts (AQMD), by private contractors, and by the National Park Service (NPS). These entities operate more than 250 air-monitoring stations in California. The ARB operates air monitoring stations throughout the State. Most of the local districts operate air-monitoring stations within their jurisdictions. In some portions of the State, private contractors operate monitoring stations under contract with businesses that are required by permit conditions to conduct monitoring. The National Park Service also operates a number of air monitoring stations in the National Parks and National Monuments throughout California (CARB, 2008). There is one monitoring station in Redwood City, San Mateo County, California: This station monitors ozone, carbon monoxide, nitrogen dioxide, PM₁₀, PM_{2.5}, and Toxics (CARB).

Health Hazards

Ozone and particulate matter are the most common air pollutants in California. Ozone, also known as smog, can irritate your respiratory system, causing coughing, irritation in your throat or a burning sensation in your airways. It can reduce lung function, so that you may have feelings of chest tightness, wheezing, or shortness of breath. Particle pollution, also known as particulate matter, is composed of microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. When exposed to these small particles, people with heart or lung diseases and older adults are more at risk of hospital and emergency room visits or, in some cases, even death from heart or lung disease. Carbon monoxide can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. Sulfur dioxide causes a wide variety of health and environmental impacts because of the way it reacts with other substances in the air. Impacts include; respiratory effects, visibility impairments, acid rain, plant and water damage, and aesthetic damage (building decay). People, animals, and fish are mainly exposed to lead by breathing and ingesting it in food, water, soil, or dust. Lead accumulates in the blood, bones, muscles, and fat. Nitrogen dioxide contributes to ozone; causes respiratory problems; contributes to the formation of acid rain; contributes to nutrient overload, which deteriorates water quality; contribute to atmospheric particles, which causes visibility impairment; reacts to from toxic chemicals; and contributes to global warming (USEPA).

Sensitive Receptors

Sensitive receptors include individuals as well as groups relating to specific land uses. Some individuals are considered to be more "sensitive" than others to air pollutants. The reasons for greater sensitivity than average include health problems, proximity to the emission source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be sensitive receptors to poor air quality because the very young, the old and the infirm are more susceptible to respiratory infections and other air quality related health problems than the general public. Residential uses are considered sensitive receptors because people in residential areas are often at home for extended periods of time, so they can be exposed to pollutants for extended periods. Recreational areas are considered moderately sensitive to poor air quality because vigorous exercise associated with recreation places a high demand on the human respiratory function.

Sensitive receptors in project area are limited to recreational users (trail-users, campers, etc.).

WOULD THE PROJECT*:	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
a) Conflict with or obstruct implementation of the applicable air quality plan or regulation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

* Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make these determinations.

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Air Quality is based on criteria III a-e, described in the environmental checklist above.

DISCUSSION

- a) Work proposed by this project would not conflict or obstruct the implementation of any applicable air quality management plan for the BAAQMD. All work would be in accordance with applicable air quality plan(s) and regulations. No Impact.
- b, c) The proposed project would not emit air contaminants at a level that by themselves would violate any air quality standard, or contribute to a permanent or long-term emissions of dust. The project does involve the use of equipment and materials that would emit ozone precursors. Increased emission of dust (particulate matter) and ozone precursors could contribute to existing non-attainment conditions, which could interfere with achieving the projected attainment standards. Integration of **STANDARD PROJECT REQUIREMENT AIR 1** (see Chapter 2 Project Description) in project design would reduce impacts to Less than significant.
- d) As mentioned above, project construction would generate dust and equipment exhaust emissions for the duration of the project. Although sensitive receptors are limited in the area, there is the possibility that during construction, recreational users could be affected.

However, members of the public with conditions that make them sensitive to these emissions would have the option of moving to areas further away and avoiding the area altogether or remain in the areas that would be upwind or protected from blowing dust or other emissions. Integration of **STANDARD PROJECT REQUIREMENT AIR 1** (see Chapter 2 Project Description) in project design would prevent impacts. Less than significant impact.

- e) Construction activities do not usually emit offensive odors and are generally confined to the vicinity of the source. Although construction activities occurring in association with the proposed project could generate airborne odors with the operation of construction vehicles (i.e., diesel exhaust), these emissions would only occur during the daytime hours, would generally be restricted to the immediate vicinity of the construction site, and due to the remote location of the project would not affect a substantial number of people. No impact.

IV. BIOLOGICAL RESOURCES.

ENVIRONMENTAL SETTING

Portola Redwoods State Park (PRSP) is an approximately 2,607-acre unit in the Santa Cruz Mountains of southern San Mateo County. The park is located in the upper watershed of Pescadero Creek and includes portions of the Slate, Evans, and Peters Creek tributaries. The project is located in the drainages of Pescadero Creek and its tributary, Peters Creek.

Much of the park is vegetated with second growth coniferous forests dominated by redwood (*Sequoia sempervirens*) and Douglas-fir (*Pseudotsuga menziesii*). A mostly narrow strip of riparian woodlands borders perennial streams. Woodlands composed of oaks and several evergreen species such as Pacific madrone (*Arbutus menziesii*) occur on drier slopes. Pockets of grasslands are scattered in a few areas of the park. The park's coniferous forests were logged in the late 1800's, but a small stand of old growth redwood forest occurs in the Peters Creek drainage.

Vegetation within the project area consists of *Sequoia sempervirens* Alliance, Mixed oak Alliance, California Annual Grasslands Alliance, and *Nasella pulchra* Alliance, based on the classification system defined in the *Manual of California Vegetation* (Sawyer-Keeler-Wolf 1995) and revised by the California Department of Fish and Game's Vegetation Classification and Mapping Program (DFG 2003, 2007). The current system conforms to the National Vegetation Classification System developed by the United States Geological Survey/National Park Service Vegetation Mapping Program (USGS 2008).

Redwood dominates the canopy of the *Sequoia sempervirens* Alliance (aka Redwood Alliance) in wetter locations, especially in close proximity to streams. Douglas-fir, tanbark oak (*Lithocarpus densiflorus*), and Pacific madrone (*Arbutus menziesii*) are common constituents of the canopy and co-dominate with redwood in drier locations. Scattered interior live oak (*Quercus wislizenii*) and coast live oak (*Quercus agrifolia*) are common in many areas. California huckleberry (*Vaccinium ovatum*) dominates the understory of the *Sequoia sempervirens* Alliance. Other common species in the shrub and herbaceous layers include California blackberry (*Rubus ursinus*), western sword fern (*Polystichum munitum*), bracken fern (*Pteridium aquilinum* var. *pubescens*), poison oak (*Toxicodendron diversilobum*), yerba buena (*Satureja douglasii*), and sweetgrass (*Hierochloa occidentalis*). The *Sequoia sempervirens* Alliance within the project area consists of a mature, nearly 150 year-old second growth forest. Nearly all of the project area is located within this vegetation type.

The canopy of the Mixed Oak Alliance is dominated by interior live oak and coast live oak. California bay (*Umbellularia californica*) and Douglas-fir are common constituents of the canopy. The shrub and herbaceous layers are typically sparse and open, but can include sweetgrass, California blackberry, and western sword fern. Mixed Oak Alliance is limited to the vicinity of Tank #1, where it intergrades with *Sequoia sempervirens* Alliance vegetation.

Two intermixed grassland vegetation types occur within the project area downslope from Tank #1. The California Annual Grasslands Alliance is composed of various herbaceous species, including native blue wildrye (*Elymus glaucus*) and non-native soft chess (*Bromus*

hordeaceus), ripgut grass (*Bromus diandrus*), and wild oats (*Avena sp.*). The *Nasella pulchra* Alliance has a species composition similar to the California Annual Grasslands Alliance, except it is dominated by native purple needlegrass (*Nasella pulchra*). A short section (less than 200 linear feet) of the proposed water line from Tank #1 to the paved Portola State Park Road would be installed through mostly California Annual Grasslands Alliance interspersed with small patches of *Nasella pulchra* Alliance.

Special-Status Species¹

DPR biological staff conducted queries of the California Department of Fish Game's California Natural Diversity Database (DFG 2008), the California Native Plant Society's On-line Inventory (CNPS 2008), and the U.S. Fish and Wildlife Service (USFWS 2008) for sensitive biological resources that are known to occur within the Big Basin and Mindego Hill 7.5-minute United States Geological Survey (USGS) quadrangle maps.

Sensitive biological resources include plants and animals that have been given special recognition by federal, state, or local resource agencies and organizations. Also included are habitats that are listed as critical for the survival of a listed species or have special value for wildlife species, and plant communities that are unique or of limited distribution and are considered sensitive. Threatened and Endangered plants and wildlife species and Species of Concern are special-status species that have legal protection.

Twenty-six special-status plant species and fourteen special-status wildlife species are listed by the CNDDDB, CNPS, and USFWS as occurring within the Big Basin and Mindego Hill USGS quadrangle maps. Only species that have a potential to occur on or near the project site based on the presence of suitable habitat or proximity to known sightings are addressed in this document.

SPECIAL-STATUS SPECIES THAT ARE KNOWN TO OCCUR, OR COULD POTENTIALLY OCCUR WITHIN THE PROJECT AREA

PLANTS

Twenty-four special-status plant species have been identified by the CNDDDB, CNPS, and USFWS as occurring or having a potential to occur within the Big Basin and Mindego Hill USGS quadrangle maps. Fifteen of these species are restricted to habitat types that do not exist within or adjacent to the project site. One of these species is known to occur in the project vicinity; suitable to marginally suitable habitat is available within the project area for

¹ For the purposes of this document, special-status species are defined as plants and animals that are legally protected or that are considered sensitive by federal, state, or local resource conservation agencies and organizations. Specifically, this includes species listed as state or federally Threatened or Endangered, those considered as candidates for listing as Threatened or Endangered, species identified by the USFWS and/or CDFG as Species of Concern, animals identified by CDFG as Fully Protected or Protected, and plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (i.e., plants on CNPS lists 1 and 2).

seven other species. The eight species with a potential to occur in the project area are described below (CNDDDB 2008).

Anderson's manzanita (*Arctostaphylos andersonii*) – This CNPS List 1B shrub blooms from November through April and is endemic to the Santa Cruz Mountains. It occurs in openings or on edges of chaparral, broadleaved upland forest, and coniferous forest habitat types at elevations from approximately 200 to 2300 feet above mean sea level (amsl). It has not been reported from the park unit but is known to occur in several locations within Big Basin Redwoods State Park several miles to the southwest. Although marginally suitable habitat is present in the project area, Anderson's manzanita was not located during surveys conducted in 2007-2009.

Dudley's lousewort (*Pedicularis dudleyi*) – Dudley's lousewort is a state Rare and CNPS List 1B perennial herbaceous species that blooms from April through June. It is endemic to the coastal mountains of central California and inhabits maritime chaparral, cismontane woodlands, grassland, and coniferous forest habitat types at elevations from approximately 200 to 2950 feet amsl. It has been found at several locations along Pescadero Creek within PRSP. Dudley's lousewort was located within the project area during a survey conducted in 2009.

Franciscan onion (*Allium peninsulare* var. *franciscanum*) – This CNPS List 1B species blooms from May through June and is found in grassland and cismontane woodland habitats of Santa Clara, San Mateo, and Sonoma Counties. Franciscan onion blooms from May through June and occurs at elevations of approximately 330 feet to 990 feet amsl. It typically occurs on clay or serpentinite soils that are not found within the project area. Although marginally suitable habitat is present in the project area, Franciscan onion was not located during surveys conducted in 2007-2009.

Kings Mountain manzanita (*Arctostaphylos regismontana*) – This CNPS List 1B shrub blooms from January through April and is endemic to the Santa Cruz Mountains. It occurs on granitic or sandstone soils in chaparral, broadleaved upland forest, and coniferous forest habitat types at elevations from approximately 1000 to 2400 feet amsl. Although marginally suitable habitat is present in the project area, Kings Mountain manzanita was not located during surveys conducted in 2007-2009.

San Mateo woolly sunflower (*Eriophyllum latilobum*) – San Mateo woolly sunflower is a state and federal Endangered and CNPS List 1B perennial herb that is only known from San Mateo County. It blooms from May through June and occurs on serpentinite in cismontane woodland habitat at elevations from approximately 150 to 500 feet amsl. Serpentinite does not occur within the project area. .

Santa Cruz microseris (*Stebbinsoseris decipiens*) – This CNPS List 1B annual herb blooms from April through May and is only known from Monterey, Marin, and Santa Cruz Counties. It occurs in open areas within chaparral, broadleaved upland forest, closed cone coniferous forest, grassland, and coastal scrub habitat types at elevations from approximately 33 to 1640 feet amsl. Although marginally suitable habitat is present in the project area, Santa Cruz

microseris was not located during surveys conducted in 2007-2009.

Slender silver moss (*Anomobryum julaceum*) – Slender silver moss is a CNPS List 2 species that occurs on damp rock and soil of broadleaved upland forest and coniferous forest habitat types. It is infrequent in California but is more common outside of the state. Although reported from Big Basin Redwoods State Park, no suitable habitat exists for slender silver moss within the project area.

Western leatherwood (*Dirca occidentalis*) – Western leatherwood is a CNPS List 1B shrub of coastal Sonoma, Alameda, Contra Costa, Marin, Santa Clara, and San Mateo Counties. It blooms from January through April and occurs in broadleaved upland forest, closed cone coniferous forest, chaparral, cismontane woodland, riparian scrub, riparian woodland, and coniferous forest habitat types. This species is found at elevations from approximately 160 to 1300 feet amsl. Although potentially suitable habitat occurs within the project area western leatherwood was not located during conducted in 2007-2009.

WILDLIFE

Fourteen special-status wildlife species are listed by the CNDDDB and USFWS as occurring within the Big Basin and Mindogo Hill USGS quadrangle maps. Four of these species are restricted to habitats that do not exist in or near the park unit. These species are tidewater goby (*Eucyclogobius newberryi*), delta smelt (*Hypomesus transpacificus*), California tiger salamander (*Ambystoma californiense*), and California least tern (*Sterna antillarum browni*). Special status wildlife species with a potential to occur in or near the project area are described in detail below.

Invertebrates

Bay checkerspot butterfly (*Euphydryas editha bayensis*) – This federal Threatened species requires species-specific host plants as a food source in the larval stage. Dwarf plantain (*Plantago erecta*) is the primary host plant and purple owl's clover (*Castilleja exserta*) and dense flower owl's clover (*Castilleja densiflora*) are secondary host plants, which are utilized if the primary host is not available. None of the host plants for bay checkerspot butterfly occur in or adjacent to the project area.

Unsilvered fritillary butterfly (*Speyeria adiaсте adiaсте*) – This species has no State or Federal listing status, but is ranked by CNDDDB as Global Rank G1G2 (i.e., the full species is considered extremely endangered) and is State Ranked T1S1 (i.e., the subspecies is found only in California and is extremely endangered throughout its range). Unsilvered fritillary occupies meadows and seeps in evergreen forests, oak forests, and grasslands that contain plant species of the *Viola* genus. This butterfly species has been observed in open grassland in Big Basin Redwoods State Park and at a ridge top location in grassland several miles east of Portola Redwoods State Park (PRSP). Potential habitat for the unsilvered fritillary is limited to the small grassland near Tank #1. However, this grassland is surrounded by a dense, mature redwood forest that isolates the grassland from more extensive breeding and foraging habitat in the general area. Also, the host plants (*Viola* spp.) for unsilvered fritillary have not been located within this grassland.

Fish

Coho salmon - central California coast ESU (*Oncorhynchus kisutch*) – This federal and state Endangered species is reported to inhabit the Pescadero Creek watershed (CRPI and NOAA 2004). Pescadero Creek is one of several stream systems in the central coast of California that is designated by the NOAA's National Marine Fisheries Service (NMFS) as critical habitat for the species (NOAA 1999). Pescadero Creek and its tributary Peters Creek are adjacent to some project locations; however, no project activities would occur within the bed or banks of either stream.

Steelhead - central California coast ESU (*Oncorhynchus mykiss irideus*) – This federal Threatened species and California Species of Special Concern inhabits Pescadero Creek (CRPI and NOAA 2004). Although numbers have declined since the 1960's, this species is continuing to reproduce in the Pescadero Creek watershed. Pescadero Creek is one of several stream systems in the central coast of California that is designated by the NMFS as critical habitat for the species (NOAA 2005). Pescadero Creek and its tributary Peters Creek are adjacent to some project locations; however, no project activities would occur within the bed or banks of either stream.

Amphibians

California red-legged frog (*Rana aurora draytonii*) – This federal Threatened species and California Species of Special Concern (SSC) is the largest native frog in the western United States (USFWS 2002). Adult red-legged frog habitat consists of aquatic, riparian, and upland areas; they often use vegetation around deep pools with slow moving water, cattails, and overhanging vegetation. In colder areas, they may hibernate in burrows during the winter. They remain active during the summer if provided with access to permanent water. Some frogs remain at or close to their breeding sites year round, while others disperse to non-breeding habitat.

California red-legged frog has been reported from a location on Peters Creek within a mile of the park boundary (DFG 2008). There is potential for California red-legged frogs to be moving through suitable upland habitat within the project area.

Reptiles

San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) – This federal and state Endangered species occurs in a variety of aquatic habitats such as freshwater marsh, low-gradient streams, ponds, drainage canals, and irrigation ditches (USFWS 2008a). They depend heavily on frogs for food, and require suitable adjacent brushy upland habitat for basking and burrows. Threats include habitat loss and fragmentation. There is no suitable habitat for the species within or adjacent to the project area.

Birds

Long-eared owl (*Asio otus*) – This CSC species lives in dense woods and hunts at night in

open fields and marshes (National Geographic Society 1999). A 1987 record of breeding long-eared owls has been reported from the headwaters of Stevens Creek located several miles east of the park unit (DFG 2008). Suitable potential nesting habitat but not foraging habitat is available within the project area.

Marbled murrelet (*Brachyramphus marmoratus*) This state endangered and federal threatened species is a small seabird that spends most of its life in marine environments, but ventures inland to mature and old growth coniferous forests to breed between March and September (USFWS 2008b). Major threats include loss of habitat, predation, and various impacts in their marine habitat. PRSP is located within federally designated critical habitat for marbled murrelet (USFWS) and this species has been detected in the park (Sudjian 2005). Removing suitable habitat or conducting construction activities during the breeding season could result in potential impacts to this species.

Nesting Raptors and Migratory Birds are protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-712), and by the state Department of Fish and Game Code (Sections §3503, §3503.5, and §3513). Under these laws, all raptors and migratory birds and their nests are protected. Several migratory bird and raptor species potentially occur in the project area. These are:

- Purple Martin** (*Progne subis*) (**nesting**) – CSC;
- Vaux’s swift** (*Chaetura vaux*) (**nesting**) – CSC;
- Yellow warbler** (*Dendroica petechia brewsteri*) (**nesting**) – CSC;
- Loggerhead shrike** (*Lanius ludovicianus*) (**nesting**) – Federal Species of Concern and CSC;
- Cooper’s hawk** (*Accipiter cooperi*) (**nesting**) – CSC;
- Northern harrier** (*Circus cyaneus*) (**nesting**) – CSC;
- Sharp-shinned hawk** (*Accipiter striatus*) (**nesting**) – CSC;
- Red-shouldered hawk** (*Buteo lineatus*)
- Western screech owl** (*Megascops kennicottii*);
- Northern pygmy owl** (*Glaucidium gnoma*); and
- Northern saw-whet owl** (*Aegolius acadicus*).

Mammals

Townsend’s big-eared bat (*Corynorhinus townsendii*); **Hoary bat** (*Lasiurus cinereus*) – These California Species of Special Concern are found in a variety of habitats including coniferous forests and may roost in caves, rock crevices, or cavities of trees. Although a few small trees (i.e., diameter at breast height (dbh) less than 12 inches) could be removed as a part of this project, these trees do not provide potential roosting habitat.

Sensitive Plant Communities

Sensitive plant communities are regionally uncommon or unique, unusually diverse, or of special concern to local, state, and federal agencies. Removal or substantial degradation of these plant communities constitutes a significant adverse impact under CEQA. The California Department of Fish Game’s California Natural Diversity Database (CNDDB) maintains a list of

the state's plant communities (also known as alliances) and identifies those of high inventory priority due to their rarity and threat. These are considered sensitive natural communities by regulatory agencies.

Two sensitive natural communities occur in the project area. The *Nasella pulchra* Alliance is identified as sensitive by the CNDDDB, while the *Sequoia sempervirens* Alliance is considered a sensitive community since it contains mature forest components (especially mature redwood trees) that provide valuable habitat for special status wildlife species such as the federally Threatened marbled murrelet (*Brachyramphus marmoratus*) and numerous common species.

Sudden Oak Death

Discovered in 1995, Sudden Oak Death (SOD) is caused by the pathogen *Phytophthora ramorum*, which has infected and killed thousands of tanbark oak, coast live oak (*Quercus agrifolia*), Shreve oak (*Quercus parvula* var. *shrevei*), and California black oak (*Quercus kelloggii*) in coastal forests from Humboldt County to Monterey County (COMTF 2008). This water mold also infects many other species, including California bay laurel (*Umbellularia californica*), Pacific madrone (*Arbutus menziesii*), California buckeye (*Aesculus californica*), coast redwood, Douglas-fir, big leaf maple (*Acer macrophyllum*), California honeysuckle (*Lonicera hispidula* var. *vacillans*), California coffeeberry (*Rhamnus californica*), toyon (*Heteromeles arbutifolia*), rhododendron (*Rhododendron* spp.), manzanita (*Arctostaphylos* spp.) and huckleberry (*Vaccinium* spp.). California bay laurel is one of the principal host species for *Phytophthora ramorum*.

SOD could be spread when host plants, wood chips, burls, other host plant products or soils contaminated with the pathogen's spores are moved to previously uninfected areas (COMTF 2008). SOD thrives in cool, wet to moist climates, and living plants and its spores are found in soil and water, as well as plant material. The risk of SOD spread is greatest in muddy areas and during rainy weather where spore-harboring hosts are present. Detached plant leaves, organic material, and soil, which may harbor spores of the pathogen, are more likely to stick to vehicles, equipment, and humans when they are wet.

San Mateo County is one of 14 California counties to have confirmed SOD findings and is under state and federal quarantine regulations governing the movement of affected plants or plant material out of the quarantined area (COMTF 2008). The California County Agricultural Commissioners are the enforcement agents for state and federal regulations governing *Phytophthora ramorum*. SOD is suspected to occur in PRSP.

Wetlands and Waters of the United States

The federal Clean Water Act (CWA) defines wetlands as lands that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The U.S. Army Corps of Engineers (USACOE) has jurisdictional authority of wetlands under provisions found in Section 404 of the CWA. USACOE jurisdictional wetlands meet three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

Waters of the U.S. (aka Other Waters) are regulated by the USACOE under Sections 401 and 404 of the CWA. They are defined as all waters used in interstate or foreign commerce, waters subject to the ebb and flow of the tide, all interstate waters including interstate wetlands and all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds. Waters of the U.S. are under the USACOE jurisdiction.

Site investigations for the presence of USACOE-jurisdictional wetlands and waters of the U.S. were conducted within the project area on November 4, 2008 by a DPR biologist qualified to conduct wetland delineations. No USACOE-jurisdictional wetlands were identified within the project boundary.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands, as defined by §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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Biological

resources is based on criteria III a-f, described in the environmental checklist above.

DISCUSSION

a) The proposed project would replace most of the existing water system at Portola Redwoods State Park, including the installation of new water lines at maximum depths of 36 inches and replace four redwood storage tanks with steel tanks. The following proposed measures would be implemented in order to reduce impacts to sensitive, candidate, or special status species to a less than significant level.

i) **Salmon and steelhead.** Coho salmon (central California coast ESU) and steelhead (central California coast ESU) are known to occur or are reported to occur in the Pescadero Creek watershed. Although Pescadero Creek and its tributary Peters Creek are adjacent to some project locations no project activities would occur within the bed or banks of either stream. However, a temporary increase in soil erosion and increased sedimentation of Pescadero Creek and/or Peters Creek could occur during construction of the proposed project. Integration of **STANDARD PROJECT REQUIREMENT HYDRO-1, EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION** (See Chapter 2, Project Description) would reduce the potential impact of erosion, sedimentation, and contaminants on aquatic species to a less than significant level.

(ii) **California red-legged frog.** Although not known to occur in the project area California red-legged frog has been reported from Peters Creek within a mile of the park. There is potential for red-legged frogs to move through or utilize suitable non-breeding habitat within the project area. Integration of **STANDARD PROJECT REQUIREMENT BIO-1: CALIFORNIA RED-LEGGED FROG** (See Chapter 2, Project Description) in the project design would reduce the potential impact to this species to a less than significant level.

(iii) **Marbled murrelet.** Marbled murrelet is sensitive to visual and noise disturbance of their nesting habitat in mature forest stands in California. Suitable nesting habitat occurs in and around the project area and construction activities during the breeding season could impact this species. In addition, removal of large trees or smaller trees that provide visual cover between potential nest trees and potential areas of disturbance could impact the quality of the habitat for marbled murrelet. The nesting season for marbled murrelet is March 24 through September 15.

Nesting migratory bird and raptor species. Sensitive birds (e.g. purple martin, Vaux's swift, yellow warbler, etc.) and raptors (e.g. Cooper's hawk, northern harrier, etc.) may be present in the project area, and could be nesting in the vicinity of the project. Migratory birds and raptors are protected under the Fish and Game Code §3503.5 and the Migratory Bird Treaty Act (MBTA). Suitable nesting habitat occurs in and around the project area and construction activities during the breeding season could impact these species. The nesting season for migratory bird and raptor species is February 1 through September 15.

Integration of **STANDARD PROJECT REQUIREMENT BIO-2: MARBLED MURRELET AND NESTING MIGRATORY BIRDS AND RAPTOR SPECIES** (See Chapter 2, Project Description) in the

project design would prevent the disturbance or loss of an active nest and reduce the potential impact to these species to a less than significant level.

(iv) **Special status plant species.** There are eight special status plant species (CNPS List 1B or List 2) with a potential to occur in the project area. Anderson's manzanita, Kings Mountain manzanita, slender silver moss, Franciscan onion, Santa Cruz microseris, western leatherwood, and San Mateo woolly sunflower would not be impacted by this project either because they do not occur in the project area as determined by surveys or because they require habitat not found within the project area. Dudley's lousewort has been located within the project area. Integration of **STANDARD PROJECT REQUIREMENT BIO BIO-3: DUDLEY'S LOUSEWORT** (See Chapter 2, Project Description) would reduce impacts to Dudley's lousewort to a less than significant level.

b) The *Nasella pulchra* Alliance and the *Sequoia sempervirens* Alliance are sensitive natural communities that occur within the project area. Proposed trenching installation of the water line from Tank #1 to the paved Portola State Park Road could impact a limited number of patches of the *Nasella pulchra* Alliance.

It is not anticipated that the proposed project would create significant impacts to the *Sequoia sempervirens* Alliance. Most of the trenching required for installation of water lines in this vegetation type would be within existing road surfaces (i.e. paved or dirt). However, as a consequence of project implementation, small-diameter trees may have to be removed at a few of the project sites and trenching could damage the roots of mature native trees.

Integration of **STANDARD PROJECT REQUIREMENT - BIO-4 SENSITIVE NATURAL COMMUNITIES** (See Chapter 2, Project Description) into design plans would reduce potential impacts to sensitive natural communities to a less than significant level.

c) Pescadero and Peters Creeks constitute waters of the U.S. and are subject to USACOE jurisdiction; however, no project activities would occur within the jurisdictional ordinary high water mark of these streams. As defined by the USACOE, no wetlands or "waters of the United States" would be directly affected by implementation of this project. In addition, Best Management Practices (BMP's) identified in **STANDARD PROJECT REQUIREMENT HYDRO-1, EROSION AND SEDIMENT CONTROL AND POLLUTION PREVENTION** (See Chapter 2, Project Description) would be incorporated into the project design to avoid indirect impacts from sediments or construction related contaminants entering Pescadero and Peters Creeks. No impact.

d) The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. No barriers would be installed and no work would occur in Pescadero or Peters Creeks. The proposed project would have no impact on fish passage or wildlife movement.

e) As stated in the Environmental Setting above, San Mateo County is subject to state and federal quarantine regulations for the pathogen *Phytophthora ramorum*, which causes the often fatal disease known as Sudden Oak Death (SOD) in numerous species of native plants,

especially oaks. SOD is suspected to occur in PRSP and project activities could inadvertently transport this disease to new uninfected locations through improper disposal of infected plant material or if pathogen spores in soil or on infected plant material stick to construction vehicles, equipment, or personnel. Integration of **STANDARD PROJECT REQUIREMENT BIO-5:SUDDEN OAK DEATH** (See Chapter 2, Project Description) into design plans would reduce impacts to a less than significant level..

- f) This project does not conflict with any Habitat Conservation Plans, Natural Communities Conservation Plans, or other approved habitat conservation plan. No impact.

V. CULTURAL RESOURCES.

ENVIRONMENTAL SETTING

Portola Redwoods State Park (PRSP) is located in the deep rugged canyons of the Santa Cruz Mountains. Elevations range from approximately 400 to 1400 feet. The park lies in the southern part of San Mateo County, approximately twenty miles southwest of Palo Alto, off Page Mill Road, and 9 miles southeast of La Honda via Alpine Creek Road. The 2,800-acre park is named in honor of the noted Spanish explorer, Don Gaspar de Portola, who in 1769 located and named San Francisco Bay.

Native American Context

Paleoindian land use of the California Central Coast region has been documented in the archaeological record, with evidence of hunting, collecting, and resource processing activities occurring as early as 10,000 BP (Moratto 1984: 109-110). Hylkema (1991) provides an archaeological overview of Santa Cruz and San Mateo counties based upon selected sites. Prehistoric settlement patterns were evaluated using ecological zones with artifact or feature associations. Results from the study indicate sparse populations occupied coastal environments for resource procurement between 7000-4000 BP (Hylkema 1991). Site types identified in the study include both temporary special-use sites and multi-use occupation sites. Archaeological collections associated with temporary special-use site types include shell, faunal and burned rock artifacts and display low tool diversity. Multi-use sites have longer occupation periods, with similar resources, a greater diversity of tool types, occasional human remains and include well-defined activity features. Of the 182 sites recorded throughout the Santa Cruz and San Mateo counties, 65.5 percent are located along the coastal terrace, 13.5 percent are found in the upland meadows, and 11 percent along ridges, and 10 percent along rivers and 13.5 percent are found in the upland meadow (GP).

A search of both DPR records and the files of the Northwest Information Center yielded no recorded archaeological sites within the State Park boundary or a buffer zone approximately ¼ mile beyond the boundary. Several cultural resource studies had been conducted in portions of the unit and contiguous properties, but none resulted in finding cultural resources anywhere near the project area. A pedestrian archaeological survey of the project area also revealed no evidence of cultural resources (Wulzen 2008).

Historic Context

In March 1776, seven years after Portola's discovery of San Francisco Bay, Colonel Juan Bautista de Anza scouted the forested hills, approximately 20 miles northwest of the present day park, for a timber supply to build the Spanish settlement at San Francisco. Mission records from 1787 and 1792 indicate that the Spanish used cut timbers from the Santa Cruz Mountains in the construction of the church at the San Francisco Mission and the Presidio at San Francisco.

The first commercial lumbering in the Santa Cruz Mountains occurred in the 1830s, when

European-American men who had abandoned their ships saw the opportunity to log the redwoods, albeit on a smaller scale than the logging that would occur in the near future (Brown 1966:1-2, 4). While these early settlers began small scale lumber operations, the scope and scale of these operations increased significantly after 1848. With the discovery of gold at Coloma, the resultant influx of settlers into California created a great demand for wood as a primary construction material. The exploitation of the Santa Cruz Mountain redwoods began in earnest.

In October 1849, Charles Brown erected the region's first sawmill on Alambique Creek, northwest of the present day park. As settlements in California grew, the milling of the redwood trees of the Santa Cruz Mountains continued, the lumber sent to San Francisco, Stockton, and Sacramento (Brown 1966:15; Stanger 1967:5, 27). Also in the late 1840s, loggers started working the eastern slopes of the Santa Cruz Mountains, up to the summit. In the 1870s, with the accessible timber on the eastern slopes harvested and logged, attention then focused on the coast-side watersheds of the Purissima, Tunitas, San Gregorio, Pescadero, and Gazos creeks. William Page, a former store operator in nearby Searsville, was one of the first men to scout the upper Pescadero Creek watershed for timber lands.

Eventually Page acquired approximately 2,200 acres, all in the general area of present day Portola Redwoods State Park. He erected his first mill in 1867 on Peter's Creek, a tributary of Pescadero Creek. In 1875, after exhausting the supply of timber in that area, Page moved his mill to a site on Rock (Slate) Creek, another tributary of Pescadero Creek. Along with the mills, he had established a haul road connecting the mills to the Embarcadero in Palo Alto. This haul road still exists today as Page Mill Road, an access road to the present day park. Fortunately the rugged, steep, terrain of the Pescadero drainage prevented the complete exploitation and clear-cutting of the timber in this area (CDPR: 2008; SCSP; Stanger 1967:19, 27, 91-93).

At approximately the same time as Page developed his first mill upstream of Pescadero Creek, Chris Iverson, a former Pony Express rider, acquired 80 acres on Pescadero Creek. In 1868 he constructed a cabin on land just above the junction of Pescadero and Peters Creek, well within the borders of the present day park. He made his living splitting shakes and working as a ranch hand on nearby ranches until 1889 when he sold his property to John A. Hooper. Hooper, a San Francisco banker also owned the California Redwood Company. He purchased Iverson's 80 acres plus additional land totaling 1,660 acres. Hooper retained Iverson's cabin and built his lodge, Bendmore, nearby (CDPR 1951:1, 1974:4-5; SCSP).

In 1924, the Islam Shrine, a group associated with the Masonic Order, purchased Hooper's land and developed the area as a private park and recreational retreat for its members. Hooper specified, as a condition of the sale, that "its natural beauty would be maintained." Islam Shrine adhered to this condition. The Shrine group built cabins, kitchens, restrooms, a stage and a recreation hall and hosted gatherings with hundreds, sometimes thousands, of people. During World War II, a loss in Islam Shrine membership triggered a decline in interest in the Shrine Grove. This decline in interest prompted the group to sell their 1,700 acre property to the state in 1945, for use as a State Park (CDPR 1974:5-6; SCSP).

The acquisition of Portola Redwoods came at a time of massive park expansion, fueled by

California's booming population, and economy, after World War II. Significant population growth in regions such as the Bay Area led to land acquisitions, and facility improvements that would provide better recreational opportunities for the region's residents. In 1945, the State set aside five million dollars for the acquisition of inland park areas and nearly \$200,000 for the maintenance and improvement of existing state park facilities. At Portola Redwoods, post-war park development work included construction of the following: two residences and associated garages, park operations facilities, a combination building, four comfort stations, the Peter's Creek campground, a group camp, and five day-use area picnic sites. State Parks also installed the electric, sewer and water systems needed to operate these facilities (CDPR 2001). Among the structures still maintained by the state are Iverson's cabin and the recreation hall constructed by the Islam Shrine group. Facility construction has continued to the present time though not to the extent as what occurred in the post-war era.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Cultural Resources is based on criteria **IV** a-c, described in the environmental checklist above.

a) As designed, the project would have no impact on historic resources. The project proposes to replace an existing water storage and distribution system that has exceeded its life expectancy and has been subject to citations from the local health department. The four redwood tanks and existing piping proposed for replacement leak and are in need of replacement. A 2002 review of the Post-World War II, Park Rustic style facilities at Portola Redwoods State Park concluded that no California Register eligible historic district is present, nor are any of the buildings individually eligible.

b) There are no known archaeological resources in the unit. The project would not have an effect on any known cultural resource.

Ground disturbing activities proposed as part of this project could significantly impact unknown archaeological deposits. Because of the natural ambiguity of archaeological resources (often located below the surface) and the obscured ground visibility due to vegetation, the full extent of the cultural resources may not be known within the project area. The integration of

STANDARD PROJECT REQUIREMENT CULT 1 (see Chapter 2, Project Description) would reduce impacts to previously unidentified archaeological sites and features to a less than significant level if encountered during ground disturbing activities:

c) Burials have not been documented or recorded in the project area or Portola Redwoods State Park. Although highly unlikely, ground disturbing activities associated with this project could inadvertently expose previously undiscovered human remains. The integration of **STANDARD PROJECT REQUIREMENT CULT 2** (see Chapter 2, Project Description) would reduce impacts to a less than significant level:

VI. GEOLOGY AND SOILS.

ENVIRONMENTAL SETTING

The proposed project area in Portola Redwoods State Park (PRSP) is located within the Santa Cruz Mountains of San Mateo County. The park unit is approximately eight miles directly south of Palo Alto, California, is adjacent to Pescadero Creek County Park, and is approximately two miles north of Big Basin SP (USGS 1991a and 1991b). The Santa Cruz Mountains, including the project area, are within the southern Coast Ranges of the Coast Range Geomorphic Province which is described as a complex of northwest-trending mountain ranges that are from 2,000 to 6,000 feet in elevation above sea level and valleys that run sub-parallel to the San Andreas Fault (CGS 2002).

The proposed project to replace water storage tanks and reconfigure the distribution piping would take place entirely within the boundaries of PRSP.

Topography

The topography of the Coast Ranges is composed of alternating valleys and mountain ridges. As noted above, the ranges and peaks reach elevations up to 6,000 feet. The topography surrounding and including PRSP is steep and rugged. To access the park from State Route 35 (Skyline Blvd.) at Russian Ridge near Page Mill Road, one must descend approximately 1,850 feet along Alpine and Portola State Park Roads, over a distance of approximately five miles, into a deep canyon. Within the park unit, elevation ranges from 400 feet above sea level near park headquarters, at the confluence of Pescadero and Peters Creeks, to 1,800 feet on peaks and ridges. The two primary streams within PRSP are Pescadero Creek and Peters Creek, but portions of Slate, Evans, Fall, and Iverson Creeks also pass through park boundaries. Drainages and ridges alternate abruptly to form a rugged terrain with steep slopes (USGS 1991a and 1991b).

Geology

The Coast Ranges Geomorphic Province is characterized by ranges and valleys that trend northwest and are composed of thick Mesozoic and Cenozoic sedimentary strata. On the east side, the strata dip beneath the alluvium of the Great Valley. On the west side is the Pacific Ocean and a coastline that is uplifted, terraced and wave-cut. The depression that contains the San Francisco Bay divides the northern and the southern Coast Ranges. The active San Andreas Fault, which is more than 600 miles long and extends from Pt. Arena to the Gulf of California, is sub-parallel to the Coast Ranges. West of the San Andreas Fault there is a granitic core, called the Salinian Block, that extends from the southern extremity of the Province to north of the Farallon Islands (CGS 2002). PRSP is located in the southern Coast Ranges, approximately four miles west of the San Andreas Fault (Geology.com 2005-2008), on the Salinian Block.

The geology of San Mateo County is characterized by lithologic associations that are divided into ten assemblages. These assemblages are large, fault-bounded blocks that contain a unique sequence of strata. In general, the Tertiary strata rest on three Mesozoic rock

complexes: 1) the Coast Range ophiolite which includes serpentinite, gabbro, diabase, and basalt, keratophyre, and overlying Great Valley sequence; 2) the Franciscan complex which is composed of weakly to strongly metamorphosed greywacke, argillite, limestone, basalt, serpentinite, chert, and other rocks; and the Salinian complex which is composed of granitic plutonic rocks, and inferred gabbroic plutonic rocks at depth, overlain in places by Cretaceous strata. The Franciscan complex was subducted beneath the Coast Range ophiolite during the Late Cretaceous or Early Tertiary. As a result of the subduction relationship between these two complexes, there are numerous faults along the contact between them (Brabb, Graymer, and Jones 1998).

The following geologic mapping units occur within PRSP (taken from Brabb, Graymer, and Jones 1998):

Lambert Shale (Oligocene and lower Miocene) – dark-gray to pinkish-brown, moderately well-cemented mudstone, siltstone, and claystone. Chert crops out in a few places in the upper part of the section, and sandstone bodies up to 30 meters thick, sandstone beds, and microcrystalline dolomite are present in places. Lambert Shale is about 1460 meters thick.

Tahana Member (Pliocene and upper Miocene) – greenish-gray to white or buff medium to very fine-grained sandstone and siltstone with some silty mudstone. Maximum thickness is 655 meters.

Monterey Formation (middle Miocene) – grayish-brown and brownish-black to very pale orange and white porcelaneous shale with chert, porcelaneous mudstone, impure diatomite, and calcareous claystone with small amounts of siltstone and sandstone near base. Thickness ranges from 120 to more than 600 meters.

Mindego Basalt and related volcanic rock – Basaltic volcanic rocks, both intrusive and extrusive. Extrusive rock is primarily dark-gray to orange-brown to greenish-gray flow breccia but also includes lesser amounts of tuffs, pillow lavas, and flows. Extrusive rocks have a maximum thickness of 120 meters. Intrusive rock is dark greenish-gray to orange-brown and medium to coarsely crystalline. It commonly weathers spheroidally, and crops out as roughly tabular bodies up to 180 meters thick. Minor amounts of sandstone and mudstone are locally included.

Rices Mudstone Member (Oligocene and upper Eocene) – olive-gray to red and brown unbedded mudstone and siltstone with some laminated shale. Spheroidal weathering is common as are elongate carbonate concretions. Thickness is approximately 300 meters.

Soils

PRSP is located on soils of the Hugo-Butano soil association. An association contains one or more soils that may differ greatly from each other. The Hugo-Butano association is described as steep and very steep, moderately deep and deep soils on sedimentary rocks under coniferous forest. The project work would occur entirely within this soil association (SCS 1961).

Six soil mapping units occur within PRSP. Only two of these (i.e., Hugo and Josephine loams, very steep and Hugo and Josephine loams, very deep, sloping) occur within the project area. Descriptions of all mapping units within the park are as follows (SCS 1961):

Hugo and Josephine loams, very steep: This soil is typically 36-60 inches deep over bedrock, although in a few areas, depth to bedrock is less than 36 inches. Slopes are 45 percent or steeper. Soil permeability is moderately slow and soils have good water-holding capacity. Runoff is slow and erosion hazard is slight.

Hugo and Josephine loams, very deep, sloping: This soil is typically more than 60 inches deep on slopes of 6 to 15 percent. The moisture-holding capacity is good to high, runoff is slow, and erosion hazard is slight.

Hugo and Josephine sandy loams, steep, eroded: This soil is typically less than 60 inches deep over bedrock and occurs on slopes of 20-40 percent. Runoff is rapid and the erosion hazard is high.

Hugo and Josephine sandy loams, very steep, eroded: This soil is typically less than 60 inches deep over bedrock and occurs on slopes of 40 percent or steeper. Runoff is rapid and the erosion hazard is high.

Lobitos loam, moderately steep, eroded: This soil is typically 20-36 inches deep over fine-grained sandstone or shale and occurs on slopes of 30-41 percent. Soil permeability is moderate in the surface soil and moderately slow in the subsoil. The soil has low water-holding capacity, the runoff is rapid, and erosion hazard is high.

Santa Lucia loam, very steep, eroded: This soil is typically 10-20 inches deep, but in some places may be as deep as 36 inches. It occurs on slopes of 45 percent or greater. Drainage in this type is somewhat excessive, runoff is very rapid, and erosion hazard is very high.

Seismicity

The faults of San Mateo County are characterized by both strike-slip and dip-slip components of displacement, although some faults in the County have a major component of reverse or thrust offset, as well. There are three major fault systems (i.e., San Andreas, Pilarcitos, and San Gregorio) in the County that display large right-lateral offsets. These fault systems include numerous fault strands that occur in a broad zone up to six miles wide. The San Andreas fault zone was displaced up to several yards in San Mateo County during the 1906 earthquake. Current estimates of total offset for the past eight million years are about 23 miles for the San Andreas fault zone in San Mateo County, 74 miles for the Pilarcitos fault zone, and

approximately 96 miles for the San Gregorio fault zone (Brabb, Graymer, and Jones 1998).

The San Mateo County General Plan (County of San Mateo 1986a) states that the primary faults in San Mateo County along which surface rupture is most likely to occur are the San Andreas and Seal Cove-San Gregorio Faults, both of which are right-lateral, strike-slip faults. As a result, rupture along either of these faults would most likely be horizontal.

The San Andreas Fault is located approximately four miles to the east of the park unit and proposed project site. This is an active fault with historic displacement (i.e., within the last 200 years) (Jennings 1994) and has an estimated annual slip rate of 14 millimeters in the segment that passes near the project area (i.e., the Santa Cruz Mountains segment) (CDC 1996). The maximum moment magnitude (i.e., characteristic earthquake magnitude) for the Santa Cruz Mountains segment of the San Andreas fault is 7.0 (CDC 1996). The San Gregorio Fault shows evidence of displacement during Holocene time of the late Quaternary period (i.e., within the last 10,000 years) as indicated in offsets of seafloor sediments or strata. It is approximately seven miles to the west of the project site (Jennings 1994), has an estimated annual slip rate of five millimeters, and a maximum moment magnitude of 7.3 (CDC 1996). Both the Pilarcitos and Seal Cove Faults show evidence of displacement during the Quaternary (i.e., within the last 1.6 million years). The Pilarcitos Fault is approximately four miles to the east of the project area while the Seal Cove Fault is approximately five to six miles northeast of the project area (Jennings 1994). Information on the annual slip rates for the Seal Cove and Pilarcitos Faults could not be obtained.

Ground motions (10% probability of being exceeded in 50 years) are expressed as a fraction of the acceleration due to gravity (g). According to the California Geological Survey, Seismic Shaking Hazards in California, Interactive Ground Motion Map for -122 degrees longitude, 37 degrees latitude (CGS 2003a), the project area is subject to a maximum ground acceleration range of 70-80% gravity. According to the California Geological Survey's website (CGS 2003b), peak ground acceleration (Pga) in the project vicinity is 0.232g on firm rock, 0.254g on soft rock, and 0.294g on alluvium.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
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.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

DISCUSSION

- a) As noted above in Environmental Setting, there are several active faults within four to seven miles of the project site. The park unit is situated in a seismically active part of California and is within an Alquist-Priolo Earthquake Fault Zone (CGS 2007).
- i) The Alquist-Priolo Earthquake Fault Zoning Act of 1972 was implemented to regulate development near active faults and to prevent construction of buildings for human occupancy on or near active faults (i.e., that have ruptured within the past 11,000 years). The designated zone extends from 200 to 500 feet on both sides of known active fault traces. Under the Act, no buildings intended for human occupancy may be constructed on or within 50 feet of an active fault trace (CGS 2007). This project would replace leaky existing water distribution lines, failing valves, and existing water tanks. The new water tanks would be anchored to meet seismic restraint requirements. No structures that are designed for human occupancy are proposed as part of this project and the tank site is not near any structures designed for human occupancy. Therefore, there would be a less than significant impact on people or structures with regard to earthquake rupture as a result of implementation of this project.
- ii) The project site is in an area that is subject to potential strong ground shaking from the San Andreas, Pilarcitos, and San Gregorio faults. As noted above, the maximum probable earthquake for the San Gregorio Fault (7 miles from the project site) is 7.3 and is 7.0 for the San Andreas fault zone (4 miles from project site), Santa Cruz Mountains segment, with peak ground accelerations from such an event reaching 0.29 gravity (g) in some areas (CGS 2003b). **Project-Specific Requirement Geo-1** would reduce this impact to less than significant (see Chapter 2, Project Description, for list of Project Requirements).

- iii) Seismic-induced ground failure, such as liquefaction, usually occurs in unconsolidated granular soils that are water saturated. The project work does not occur in alluvium soils. According to the U.S. Geological Survey's susceptibility map of the San Francisco Bay Area, there is a very low susceptibility for liquefaction at PRSP (USGS 2006). This would be a less than significant impact as a result of this project.
- iv) Most of PRSP is mapped as a having a low potential for landsliding, with pockets of areas of higher landslide potential based upon past landslide events (USGS 2008). This is an existing condition and the hazard would not be increased as a result of this project. No impact.
- b) A temporary increase in erosion may occur during construction activities. Integration of **Standard Project Requirement Geo-2a and 2b – Erosion Control** into project construction plans would reduce soil erosion or loss of topsoil as a result of project construction to a less than significant level (see Chapter 2, Project Description, for list of Project Requirements).
- c) The project is not located within a geologic unit or soil that is known to be unstable, based on available data. The potential risk from liquefaction or landslides is considered to be mostly low throughout the park unit. Therefore, there is a less than significant impact.
- d) Expansive soils are those soils that have high clay content that swell when wet and shrink when dry. The soils on the project site are loams and sandy loams. These soils do not have high clay content, are therefore not expansive, and would not result in a substantial risk to life and property. No impact.
- e) The project does not involve the installation of a septic system or leach field. Therefore, there is no impact.
- f) No known unique paleontological or geological resources exist on the project site. Therefore, no impact to these resources are expected to occur as a result of this project.

VII. GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL SETTING

Greenhouse gases (GHG) such as carbon dioxide and methane trap heat in the earth's atmosphere. Increased concentrations of these gases over time produce an increase in the average surface temperature of the earth over time. The rising temperatures can in turn produce changes in precipitation patterns, storm severity, and sea level, resulting in what is commonly referred to as "climate change."

The California State Legislature has proposed and the Governor has approved laws and policies to reduce the amount of GHG generated each year. As stated in Assembly Bill 32, Global Warming Solutions Act (AB 32), passed in 2006; "The State of California found that Global Warming would have detrimental effects on some of the California's largest industries including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry." AB 32 requires statewide GHG emissions in California be reduced to 1990 levels by the year 2020 and requires the California Air Resources Board (CARB) adopt rules and regulations to achieve this goal.

CARB has developed the Climate Change Scoping Plan (Scoping Plan) California's roadmap to reach the GHG reduction goals required in AB 32. The Scoping Plan has several strategies and recommended measures to reduce GHG emissions. One of these measures states that approximately one-fifth of the electricity consumed in California is associated with water delivery, treatment, and use. GHG emissions can be reduced if California can move, treat, and use water more efficiently (CARB).

The California Department of Parks and Recreation (DPR) has also developed a "Cool Parks" initiative to address climate change within the State Park system. Cool Parks proposes that State Parks itself as well as resources under its care adapt to the environmental changes resulting from climate change. In order to fulfill the Cool Parks initiative, State Parks is dedicated to using alternative energy sources, low emission vehicles, recycling and reusing supplies and materials, and educating staff and visitors on climate change (CDPR 2008).

Greenhouse Gas Emissions and Climate Change

Some GHG such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and through human activities. Naturally occurring greenhouse gasses include water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

- *Water Vapor* - Water Vapor is the most abundant greenhouse gas in the atmosphere. Changes in its concentration are considered a result of climate feedback loops related to the warming of the atmosphere rather than a direct result of human activities. The feedback loop that involves water is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the absolute

humidity can be higher (in essence, the air is able to 'hold' more water when it's warmer), leading to more water vapor in the atmosphere. As a greenhouse gas, the higher concentration of water vapor is then able to absorb more thermal energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a 'positive feedback loop'. However, huge scientific uncertainty exists in defining the extent and importance of this feedback loop. As water vapor increases in the atmosphere, more of it would eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

- *Carbon Dioxide* - The natural production and absorption of carbon dioxide (CO₂) is achieved through the terrestrial biosphere and the ocean. Carbon dioxide also enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees, and wood products, and as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle. Carbon dioxide was the first greenhouse gas demonstrated to be increasing in atmospheric concentration with the first conclusive measurements being made in the last half of the 20th century.
- *Methane* - Methane (CH₄) has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands (at the roots of the plants). Methane is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills. Methane is an extremely effective absorber of radiation, though its atmospheric concentration is less than CO₂ and its lifetime in the atmosphere is brief (10-12 years), compared to some other greenhouse gases (such as CO₂, N₂O, CFCs).
- *Nitrous Oxide* - Nitrous oxide (N₂O) is produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. Concentrations of nitrous oxide began to rise at the beginning of the industrial revolution and is understood to be produced by reactions that occur in fertilizer containing nitrogen. Increasing use of these fertilizers has been made over the last century (NOAA).
- *Ozone* - Ozone (O₃) is a gas present in both the upper stratosphere, where it shields the Earth from harmful levels of ultraviolet radiation, and at lower concentrations in the troposphere, the air closest to the Earth's surface, where it forms through chemical reactions between pollutants from vehicles, factories, fossil fuels combustion, evaporation of paints and many other sources. Key Pollutants involved in ozone formation are hydrocarbon and nitrous oxide gases (CARB). Sunlight and hot weather cause the ground-level ozone to form in harmful concentrations and is the main component of anthropogenic photochemical "smog." (USEPA).

Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through

human activities.

- Fluorinated Gases:* Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for [ozone-depleting substances](#) (i.e., CFCs, HCFCs, and halons). These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes referred to as High Global Warming Potential gases (“High GWP gases”) (USEPA).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environmental?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION

- a) Equipment used in construction including delivery trucks, crew trucks, backhoes, grades, pavers, concrete mixers, and cranes that could contribute to a temporary increase in CO₂ and N₂O levels, both components of GHG. Integration of **STANDARD PROJECT REQUIREMENT AIR 1 c** (see Chapter 2 Project Description) designed to reduce emissions and with the temporary nature of the construction work would be a less than significant impact on the generation of GHG emissions.
- b) The replacement of the leaking water tanks and distribution lines would reduce Portola Redwoods State Park water use and reduce the amount of energy needed to pump water to the water tanks. This would help meet both CARB’s goal of the efficient movement, treatment, and use of water and DPR’s Cool Parks initiative to use less non-renewable energy thereby reducing GHG emissions. This would be a less than significant impact.

VIII. HAZARDS AND HAZARDOUS MATERIALS.

ENVIRONMENTAL SETTING

Portola Redwoods State Park (PRSP) is located in a rural mountainous area of San Mateo County. While cities like San Francisco are approximately 30 miles away and Palo Alto 13 miles away it can take more than an hour due to the steep, narrow, and winding roads used to approach PRSP.

Airports and Schools

Each of the four airports in San Mateo County are more fifteen air miles away from PRSP. The proposed project is not within an airport land use zone/plan or within two miles of a public airport or private airstrip. The closest school is La Honda Elementary located approximately 9 miles away from PRSP (Google Maps 2010).

Hazardous Materials

The nearest hazardous materials cleanup site listed by the California Department of Toxic Substance (CDTSC) Control is located at Glen Cove Park adjacent to Portola Redwoods State Park (PRSP). This site is just outside the Park to the west and was certified clean in 1997 (DTSC 2009).

The types of materials used and stored in PRSP that could be hazardous include fluids such as motor vehicle and mechanical equipment fuels, oils, and other lubricants. No storage facilities, or other structures or industrial sites that could contain hazardous materials are located within the project area.

Fire Hazards

The California Department of Forestry and fire Protection (CalFire) lists the fire hazard severity for PRSP as high (CalFire 2007). The park unit is designated as a State Responsibility Area. In the event of a fire, the CalFire's La Honda Brigade, located 9 miles north, would act as the first responder to the PRSP. Additionally, PRSP is outfitted with fire suppression materials.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 §65962.5, and, as a result, create a significant hazard to the public or environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Be 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? If so, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be located in the vicinity of a private airstrip? If so, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Hazards and Hazardous Materials is based on criteria VIII a-h, described in the environmental checklist above.

DISCUSSION

- a-b) Construction activities would require the use of powered equipment that uses potentially hazardous materials such as fuels, oils, and solvents. These materials are generally contained within vessels engineered for safe storage. Large quantities of these materials would not be stored at or transported to the project area. Spills upsets, or other construction-related accidents could result in a release of fuel or other hazardous substances into the environment. Spill prevention protocols described in **STANDARD PROJECT REQUIREMENT HAZARD 1 AND 2** (see chapter 2, Project Description) would reduce the potential for adverse impacts from these incidents to a less than significant level.
- c) As noted in the Environmental Setting, there are no schools in the general vicinity of the project or within one-quarter mile of the proposed project site. No Impact.
- d) No part of the PRSP is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5. No area within the project site is currently restricted or known to have hazardous materials present. There would be no impact as a result of this project.

- e-f) PRSP is not located within an airport land use plan, within two miles of a public airport or in the vicinity of a private airstrip. Therefore, no impact would occur as a result of this project.
- g) All construction activities associated with the proposed project would occur within the boundaries of PRSP and work would not restrict access to, cause delays, or block any public road outside the immediate construction area. The traffic on State Route 35, Alpine Road and Portola State Park Road may be impacted only for short periods of time for delivery of construction materials or construction equipment. The project would not conflict with the emergency response plans for San Mateo County. Therefore, the impact of this project would be less than significant.
- h) Heavy equipment can get very hot with extended use; this equipment would sometimes be in close proximity to this vegetation. Improperly outfitted exhaust systems or friction between metal parts and/or rocks could generate sparks, resulting in a fire. Implementation of **STANDARD PROJECT REQUIREMENT HAZARD 3** (see Chapter 2, Project Description) would reduce the potential for adverse construction impacts from this project to a less than significant level.

IX. HYDROLOGY AND WATER QUALITY.

ENVIRONMENTAL SETTING

Climate and Precipitation

Portola Redwoods State Park (PRSP) is located within a Mediterranean climate zone typical of the central California coast. The climate in this zone varies greatly with the amount of coastal influence but typical conditions consist of warm, dry summers and moderately cold winters with most of the annual rain falling between October and March (Cover 2003, ESA et al. 2004, SRP 2008). Annual precipitation in the vicinity averages approximately 40 inches (Cover 2003).

Watershed – Surface Water

PRSP lies in the upper watershed of Pescadero Creek which drains an area of approximately 80 square miles (Cover 2003, ESA et al. 2004). Pescadero Creek and its tributaries flow into Pescadero Marsh, one of the most significant coastal wetlands on the central California coast, before draining into the Pacific Ocean within the Monterey Bay National Marine Sanctuary. The slope from the project area drains directly into Pescadero Creek or into Peters Creek, one of its major tributaries.

Flooding

No 100-year flood plain has been designated for Peters Creek or the segment of Pescadero Creek that flows through PRSP. The stretch of Pescadero Creek approximately one mile downstream from the project area out to the ocean does have the 100 year-flood plain designated (SRP 2008). Pescadero Creek has flooded in the past with the largest events on record in 1998, 1982, and 1955. These floods resulted in damage to the town of Pescadero, numerous downed trees, and bridge washouts (ESA et al. 2004). PRSP experienced erosion problems, downed trees, and trail closures during the 1982 and 1998 floods.

Water Quality Regulation

The San Francisco Bay Regional Water Quality Control Board (SFRWQCB) regulates water quality in the region and provides water quality standards and management criteria as required by the Clean Water Act. These standards and criteria are presented in the 1995 Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin, which includes all fully approved subsequent amendments that can be viewed at the SFRWQCB website (http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#2004basinplan). The basin plan identifies the beneficial uses, water quality objectives, and implementation plans for the San Francisco Bay Region, which extends from Tomales Bay approximately 70 miles to the north of Pescadero and Butano Creek 12 miles to the south. The Pescadero Creek watershed falls within the San Mateo Coastal Hydrological Unit as identified in the Basin Plan. Pescadero Creek is identified as significant surface water. Present and potential beneficial uses that are applicable to the Pescadero Creek Watershed include municipal and domestic supply, agricultural supply, cold freshwater habitat, warm freshwater habitat, fish migration, fish spawning, preservation of rare and endangered species, wildlife habitat, water contact recreation and non-contact water recreation. Pescadero Creek is listed as an impaired water body under section 303(d) of the Clean Water Act because the water quality of the creek is not meeting objectives of the Basin Plan which require that the beneficial uses are not to be adversely affected by excessive sediment (Cover 2003). Currently, surface waters within the

park supply water for park staff and visitors; fire protection; groundwater recharge; and habitat for aquatic and terrestrial organisms, including sensitive wildlife species such as steelhead and California red-legged frogs.

Water Quality

The Department of Health Services has issued citations for insufficient chlorine contact time in the tanks. These water quality issues are due to the outdated and deteriorating water storage and delivery system. In addition, the redwood tanks in general tend to deplete the residual chlorine at a rapid rate.

Water Supply

Water for park uses is currently supplied solely from surface waters of Peters Creek, which runs through PRSP. The Park pumps the water from Peters Creek into the water treatment facility where it is treated via membrane filtration at 20 gallons per minute. There is a clear well at the treatment facility and the distribution pipeline fills four separate storage tanks for delivery throughout the park. Due to age and deterioration of the existing supply lines and water storage facilities, many line failures have occurred, interrupting fire protection and water service and not efficiently using available water resources.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

polluted runoff?

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| f) Substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place structures that would impede or redirect flood flows within a 100-year flood hazard area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Result in inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

DISCUSSION

- a) Proposed ground disturbance activities could result in generation of sediment that ultimately makes its way into the local stream systems. Other impacts to water quality could result from releases of fuels or other fluids from vehicles and equipment during the construction process. These activities could result in a violation of water quality standards and waste discharge requirements. Along with **STANDARD PROJECT REQUIREMENT GEO and HAZ 1**, integration of **STANDARD PROJECT REQUIREMENT HYDRO 1** (see Chapter 2, Project Description) into construction plans would control releases of pollutants into storm (or other) water runoff. Less than significant.
- b) This project would cause no change to current withdrawals of water that supply the park's water needs. Leaking storage tanks and water lines would be replaced. No impact.
- c) Existing drainage patterns in the areas associated with the project would not be altered in a manner that would significantly increase on- or off-site erosion or siltation. BMP's for erosion would be integrated into the project design (**STANDARD PROJECT REQUIREMENT HYDRO 1**) and no existing creeks or streams would be altered by this project, resulting in less than significant impacts.
- d) The existing drainage patterns from the project area would not be altered in a manner that would significantly increase the rate or amount of surface water that would result in on- or off-site flooding. Therefore, there would be no impact as a result of this project.
- e) This project would not create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. No impact.
- f) This project would provide reliable and adequate water supplies for park use and fire protection. The new tanks would require approval from the Department of Health Services, Drinking Water branch for drinking water purposes. In addition, BMPs to control soil erosion and runoff or release of vehicle or equipment fluids during construction would be implemented under **STANDARD PROJECT REQUIREMENT HYDRO 1** to reduce the potential

of construction activities resulting in impacts that could degrade water quality. Less than significant impact.

- g) As described in the Environmental Setting, no part of the project site is located within a FEMA-designated 100-year floodplain. The project also does not include any housing structures. No impact.
- h) This project would not place structures that would redirect or impede flood flows within a FEMA-designated 100-year floodplain. No impact.
- i) This project would not expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding that results from the failure of a levee or dam. No impact.
- j) Topographic characteristics of the project site are relatively steep in some locations, but the project replaces existing features and there is no history of large landslides or mudflows at the project site, so the project would not increase the risk of impacts from a mudflow. The project is not located adjacent to a large water body and would not be inundated by either a seiche or tsunami. Less than significant impact.

X. LAND USE AND PLANNING.

ENVIRONMENTAL SETTING

Portola Redwoods State Park (PRSP) is located in a rural mountains area of San Mateo County. The County has approximately 353,450 acres of land and classifies land within its boundaries for management, development, and expansion purposes. PRSP is located in an area that the San Mateo General Plan zones as a Resource Management District with several permitted uses including public recreation, agricultural, residential, timber harvesting, and public facilities (San Mateo 1999).

Currently, PRSP does not have a general plan that guides the park’s long-range management and goals. The Department of Parks and Recreation (DPR) authorizes work on its facilities under California Public Resources Code (PRC) § 5002.2 (c) which permits work to repair, replace, or rehabilitate existing facilities or to protect public health and safety without an approved General Plan.

There are also no habitat conservation plans (HCP) or natural community conservation plans (NCCP) in or adjacent to the park.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with the applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Land Use Planning is based on criteria X a-c, described in the environmental checklist above.

DISCUSSION

- a) The proposed project is located completely within the boundaries of PRSP, in a rural area of San Mateo. The project would add no barriers or elements that would divide or interfere with an established community. No Impact.
- b) This project is consistent with the San Mateo General Plan and PRC § 5002.2 (c). No Impact
- c) There are no applicable HCP’s or NCCPs for the project area. No Impact.

XI. MINERAL RESOURCES.

ENVIRONMENTAL SETTING

The Surface Mining and Reclamation Act of 1975 requires the State Geologist to classify mineral areas in the State, and the State Board of Mining and Geology to designate mineral deposits of regional or statewide significance. According to the San Mateo County General Plan (County of San Mateo 1986), most mineral products have been used locally, filling the need for low cost construction materials and energy supply. Semiprecious stones found in the Bay Area include nephrite, jade, petrified bone, opal and varieties of quartz. In San Mateo County, chalcedony and agate pebbles are abundant at Pescadero Beach, petrified whalebone occurs in sedimentary rocks along beaches or tidal areas at Ano Nuevo Beach, and jasper has been found at the beaches at Pigeon Point (County of San Mateo 1986).

Oil deposits occur off the coast of San Mateo in an underground deposit known as the Salinian Province. Onshore deposits of oil and gas in the County occur primarily in three underground fields: the Half Moon Bay Field, the La Honda Field and the Oil Creek Field (County of San Mateo 1986). Other mineral resources in the County include mineral water, salines (salt ponds), and crushed and broken stone (County of San Mateo 1986). According to the County of San Mateo General Plan (1986) map, there are no mineral resources occurring within PRSP.

In accordance with Public Resource Code § 5001.65, commercial exploitation of resources in the units of the state park system is prohibited.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

a,b) As stated in the Environmental Setting above, no significant mineral resources have been identified within the park boundaries. Therefore, the project would not result in the loss of availability of a known mineral resource nor a locally important mineral resource recovery site. No impact.

XII. NOISE.

ENVIRONMENTAL SETTING

Noise is defined as unwanted sound and is known to have several adverse effects on people, including hearing loss, speech and sleep interference, physiological responses, and annoyance. Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain activities.

Noise is commonly described in “Ldn,” which expresses average sound level over a 24-hour period in decibels (dB), the standard measure of pressure exerted by sound. Ldn includes a 10 dB penalty for sounds between 10 P.M. and 7 A.M., when background noise is lower and people are most sensitive to noise. Because decibels are logarithmic units of measure, a change of 3 decibels is hardly noticeable, while a change of 5 decibels is quite noticeable and an increase of 10 decibels is perceived as a doubling of the noise level. A change from 50dB to 60dB increases the percentage of the population that is highly annoyed at the noise source by about 7 percent, while an increase from 50 dB to 70 dB increases the annoyed population by about 25 percent. Sounds as faint as 10 decibels are barely audible, while noise over 120 decibels can be painful or damaging to hearing.

Portola Redwoods State Park (PRSP) is located in a rural setting with a serene and generally quiet nature. Typical noises heard in the park include vehicular traffic from the campground and day use visitors and intermittent noises associated with recreation activities. Potential sensitive receptors include visitors, park staff, and residents.

There are three public airports within 30 miles of PRSP; San Jose International, San Francisco International and Oakland International Airport. San Jose International is the closest airport to the project site, approximately 16 miles by air and 38 miles by car (Google Maps).

San Mateo County has a noise ordinance that provides standards for exterior noise levels. For non-transportation noise sources, such as this project, the daytime (7 a.m. to 10 p.m.) noise level standard is 55 dB, which is higher than relaxed conversation at 45dB (EPA 1971). The nighttime standard is 50 dB.

Construction Equipment Noise at 50 Feet

Equipment	Noise Level at 50 Feet
Earthmoving	
	dB
Front Loaders	75-79
Backhoes	75-85
Dozers	75-80
Tractors	75-80
Graders	75-85
Pavers	80-89
Trucks	75-82
Material handling	
Concrete Mixers	75-85
Crane	75-83
Concrete Crushers	75-85
Stationary	
Pumps	75-76
Generator	75-78
Compressors	75-81
Other	
Saws	75-78
Vibrators	75-76

Source: U.S. EPA 1971

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generate or expose people to excessive groundborne vibrations or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Be 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? If so, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be in the vicinity of a private airstrip? If so, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Noise is based on criteria **XII** a-f, described in the environmental checklist above.

DISCUSSION

- a) As noted in the Environmental Setting section above the County's daytime (7a.m. to 10p.m.) noise level standard is 55dB. This project would result in temporary construction noise above the County's standard. Construction activities would include grading, excavation, and concrete mixers. Project construction is anticipated to use equipment with noise levels similar to those listed in the above table that would fluctuate, depending on the type and number of construction equipment operating at a time, and would exceed ambient noise levels in the immediate vicinity of the work site for brief periods of time. Integration of **STANDARD PROJECT REQUIREMENT NOISE 1** (see Chapter 2, Project Description) into construction plans would reduce the temporary increase in noise to a less than significant level.
- b) Construction activity would not involve the use of explosives, pile driving, or other intensive construction techniques that could generate significant ground vibration or noise. Minor vibration immediately adjacent to backhoes and heavy equipment would only be generated

on a short-term basis. Therefore, ground vibration or noise generated by the project would have a less than significant impact.

- c) Once the proposed project is completed, all related construction noise would disappear. Nothing within the scope of the proposed project would result in a substantial permanent increase in ambient noise levels. No Impact.
- d) Construction activities utilizing heavy and motorized equipment would result in a temporary increase in ambient noise levels during the construction period. Construction noise levels would fluctuate, depending on the type and number of construction equipment operating at a time. Integration of **STANDARD PROJECT REQUIREMENT NOISE 1** (see Chapter 2, Project Description) would reduce the temporary increase in noise to a less than significant level.
- e-f) This project is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip. No Impact

XIII. POPULATION AND HOUSING

ENVIRONMENTAL SETTING

Situated among the heavily forested hills of the coastal range at the south eastern most edge of San Mateo County, Portola Redwoods State Park lies approximately thirty six miles southeast of San Francisco, and eighteen miles southwest of San Jose (Google). Known as the Skyline Area, this region of San Mateo County is sparsely populated and is primarily used for recreation, timber harvesting, grazing, or general open space (GP-LU 7.6). Some residents have moved into the area within the last decade increasing the population from 4,194 in 1990 to 4,462 in 2000, and the population is projected to reach 7,900 in 2025. However, this particular area of San Mateo County remains comparatively less populated than those areas located further North.

Portola Redwoods State Park abuts the 5,973-acre Pescadero Creek County Park, and offers visitors an extensive day use area, complete with a visitor’s center, as well as a fully developed campground for groups, tents, hiker/bikers, trailers, and recreational vehicles (GP-LU 6.7, Pub Web Site). In addition to visitor accommodations, the park also contains four houses for permanent staff members, and six cabins for seasonal staff.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Population and Housing is based on criteria **XIII** a-c, described in the environmental checklist above.

DISCUSSION

a-c) The proposed repairs to the infrastructure would not directly affect the areas surrounding the park. No new housing is proposed or expansion of existing infrastructure. Nor would it displace staff residents or inhibit the recreation of visitors within the park. No Impact.

XIV. PUBLIC SERVICES.

ENVIRONMENTAL SETTING

The project is located entirely within Portola Redwoods State Park (PRSP), in an unincorporated part of San Mateo County (San Mateo 1996). Local public services include:

Fire Protection

Fire protection for the park is available from the California Department of Forestry and Fire Protection (CalFire) La Honda Fire Brigade approximately 9 miles from the project area (La Honda 2009). Additionally, Portola Redwoods State Park (PRSP) is outfitted with fire suppression materials.

Police Protection

Department of Parks and Recreation (DPR) Rangers assigned to PRSP are Peace Office Standards and Training (POST) certified Law Enforcement Officers. Currently four Rangers patrol PRSP and the nearby Castle Rock State Park. If necessary, San Mateo County Sheriff’s Deputies and the California Highway Patrol (CHP) are available for assistance.

Schools

The project area is within the La Honda Pescadero Unified School District. La Honda Elementary School is the closest school to the park, approximately 9 miles to the north. (Google 2010)

Parks and Other Public Facilities

There are a number of parks and recreational facilities that serve local residents and visitors throughout San Mateo County. Near PRSP, there is Castle Rock State Park, Big Basin Redwoods State Park, Pescadero Creek, Sanborn Skyline and Steven Creek County Parks, and several Regional Open Space areas.

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Result in significant environmental impacts from construction associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Other public facilities?

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Public Services is based on criteria **XIV** a, described in the environmental checklist above.

DISCUSSION

- a) **Fire Protection:** No components of the proposed waterline and tank replacement project would contribute to an increase of visitation and the level of required public services is expected to remain the same. However, use of construction equipment in the vicinity of flammable vegetation at the project sites could present an increased risk of fire that could result in additional demands on CalFire and local fire response teams. Any impact on services would be temporary and nothing in the project scope would contribute to the need for an increase in the level of fire protection after construction is complete. Integration of **STANDARD PROJECT REQUIREMENT HAZMAT-3, WILDFIRE AVOIDANCE AND RESPONSE** (See Chapter 2, Project Description) would reduce the potential impact to fire protection services to a less than significant level.

Police Protection: As noted in the Environmental Setting, DPR Rangers with law enforcement authority patrol PRSP with emphasis on campgrounds and public use areas. DPR Rangers have full law enforcement authority and only require assistance from local police as backup for unusual situations. No additional demands on Rangers or local police are expected as a result of this project. No impact.

Schools: As noted in the Environmental Setting there this is a replacement project only and would not change the number of students within the La Honda Pescadero school District . No Impact.

Parks and Other Public Facilities: No public use areas would be closed as a result of this project, although access to the immediate areas under construction may be restricted during certain phases of the project. However, the project area is only a small portion of the park, with multiple alternative areas available for visitors to use.

No other parks in surrounding areas should show any increase in use due to this project. No adverse impact would occur at PRSP or any other public facilities as a result of this project. No impact.

XV. RECREATION.

ENVIRONMENTAL SETTING

California State Parks owns and operates 8,353 acres of recreational facilities in San Mateo County in the form of parks, beaches, and marine reserves. These facilities are located along the coast and in the southern portion of the County. The County maintains and operates a 15,680 acre system comprised of 20 facilities. These facilities generally are located in the southern end of the County; however, the recently approved Master Plans for Edgewood and San Bruno Mountain County Parks have created additional recreational opportunities toward the northern portion of the County. The County park and recreation system is presently oriented toward the preservation of natural areas because the majority of the facilities are rural in nature, offering mostly low intensity types of activities. The system, however, in seeking to provide a balanced group of facilities, does feature some sites for more active types of recreation, such as Coyote Point Recreation Area. Throughout the County, cities own and/or operate most of the facilities, which provide for active types of recreation (San Mateo County 1978).

PRSP has a rugged, natural basin forested with coast redwoods, Douglas fir, and live oak. Eighteen miles of trails crisscross the canyon and its two streams, Peters Creek and Pescadero Creek. A short nature trail along Pescadero Creek introduces visitors to the natural history of the area. Visitors can see clamshells and other marine deposits from the time when the area was once covered by the ocean. The park has one of the tallest redwoods (300 feet high) in the Santa Cruz Mountains (Department of Parks and Recreation 2008).

Portola Redwoods State Park maintains 61 developed campsites; six walk-in campsites are available at Slate Creek Trail Campground, a three-mile hike from park headquarters. Presently there are four walk-in group campsites, three of the group camps can accommodate 50 people each, and the fourth camp accommodates 25 people. Sanitary facilities include six restrooms and coin-operated showers. Fire-pits and BBQ's are provided within all of the developed campsites. The campgrounds are closed December to March (Department of Parks and Recreation 2008).

Year	PAID DAY USE	FREE DAY USE	OVERNIGHT CAMPING	TOTAL ATTENDANCE
1996	11,549	3,961	32,127	47,637
1997	12,908	4,366	34,908	52,182
1998	11,119	3,832	30,830	45,781
1999	11,869	2,699	29,643	44,211
2000	13,611	3,923	33,545	51,079
2001	15,407	6,135	37,420	58,962
2002	16,048	11,365	24,501	51,914
2003	12,952	2,583	30,222	45,757
2004	12,306	2,548	27,831	42,685
2005	10,243	1,821	24,013	36,077
2006	7,978	388	19,603	27,969
2007	13,665	537	28,189	42,391
2008	13,159	710	28,861	42,730
Avagare Attendance	11,512	3,397	27,141	42,050

WOULD THE PROJECT:	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
a) Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Recreation is based on criteria **XV** a-b, described in the environmental checklist above.

DISCUSSION

a,b) As noted above, numerous and varied recreational opportunities exist on public lands throughout San Mateo County. The proposed project would replace the water supply tanks via a new supply line from the water treatment plant, to better serve the needs of the campground and fire hydrants located at the park maintenance facility.

This project would neither increase the use of existing neighborhood and regional parks or other recreational facilities nor would it include the construction or expansion of any recreational facilities. No impact.

XVI. TRANSPORTATION/TRAFFIC.

ENVIRONMENTAL SETTING

Portola Redwoods State Park (PRSP) is located off of Alpine Road, in the southwest portion of San Mateo County, California. Alpine Road connects to State Route 35 (SR 35) approximately 3.5 miles northeast of the park unit (see appendix A for location map). State Route 35 intersects with various State Routes including 84 and 9, all of which lead to a variety of Bay Area locations. Routes linking PRSP to the Bay Area freeway system are winding rural two-lane roads (Google 2010).

Roads

The level of Service (LOS) on a roadway is a measure of the speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort, convenience, and operating cost. A roadway designed for a certain level of service would actually operate at different levels throughout the day. (Caltrans 1986a).

Visitors primarily utilize SR 35 to Alpine Road to reach PRSP. The LOS during morning rush hour on SR 35 between the Santa Clara County Line and State Route 92 is estimated to be level C (Caltrans 1986a). Caltrans defines level C as having a stable flow, moderate car volumes, and the freedom to maneuver noticeably restricted (Caltrans 2008).

Mass Transit

Mass transportation including public bus and rail do not provide service to PRSP. The closest stop of the San Mateo County Transit Bus Route 85 in Skywoods, California over 10 miles away (SamTrans 2010 and Google 2010).

Air Facilities

In San Mateo County, there are four airports at least fifteen or more air miles away from PRSP. The proposed project is not within an airport land use zone/plan or within two miles of a public airport or private airstrip (Google Maps 2010).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Cause a substantial increase in traffic, in relation to existing traffic and the capacity of the street system (i.e., a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Cause a change in air traffic patterns, including	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

either an increase in traffic levels or a change in location, that results in substantial safety risks?

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Contain a design feature (e.g., sharp curves or a dangerous intersection) or incompatible uses (e.g., farm equipment) that would substantially increase hazards? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Transportation and Traffic is based on criteria **XVI** a-g, described in the environmental checklist above.

DISCUSSION

- a,b) The Department of Parks and Recreation proposes to replace water lines and four water storage tanks. During construction, delivery of construction materials and equipment could potentially create temporary delays along SR 35, Alpine Road and Portola State Park Road. The addition of an estimated 6-8 vehicles (crew pickups, delivery trucks, and equipment haulers) making 2-3 trips during daylight hours and avoiding rush hour traffic would not cause a substantial increase in traffic volume or result in additional congestion. In addition, most construction equipment would remain on-site for the duration of the project. This construction impact would be less than significant.
- c) The airports and private landing strips within San Mateo County are at least 15 miles from the project site. Therefore, the project site is not located in an airport use plan, within two miles of a public airport, in the vicinity of a private airstrip, and does not serve as a normal reporting point for air traffic in the area. No part of the proposed project would affect or change existing air traffic patterns.
- d) No aspect of this project contains design features or incompatible uses that would substantially increase hazards to users. No impact.
- e) All construction activities associated with the proposed project would occur within PRSP; would not restrict access to, or block any road outside the immediate construction area. During construction, access requirements for emergency vehicles and access to the park would be maintained at all times. No impact.
- f) This project does not contain any design feature that would affect parking capacity or increase Park attendance. No impact.

- g) There are no policies, plans, or programs supporting alternative transportation that would conflict with this project. No impact.

XVII. UTILITIES AND SERVICE SYSTEMS.

ENVIRONMENTAL SETTING

In the 1950's, Portola Redwoods State Park (PRSP) install water, sewer and electrical systems to support restrooms and showers that serve Peter's Creek campground, the Group Camp, and the five day-use area picnic sites (CDPR 2001). PRSP operates the park water system that includes the potable water and sewer treatment facilities. The water storage and distribution system has since exceeded its 40-50 year life expectancy and does not meet current California Department of Health requirements.

Water System

The existing water supply system includes seven-redwood storage tanks at four locations within PRSP, a booster pump, and distribution lines that deliver water throughout the park. The proposed project would install new distribution/supply lines, replace one-50,000, two-25,000, and one-20,000 gallon redwood water tanks with steel tanks, and install a new booster pump and shed. In addition, several fire hydrants would be replaced and a new telemetry system to control water levels would be installed at the water treatment plant.

To supply the park with water, PRSP on average, withdraws 2.2 million gallons from Peters Creek. The water is pumped to the water treatment plant, treated with chlorine to make it potable and then distributed to the water storage tanks. The system has historically been adequate to meet typical demand, even during drought conditions. However, the Department of Parks and Recreation (DPR) has been cited in the past for insufficient chlorine contact times by the California Department of Health. A small temporary tank was installed next to the water treatment plant to satisfy the Department of Health's requirements until the new storage tanks are installed. In addition, the replacement of the leaking tanks and supply lines is estimated to save up to a million gallons a year (Carroll 2010).

Solid Waste and Other Utilities

A private contractor removes trash when the on-site compactor is full; Pacific Gas and Electric supplies electricity; and ATT provide phone service (Carroll 2010).

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
a) Exceed wastewater treatment restrictions or standards of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Would the construction of these facilities cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		

facilities?

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| Would the construction of these facilities cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Result in a determination, by the wastewater treatment provider that serves or may serve the project, that it has adequate capacity to service the project's anticipated demand, in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations as they relate to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Criteria for Determining Significance

The analysis of determining the significance of impacts of the Proposed Action to Utilities and Service Systems is based on criteria **XVII** a-g, described in the environmental checklist above.

DISCUSSION

- a) PRSP is in the jurisdiction of the San Francisco Bay Regional Water Quality Control Board. The proposed project would be in compliance with all applicable water quality standards and waste discharge requirements. Replacement of four water storage tanks and installation of distribution lines would not exceed wastewater treatment standards or standards applicable to the San Francisco Bay Regional Water Quality Control Board. No impact.
- b) The proposed project would replace only existing components of the water system within the park, with no direct impact (construction or expansion) on the park's water or wastewater treatment facilities. No impact.
- c) The project scope does not include storm water drainage facilities and would neither increase nor alter existing conditions. No impact.
- d) As indicated in the Environmental Setting above, potable water is supplied by withdrawing water from Peters Creek. The park's existing entitlement of 4 million gallons a year is sufficient to accommodate current uses. While the system experiences significant stored water loss through leakage from the existing tanks and distribution lines, this project is designed to resolve the existing water loss and chlorine contact times. Less than significant impact.
- e) Wastewater treatment services are provided by DPR personnel with DPR owned facilities. No impact.

- f) Solid waste disposal services is provided by a local company. The project would not increase the park's solid waste disposal needs. No impact.
- g) The proposed project does not have a solid waste component. No impact.

CHAPTER 4 MANDATORY FINDINGS OF SIGNIFICANCE

	<u>POTENTIALLY SIGNIFICANT IMPACT</u>	<u>LESS THAN SIGNIFICANT WITH MITIGATION</u>	<u>LESS THAN SIGNIFICANT IMPACT</u>	<u>NO IMPACT</u>
WOULD THE PROJECT:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have environmental effects that will cause substantial adverse effects on humans, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION

- a) The proposed project was evaluated for potential significant adverse impacts to the natural environment and its plant and wildlife communities (Biological Resources, Hydrology and Water Quality). The proposed project site does support certain special status animal species and natural communities. DPR has determined that the proposed project would have the potential to degrade the quality of the habitat and/or reduce the number or restrict the range of rare or endangered animals including Coho salmon, steelhead, California red-legged frog, marbled murrelet, and potential nesting habitat for other raptors and migratory birds. The project also would have the potential to degrade water quality by causing erosion, sedimentation, and release of pollutants, such as vehicle fluids and elevated metal concentrations into the environment. However, full integration of all project requirements incorporated into this project would reduce those impacts, both individually and cumulatively, to a less than significant level.
- b) The proposed project was evaluated for potential significant adverse impacts to the cultural resources of Portola Redwoods State Park and its immediate environment. DPR has determined that proposed project activities would have the potential to cause significant adverse impacts to archaeological resources. Full implementation of the project

requirements incorporated into this document would reduce impacts to previously unidentified archaeological sites and features to a less than significant level.

- c) DPR often has other maintenance programs, restoration, and interpretive projects planned for a park unit. However, no other projects other than routine maintenance are planned for the proposed project area in the foreseeable future. Additionally, impacts from other environmental issues addressed in this evaluation do not overlap in such a way as to result in cumulative impacts that are greater than the sum of the parts. Less than significant impact.
- d) Most project-related environmental effects have been determined to pose a less than significant impact on humans. However, possible impacts from fugitive dust (Air Quality), earthquakes (Geology and Soils), construction accidents, spills, and wildfire (Hazards and Hazardous Waste), and construction-generated noise (Noise), though temporary in nature, have the potential to result in significant adverse effects on humans. These potential impacts would be reduced to a less than significant level if all project requirements are fully integrated into the project.

CHAPTER 5

SUMMARY OF PROJECT REQUIREMENTS AND MITIGATION MEASURES

The following conditions would be implemented by DPR as part of the Waterline and Tank Replacement Project at Portola Redwoods State Park.

AESTHETICS

PROJECT SPECIFIC REQUIREMENT AESTHETICS 1

- Steel tanks would be finished or colored to blend into the surrounding environment and prevent glare.

PROJECT SPECIFIC REQUIREMENT AESTHETICS 2

- The topsoil from the trench would be stockpiled adjacent to the meadow excavation area. After excavation and backfill of the meadow trench is complete, the topsoil and vegetation duff will be returned to the surface of the trench alignment to provide seed bank material for re-vegetation.

AIR QUALITY

STANDARD PROJECT REQUIREMENT AIR 1 –a-d

- a) All construction areas (dirt/gravel roads and surrounding dirt/gravel area) will be watered at least twice daily during dry, dusty conditions.
- b) All trucks hauling soil, sand, or other loose materials on public roads will be covered or required to maintain at least two feet of freeboard.
- c) All construction –related equipment engines will be maintained in proper tune (according to manufacturer’s specifications), and in compliance with all state and federal requirements.
- d) Earth or other material that has been transported onto paved roadways by trucks, construction equipment, erosion, or other project-related activity will be promptly removed.

BIOLOGICAL RESOURCES

PROJECT SPECIFIC REQUIREMENT BIO 1: CALIFORNIA RED-LEGGED FROG

- A DPR-approved Biologist will instruct construction personnel in the life history of the California red-legged frog and its habitat as well as the appropriate protocol to follow in the event that a California red-legged frog is found onsite.
- A survey for CRLF within the project area will be conducted by a DPR-approved monitor prior to the start of construction. Periodic spot checks for CRLF within the project area

will be conducted by the DPR-approved monitor.

- If a CRLF is located within the active work site work will stop at that location until the species moves out of the site on its own accord, or is relocated to a safe location in suitable habitat by a biologist that is approved by the USFWS to handle CRLF.
- Project excavations will be covered at night with plastic or by other methods authorized by a DPR-approved biologist that will prevent animals from becoming trapped.

PROJECT SPECIFIC REQUIREMENT – BIO 2: MARBLED MURRELET AND NESTING MIGRATORY BIRD AND RAPTOR SPECIES

- All tree removal and construction activities will occur during the non-breeding season (September 16 – January 31) for raptors and migratory bird species unless approved in advance by a DPR-approved biologist.
- No trees equal to or greater than 12 inches diameter at breast height (dbh) will be removed, unless authorized in advance by a DPR-approved biologist. Any trees less than 12 inches dbh proposed for removal will be inspected by a DPR-approved biologist to ensure that removal will not reduce the quality of the habitat or increase the potential for visual disturbance of marbled murrelet nest sites
- If construction-related activities are conducted between February 1 and March 22 (prior to the beginning of marbled murrelet nesting season), then focused surveys for nesting migratory bird and raptor species will be conducted by a DPR-approved biologist before construction activities occur in these months to identify active nests.
- Surveys for active raptor nests will be conducted within a 500-foot radius of the project area. The survey will be conducted within 10 days prior to the beginning of construction. If nesting raptors are found, no construction will occur within a 500-foot radius of the nest tree between February 1 and March 22.
- Surveys for active migratory bird nests will be conducted within a 100-foot radius of the project area 10 days prior to the beginning of construction. If active nests are located, no construction activities will occur within a 100-foot radius of the nest tree between February 1 through March 22 until the young have fledged and the young will no longer be impacted by project activities (as determined by a DPR-approved biologist).
- No construction-related activities will occur between March 23 and September 15 (i.e., nesting season for the marbled murrelet).

SPECIFIC PROJECT REQUIREMENT - BIO-3: DUDLEY'S LOUSEWORT

- All occurrences found within the project area will be identified, flagged on the ground, and avoided.

STANDARD PROJECT REQUIREMENT - BIO-4 SENSITIVE NATURAL COMMUNITIES

- All patches of the native *Nasella pulchra* Alliance will be avoided and protected from project activities, including trenching for the new water line from Tank #1 to the paved

Portola State Park Road and staging of construction equipment. Trenching operations at this location will be monitored by a DPR-approved biologist to insure there are no impacts to this sensitive natural community.

- If complete avoidance is not possible then prior to construction patches of grassland that could be impacted by project activities will be transplanted nearby to suitable locations during the appropriate season, as determined by a DPR-approved biologist.
- No roots with a diameter of 2 inches or greater will be severed by project activities within the root health zone (5 times dbh) of any native tree with a dbh of 12 inches or greater unless authorized in advance by a DPR-approved biologist

STANDARD PROJECT REQUIREMENT BIO-5: SUDDEN OAK DEATH

- All project activities that could spread *Phytophthora ramorum* to new locations will be subject to Best Management Practices developed by the California Oak Mortality Task Force available online at http://www.suddenoakdeath.org/html/best_management_practices.html

CULTURAL RESOURCES

STANDARD PROJECT REQUIREMENT CULT-1a and b ARCHAEOLOGICAL RESOURCES

- a) In the event that previously unknown cultural resources (including but not limited to dark soil containing shellfish, bone, flakes stone, ground stone, or deposits of historic trash) were encountered during project construction by anyone, the state representative will put work on hold at that specific location and contractors will be redirected to other tasks. A DPR-qualified archaeologist will record and evaluate the find and work with state representative to implement avoidance, preservation, and recovery measures as appropriate prior to any work resuming at that specific location.
- b) If significant cultural resources are found during construction activities, a qualified historian, archaeologist and/or Native American representative (if appropriate) will monitor all subsurface work including trenching, grading and excavation in the area of the find.

STANDARD PROJECT REQUIREMENT CULT-2a, b and c ARCHAEOLOGICAL RESOURCES

- a) In the event that human remains are discovered, work will cease immediately in the area of the find and the project manger/site supervisor will notify the appropriate DPR personnel. Any human remains and/or funerary objects will be left in place or returned to the point of discovery and covered with soil. The DPR District Superintendent (or authorized representative) will notify the County Coroner, in accordance with 7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (or Tribal Representative). If a Native American monitor were on-site at the time of the discovery, the monitor will be responsible for notifying the appropriate Native American authorities.

- b) If the coroner or tribal representative determines the remains represent Native American interment, the Native American Heritage Commission in the Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC 5097.98). No human remains or funerary objects will be cleaned, photographed, analyzed, or removed for the site prior to determination.
- c) If it is determined the find indicates a sacred or religious site; the site will be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Officer and review by the Native American Heritage Commission/Tribal Cultural representatives will also occur as necessary to define mitigation measures or future restrictions.

GEOLOGY AND SOILS

PROJECT SPECIFIC REQUIREMENT Geo-1 – Seismic Restraint Requirements

- The new water tanks would be anchored in place to meet seismic restraint requirements.

STANDARD PROJECT REQUIREMENT Geo-2a and 2b – Erosion Control

- a) Prior to the start of construction, Contractor would prepare a Storm Water Pollution Prevention Plan (SWPPP) for DPR approval that identifies the Best Management Practices to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all excavation, grading, trenching, and repaving.
- b) If construction activities extend into the rainy season or if an un-seasonal storm is anticipated, the contractor would cover (tarp) any stockpiled materials or soils and install silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and graded areas.

HAZARDS AND HAZARDOUS MATERIALS

Standard Project Requirement Haz 1 a-c Spill Prevention

- a) Prior to the start of construction, the Contractor would inspect all equipment for leaks and inspect equipment daily thereafter until it is removed from the project site.
- b) Prior to the start of construction, the contractor would prepare a Water Pollution Control Plan (WPCP) that would include Best Management Practices (BMPs) for materials management, fueling, repair, and maintenance of vehicles and equipment, and spill prevention and control. The Contractor would maintain a spill kit on-site throughout the life of the project. The WPCP would include a map that delineates construction staging areas and where refueling, lubrication, and maintenance of equipment may occur. Areas designated for refueling, lubrication, and maintenance of equipment shall be at

least 50 feet away from all streams. In the event of any spill or release of any chemical in any physical form at the project site or within the boundaries of the Park during construction, the contractor would immediately notify the appropriate DPR staff (e.g., project manager, supervisor, or State Representative).

- c) Equipment would be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds would be disposed of outside park boundaries, at a lawfully permitted or authorized destination.

Standard Project Requirement Haz- 2 Hazardous Substances Health and Safety Documents

- DPR would include, in any contract documents or in internal work plan documents, health and safety specifications on how to manage any potential hazardous incidents. The specifications would include methods for safe handling, collection, and proper disposal of any contaminated soil and refuse uncovered during the excavation and grading procedures. The specifications would discuss the proper personal protection during construction, the use of an exclusion zone if necessary to prevent exposure to the public, and the proper disposal procedures for any hazardous substances encountered.

Project Specific Requirement Haz 3 a-c - Construction Fire Management

- a) A fire safety plan would be developed by the contractor and/or DPR and approved by DPR prior to the start of construction. This plan would include the emergency reporting procedures of the CalFire.
- b) Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers would be required for all heavy equipment.
- c) Construction crews would be required to park vehicles away from flammable material, such as dry grass or brush. At the end of each workday, heavy equipment would be parked over asphalt or concrete to reduce the chance of fire. The contractor would also be required to have fire extinguishers on site.

HYDROLOGY AND WATER QUALITY

STANDARD PROJECT REQUIREMENT Hydro 1 a-c

- a) Prior to the start of work, Water Pollution Control Plan that identifies Best Management Practices (BMPs) to be used in all construction areas to reduce or eliminate the discharge of soil, surface water runoff, and pollutants during all ground disturbing activities.
- b) The project would comply with all applicable water quality standards as specified in the SFRWQCB Water Quality Control Plan (Basin Plan).

- c) For construction activities that extend into the rainy season or if an un-seasonal storm is anticipated, the site would cover (i.e., tarp) any stockpiled materials or soil and install silt fences, straw bale barriers, fiber rolls, or other structures around stockpiles and areas of ground disturbance.

NOISE

STANDARD PROJECT REQUIREMENT Noise 1 a-b

- a) Construction activities would be limited to the daylight hours Monday – Friday from 7:00 a.m. to 7:00 p.m.
- b) Internal combustion engines used for any purpose at the job site would be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction would utilize the best available noise control techniques (e.g., engine enclosures, acoustically attenuating shields, or shrouds, intake silencers, ducts, etc.).

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CHAPTER 6

Report Preparation

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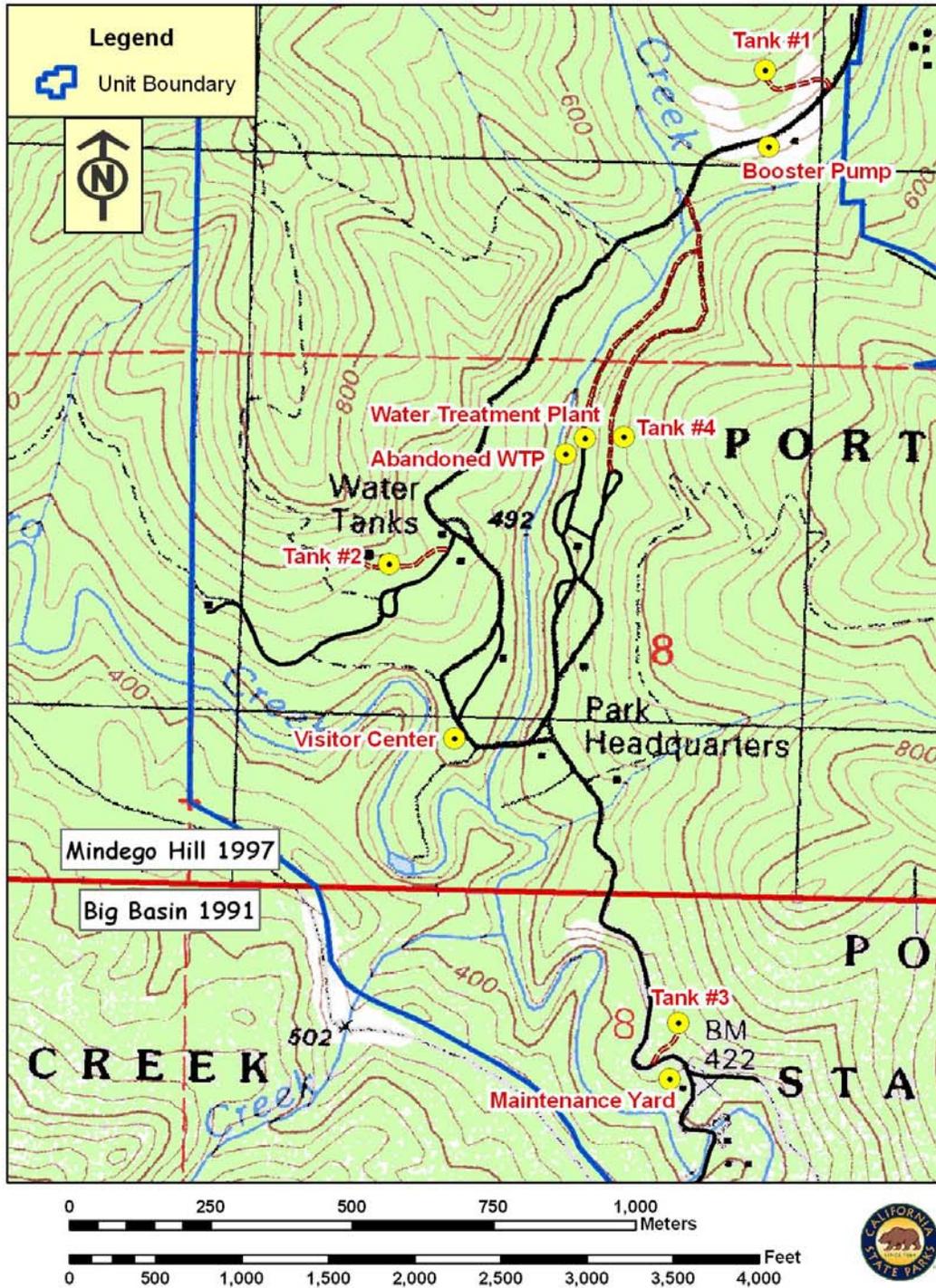
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APPENDIX A
MAPS

Project Locations

Depicted on USGS 7.5' Quadrangles (names below)

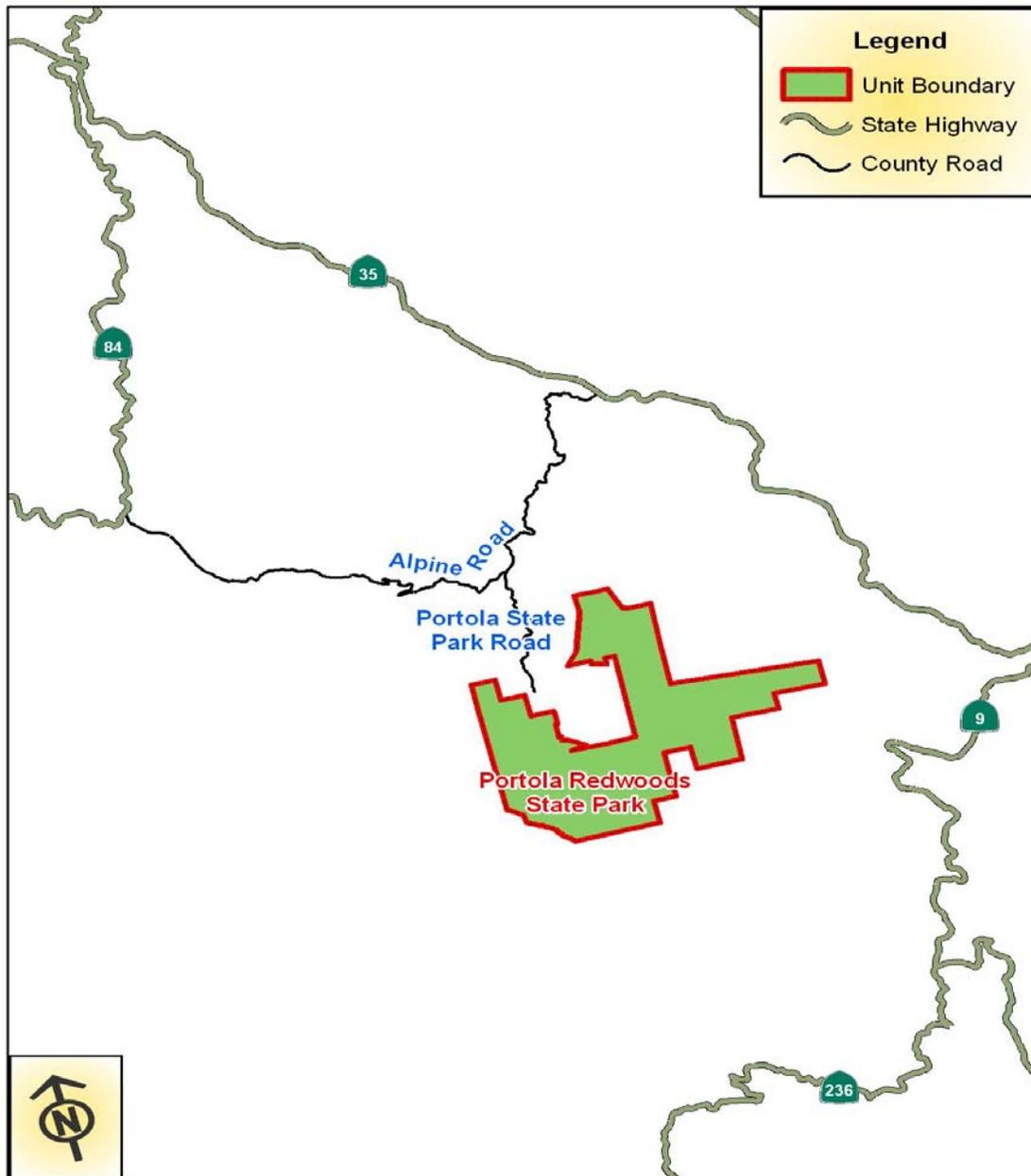
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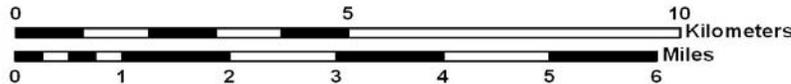
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Location Map

1:100,000



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APPENDIX B
ACRONYMS

AB – Assembly Bill
AD – After Death
ADA - Americans with Disabilities Act
AADT – Average annual daily trip
APCD – Air Pollution Control District
APE - Area of Potential Effect
APEFZ - Alquist-Priolo Earthquake Fault Zoning
ARB/CARB - California Air Resources Board
BAAQMD – Bay Area Air Quality Management District
BMP - Best Management Practices
BP – Before Present
CA - California
Caltrans - California Department of Transportation
CARB – California Air Resources Board
CBC/UBC - California Uniform Building Code
CCR - California Code of Regulations
CDF - California Department of Forestry and Fire
CDFG - California Department of Fish and Game
CDPR – California Department of Parks and Recreation
CDTSC – California Department of Toxic Substance Control
CEQA - California Environmental Quality Act
CGS - California Geological Survey
CHP – California Highway Patrol
cmbs – centimeters below surface
CNDDDB - California Natural Diversity Database (Calif. Dept. of Fish and Game)
CNPS - California Native Plant Society
CO2 – Carbon Dioxide
CRHR - California Register of Historic Resources
CRPGP – California River Parkways Grant Program
CSQA – California Stormwater Quality Association
CVRWQCB – Central Valley Regional Water Quality Control Board
CWA – Clean Water Act
dB – decibels
DOF – California Department of Finance
DPR - California Department of Parks and Recreation
DWR – Department of Water Resources
EIR - Environmental Impact Report
EPA – United States Environmental Protection Agency
FEMA - Federal Emergency Management Agency
FMMP - Farmland Mapping and Monitoring Program
FPPA – Federal Farmland Protection Policy Act
g – Gravity
GAN – Global Aviation Navigator
GHG – greenhouse gas
GP - General Plan

GWP – Global Warming Potential
 HCP – Habitat Conservation Plan
 IS/ND - Initial Study / Negative Declaration
 Ldn - day-night average levels
 LOS - level of service
 ND - Mitigated Negative Declaration
 MSL - mean sea level
 mph - miles per hour
 N₂O – Nitrous Oxide
 NCCP – natural community conservation plan
 NO_x - nitrogen oxide
 NOAA – National Oceanic Atmosphere Administration
 NPS – National Park Service
 NPDES - National Pollutant Discharge Elimination System
 NRHP - National Register of Historic Places
 NSC - Northern Service Center
 NSVAB – Northern Sacramento Valley Air Basin
 OHP – California Office of Historic Resources
 PM₁₀ - particulate matter (particles with an aerodynamic diameter of 10 Microns or less)
 PM_{2.5} - particulate matter (particles with an aerodynamic diameter of 2.5 Microns or less)
 POST – Peace Officer Standards and Training
 PRC - Public Resources Code
 PRSP – Portola Redwoods State Park
 QMU – Pleistocene-age older alluvium of the Upper Modesto Formation
 Qsc – Quaternary stream channel
 SFRWQCB – San Francisco Bay Regional water Quality Control board
 SOD – Sudden Oak Death
 SP – State Parks
 SPR – Standard Project Requirements
 SR – State Route
 SWPPP - Storm Water Pollution Prevention Plan
 SWRCB - State Water Resource Control Board
 U.S. - United States
 USACOE - United States Army Corps of Engineers
 USDA – NRCS – United States Department of Agriculture – Natural Resource Conservation Service
 USDA – SCS – United States Department of Agriculture – Soil Conservation Service
 USEPA - United States Environmental Protection Agency
 USFWS - United States Fish and Wildlife Service
 USGS - United States Geological Service
 VELB – Valley Elderberry Longhorn Beetle
 VRP – Visibility Reducing Particle