

SAN FRANCISCO BAY  
REGIONAL WATER QUALITY CONTROL BOARD

**Site Cleanup Requirements  
for Phillips 66 Company  
Line 200 Release**

INITIAL STUDY &  
MITIGATED NEGATIVE DECLARATION

JANUARY 2016



# Site Cleanup Requirements for Phillips 66 Company Line 200 Release

## Initial Study/Mitigated Negative Declaration

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# California Environmental Quality Act (CEQA) Environmental Checklist Form

**1. Project Title: Site Cleanup Requirements for Phillips 66 Company Line 200 Release**

**2. Lead Agency Name and Address:**

San Francisco Bay Regional Water Quality Control Board  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

**3. Contact Person and Phone Number:**

Ross Steenson  
(510) 622-2445  
[Ross.Steenson@waterboards.ca.gov](mailto:Ross.Steenson@waterboards.ca.gov)

**4. Project Location:**

Concord Naval Weapons Station  
Concord, California

The project site is located at the southern edge of the Inland Area of Concord Naval Weapons Station (CNWS) and the adjacent property at 330 Holly Drive, located in Contra Costa County, California. The site is located within the City of Concord, about 1,500 feet west of Kirker Pass Road and about 150 feet north of Holly Drive.

**5. Project Sponsor's Name and Address:**

Phillips 66 Company  
76 Broadway  
Sacramento, CA 95818

**6. General Plan Designation:**

Concord Reuse Project Open Space (CRP-OS); Rural Residential (RR)

**7. Zoning:**

Study District (S); Rural Residential (RR20)

# Site Cleanup Requirements for Phillips 66 Company Line 200 Release

## Project Description

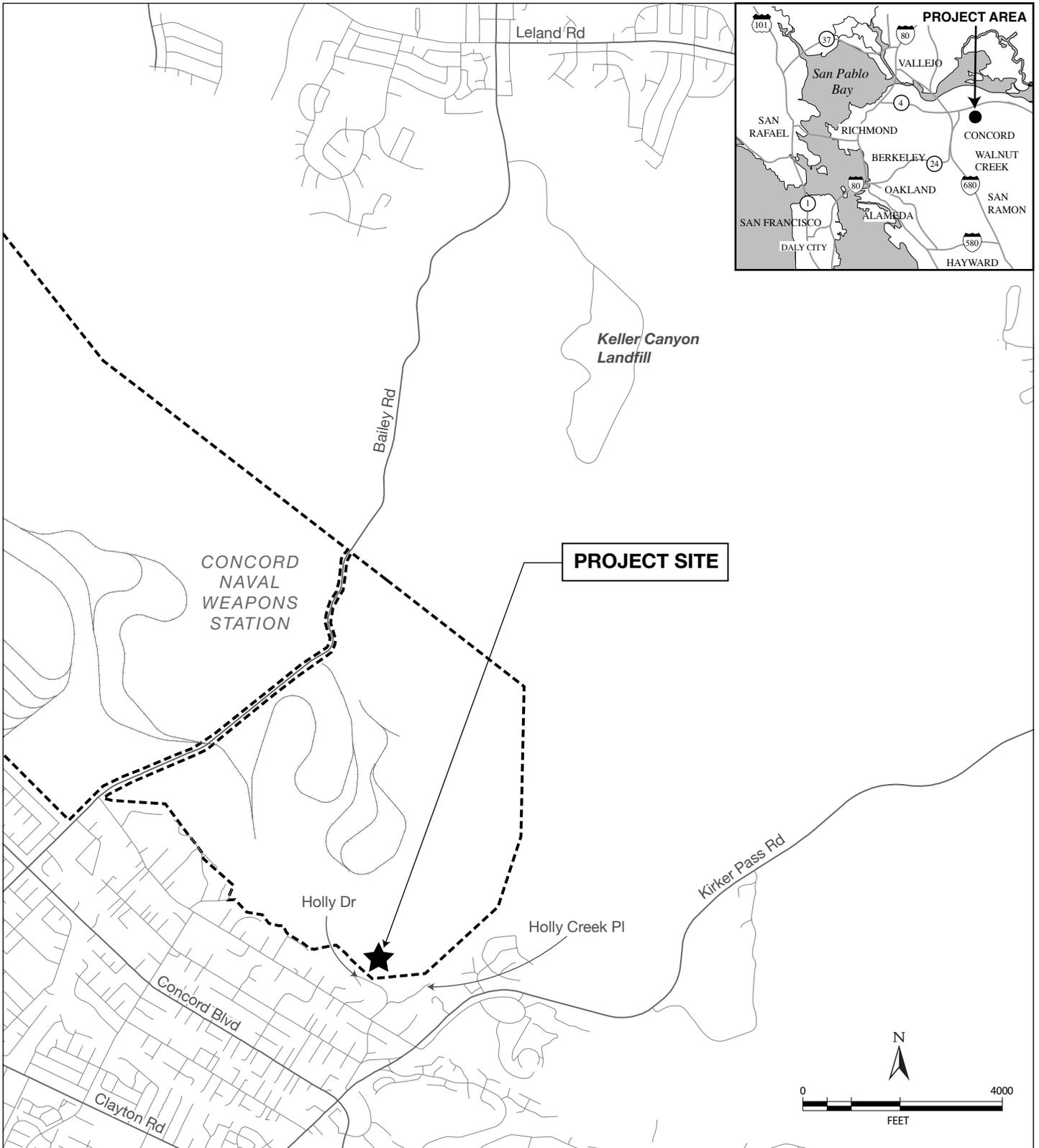
### 1. Project Background/Need for the Project

On November 7, 2011 a leak was identified in the Phillips 66 Company's Line 200 oil pipeline. The leak was discovered by Phillips 66 Company (Phillips 66) personnel investigating complaints from nearby residents about odors emanating from the vicinity of the site. Line 200 is a 16-inch diameter pipeline that is buried at a depth (top of pipe) of 6 feet below ground surface (bgs) in the area of the release. The pipeline conveys petroleum from the Phillips 66 Junction Pump Station in Lost Hills (Kern County) to the Phillips 66 refinery in Rodeo. The leak occurred in a 7-mile-long section of Line 200 that runs parallel to the southern boundary of the Concord Naval Weapons Station (CNWS) in Contra Costa County, just north of a residential neighborhood of single-family homes in the City of Concord, as shown on Figures 1 and 2.

Following the discovery, Phillips 66 immediately shut down the pipeline and undertook an emergency response. Subsequent investigations revealed that the oil or light non-aqueous phase liquid (LNAPL) had impacted surface and subsurface soil, soil vapor, and groundwater. Some of the LNAPL migrated underground from the CNWS to the adjacent former residential property to the south (330 Holly Drive) shown on Figure 2, resulting in soil, soil vapor, and groundwater contamination on both the CNWS and 330 Holly Drive properties.

The purpose of the proposed project, Site Cleanup Requirements (SCR) for the Phillips 66 Company Line 200 Release, is to require cleanup of soils beneath the CNWS and adjacent property by implementing a Remedial Action Plan (RAP) to remove the bulk of the LNAPL and soil contamination (secondary source) via excavation that could pose a threat to human and ecological receptors through direct contact, vapor intrusion, and leaching to groundwater. This secondary source is serving to sustain the contaminated soil vapors and groundwater contamination plume. Removal of the secondary source will eliminate the potential for human direct contact and vapor intrusion, and removal will accelerate remediation of groundwater contamination to be remediated over time via natural attenuation processes. The proposed remediation work would be performed by AECOM Technical Services, Inc. (AECOM) on behalf of Phillips 66 Company. Details on the proposed remediation activities and cleanup goals are described in Section 4 below.

The investigation and remediation activities being performed by Phillips 66 fall under the regulatory oversight of the San Francisco Bay Regional Water Quality Control Board (Water Board). The Water Board's role is to ensure that the contamination is adequately cleaned up to be protective of human health, safety, and the environment. Phillips 66 will be required to conduct these activities after adoption of the SCR and appropriate regulatory approvals and permits are obtained.



**Figure 1**

**Project Site Location**

Source: Douglas Herring & Associates



**Figure 2**

**Spill and Remediation Site**

## **2. Site Location and Description**

The project site is located near the southern boundary of the Concord Naval Weapons Station in Contra Costa County. The CNWS is a former military base occupying approximately 12,658 acres that consisted of a Tidal Area (7,630 acres) on the shore of the Sacramento-San Joaquin River Delta and an Inland Area (5,028 acres) to the south, which encompasses the project site. The U.S. Navy ceased operations on the Inland Area in 2007. A Reuse Plan was developed for the area by the City of Concord's Local Reuse Authority, which will be subject to Navy approval. The adjacent property at 330 Holly Drive is owned by Phillips 66 as of August 4, 2015. It is no longer being used as a residence.

The release site is located within the City of Concord, about 1,500 feet west of Kirker Pass Road and about 150 feet north of Holly Drive. The release site is within undeveloped open space characterized by rolling hills covered by native grasses interspersed by occasional oak trees. A network of paved and gravel roads crosses the CNWS to the north and west of the release site. Immediately south of the site are single-family homes on large lots, with denser residential development located south of Myrtle Drive, which is about 750 feet south of the release site. A Greek Orthodox church is located about 900 feet to the east and the Sleep Train Pavilion concert venue is located about 3,000 feet to the southeast.

The 330 Holly Drive property occupies approximately 2 acres of land. The property is developed with a large two-story single-family home with attached garage and an adjacent well house accessory structure. The rest of the western portion of the property includes a driveway and large parking apron, paved footpaths, turf lawn, a hobby vineyard, and landscaping, including numerous trees. The eastern portion of the property, which is defined by a swale separating the two halves of the property, is developed with eight raised planter boxes—each measuring approximately 8 feet by 20 feet—and undeveloped non-native grassland.

Three parallel underground oil pipelines cross the CNWS within or adjacent to the release site. Line 200 is the middle pipeline and runs parallel to and about 12 feet north of the southern CNWS property line. The top of the pipe is located approximately 6 feet bgs. Shell Oil Company (Shell) operates a 20-inch diameter steel pipeline that is buried approximately 7 feet bgs and runs parallel to and approximately 10 feet north of the Phillips 66 pipeline. Both the Phillips 66 and Shell pipelines run entirely on CNWS property. A Kinder Morgan Energy Partners, L.P. (KM) pipeline is buried approximately 5 feet bgs and runs parallel to and south of the Phillips 66 pipeline on CNWS property, and then crosses onto the 330 Holly Drive property south of the CNWS. The alignments of the pipelines are depicted on Figure 2.

Access to the release site is from a gated entrance located on Bailey Road about 5,800 feet (1.1 miles) northwest of the site. From there, winding roads, about half gravel and half paved with asphalt, lead to the release site.

## **3. Previous Emergency Repair and Remediation**

Phillips 66 conducted an emergency response between November 2011 and February 2012 to repair the pipeline and excavate soil contamination along the pipeline alignment. Initially, Phillips 66 workers exposed approximately 261 feet of pipeline through excavation. The excavation area is shown on Figure 3. The coating/wrap was removed from the pipe, which was then inspected and repaired. The pipe was then rewrapped and backfilled to grade. In

addition, approximately 105 feet of the adjacent KM pipeline and 99 feet of the adjacent Shell pipeline were exposed and inspected, and subsequently recoated and backfilled to grade.

During excavation of the pipelines, the surrounding soil was screened with a photoionization detector (PID) to measure concentrations of petroleum volatile organic compounds (VOCs) in air. Soil sampling revealed elevated levels of benzene and total petroleum hydrocarbons as gasoline (TPHg), TPH as diesel (TPHd), and TPH as motor oil (TPHmo). TPH is not a single chemical; it is a non-chemical-specific or bulk measurement of all the hydrocarbons within a specified range of boiling points. The oil-impacted soils were placed in roll-off bins and transported to an appropriate, licensed disposal facility. A total of 3,754 cubic yards (approximately 5,631 tons) of non-hazardous soil and debris containing oil, along with three bins of trash, were transported to Republic Services' Keller Canyon Landfill in Pittsburg, located about 3 miles to the north. In addition, three 20-cubic-yard bins of debris and sand-blasting media, characteristic hazardous wastes, were transported to the Clean Harbors hazardous waste disposal facility in Buttonwillow, California.

All water and phase-separated product that accumulated during the excavation was pumped into storage tanks, and transported to the Phillips 66 Rodeo Refinery for processing in the refinery's recovered oil system. Approximately 843,535 gallons of non-hazardous groundwater (with an oily residue) generated by excavation dewatering activities were transported to the Phillips 66 Rodeo Refinery for processing.

#### **4. Site Investigation and Interim Remediation Measures**

After the emergency repair and remediation, Phillips 66 undertook a series of subsurface investigations and then, as the distribution of the contamination became more apparent, interim remedial measures to remove the worst contamination and control the further spread of contamination.

**Subsurface Investigations** – Based on the nature of the LNAPL released, the chemicals of potential concern (COCs) for human health and the environment include benzene, ethylbenzene, polycyclic aromatic hydrocarbons (PAHs) such as naphthalene and TPH (TPHg, TPHd, and TPHmo). Between 2012 and 2014, extensive investigations were performed at CNWS and the adjacent residential property (330 Holly Drive) and determined the extent of petroleum hydrocarbons in soil, soil gas, and groundwater. The contamination is present at the CNWS and adjacent 330 Holly Drive property, but has not spread beyond those properties.

**Interim Remedial Measures** – In 2013, a groundwater interim remedial measure (IRM) was implemented to extract groundwater and LNAPL downgradient of the release area. Also, an oxygen-release compound was injected near the downgradient extent of the plume on the 330 Holly Drive property to accelerate natural biodegradation in groundwater and prevent further migration of the groundwater plume. In 2014, the groundwater extraction system was augmented with two additional groundwater extraction sumps. Based on the results of recent groundwater monitoring, the groundwater plume is not migrating. Furthermore, the groundwater plume areal extent has been reduced and concentrations are declining.

**Soil Vapor Intrusion Investigation and Mitigation** – Sampling to support a vapor intrusion evaluation of the 330 Holly Creek home was performed in 2013 and 2014. Based on the results,

Phillips 66 elected to install a vapor mitigation system to ensure that vapor intrusion is not occurring. That system operated while the home was occupied and has now been turned off. On August 4, 2015, Phillips 66 took title to the 330 Holly Drive property; the former owners/residents no longer reside in the home.

**Summary** – The release has been stopped, and the pipeline has been repaired and is in service. Extensive investigations have been performed at CNWS and the adjacent 330 Holly Drive property that have adequately defined the extent of contamination in soil and groundwater. LNAPL is being recovered as part of the groundwater IRM. The groundwater plume is not migrating, and the plume extent has begun to shrink. There are no unacceptable threats to human health, safety, or the environment at this time. Nevertheless, there remains significant secondary source material in soil on the southern edge of CNWS and the northern portion of the 330 Holly Drive property that remains to be remediated. Removal of the secondary source will accelerate the remediation of the remainder of the groundwater plume through natural attenuation processes.

Additional details on the previous remediation work, including extensive soil, soil vapor, and groundwater testing, are provided in Section VIII, Hazards and Hazardous Materials. Previous testing resulted in the installation of a total of 77 soil borings, 29 groundwater monitoring wells, 3 extraction sumps, 1 piezometer, and 26 soil vapor sample points. As part of the proposed project, the extraction sumps, piezometer, 12 soil vapor points, and 10 of the groundwater monitoring wells would be removed and closed.

## **5. Demolition of Former Residence**

In order to facilitate the cleanup required under the SCR, Phillips 66 has chosen to demolish the house and other structures on the 330 Holly Drive property prior to the remediation activities. Prior to demolition, any large, recyclable items, such as solar panels, appliances, hot water heaters, door and window assemblies, and cabinets, would be removed and recycled. The house structure would be collapsed by an excavator by pushing the exterior walls into the interior of the house. The resulting debris would be separated mechanically and by hand into segregated waste streams, such as concrete, wood, metal, roofing materials, insulation, etc. and would be hauled in trucks to Keller Canyon Landfill or other licensed recycling facility for proper disposal as demolition debris. Concrete pavements would be removed by excavator and hauled to Keller Canyon Landfill for recycling or reduced on-site and used as drain rock in the bottom of the excavation. It is expected that a work crew of five to six people would complete the demolition in five to seven days.

The existing residential building was constructed in 1994 and is not expected to contain asbestos-containing building materials (ACBM), lead-based paint, or other hazardous building materials.

## **6. Proposed Site Remediation**

The proposed SCR Order requires completion of the RAP to eliminate threats to the environment and human health and safety and would involve removal and disposal of most of the remaining impacted soil. As previously noted, the objectives would be to eliminate migrating and mobile LNAPL that acts as a secondary source of groundwater contamination, ensure that any remaining contaminant levels in soils do not exceed safe levels for utility

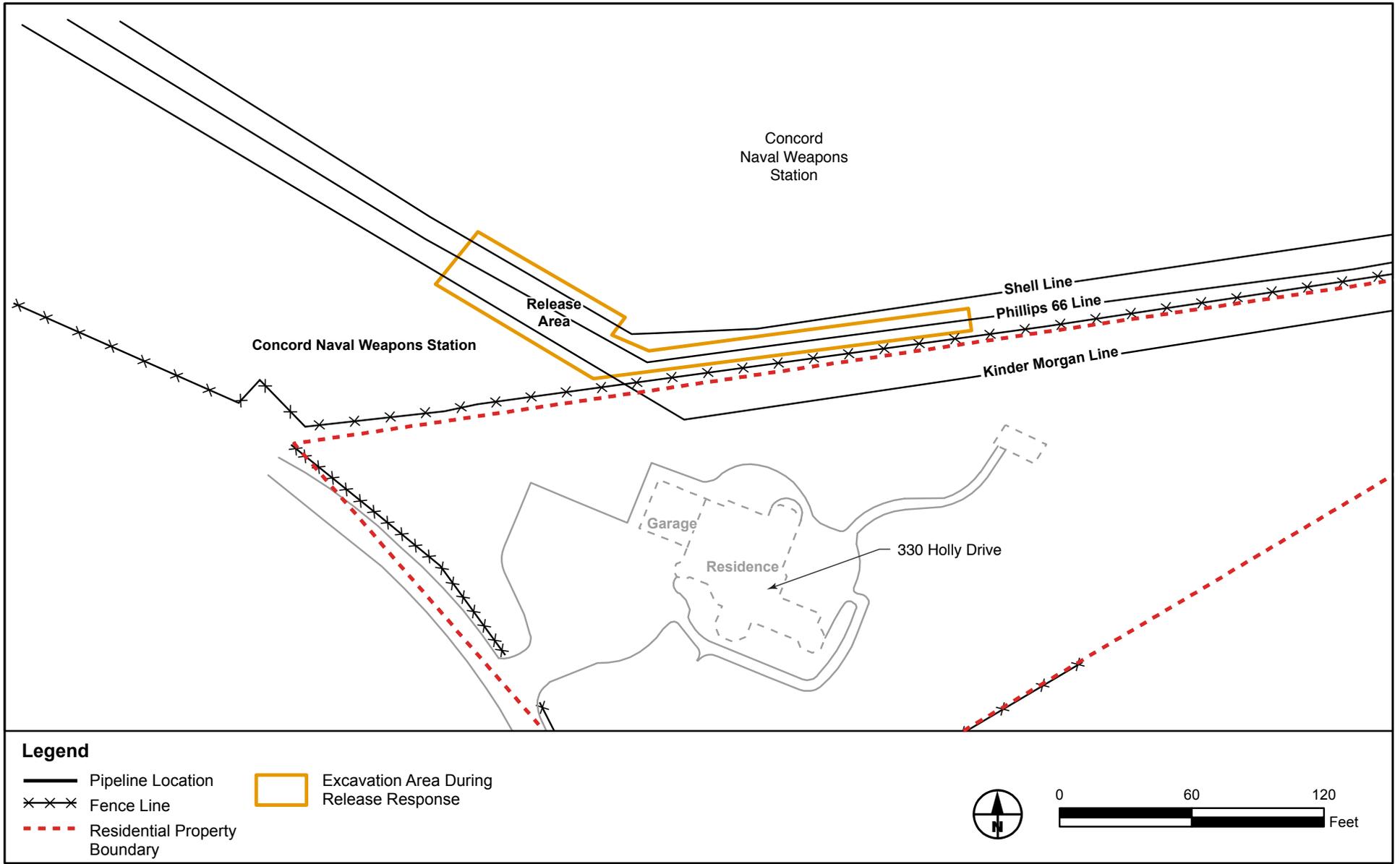
worker use of the CNWS and utility worker use of the 330 Holly Drive property, either directly or through soil vapor, and be protective of downwind residential receptors via outdoor inhalation.

The area proposed for excavation is shown on Figure 4. The area includes the area previously excavated as part of the emergency repair and remediation, but encompasses a much larger area. As depicted on Figure 4, several ramps with 3:1 (horizontal: vertical) slopes would also be excavated at the edges of the remediation area to provide access for equipment and workers. While the remediation area would generally be excavated with safe sloping to provide stability, at some locations the sidewalls would be vertical, such as those in the pipeline corridor. Any vertical walls will be protected with trench boxes and/or hydraulic shoring.

Slopes would be determined based on intended use of the sloped area and soil composition analysis. It is anticipated that shoring would be necessary along the pipeline excavation trenches. A detailed engineered design will be developed prior to project implementation that will specify the excavation approach, such as whether one large excavation using fixed shoring would be utilized, or if smaller excavations performed throughout the proposed footprint using movable trench boxes would be preferable. The engineered design will also specify shoring type and design, and the actual locations of ramps and safe slopes. In addition, it will specify excavation and backfill techniques to allow for the protection of the existing petroleum transmission pipelines, laydown areas for staging imported and on-site fill materials, odor control measures, measures to comply with the existing biological permit, and a groundwater dewatering system. The excavation site will be monitored during project implementation by a professional geologist, engineering geologist, or professional engineer certified by the State of California.

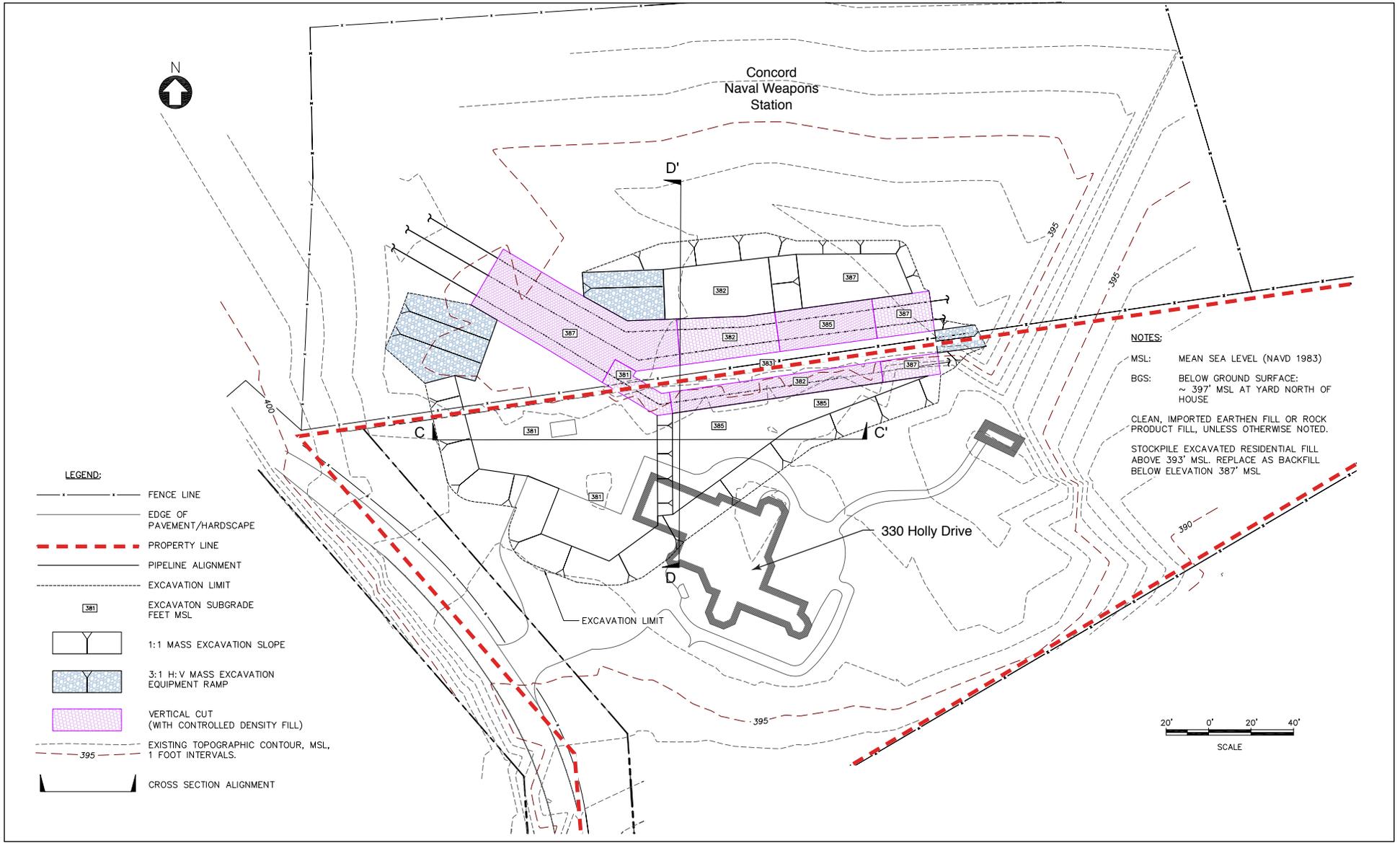
The remediation would entail the excavation and removal of shallow, fill overburden (0 to 5 feet bgs) on the 330 Holly Drive property, and deeper petroleum hydrocarbon-impacted soil at CNWS and this former residential property. Excavation of contaminated soils may be done in two phases. Impacted soil surrounding the pipelines would be removed in Phase I. This would be accomplished by a rotating progression of slot excavations along the pipelines, which would expose only small sections of the pipelines at any given time, progressively moving along the pipeline. The soil would be removed by hydro/air excavation, manual excavation, and/or mechanical excavation, and would be backfilled with a controlled-density, low-strength fill (controlled density fill) that is slightly heavier than water. Controlled density fill cures or hardens similar to concrete, and does not require compaction.

During Phase II, impacted soils would be removed by conventional mass excavation from the north, east, and south of the pipelines using tracked excavators. AECOM would install an extraction trench or vertical well network along the up-gradient edge of the excavation to dewater the excavated area. All excavation work would be monitored by a professional geologist, engineering geologist, or professional engineer certified by the State of California. As described below, air monitoring would be conducted to determine when odor abatement techniques should be implemented.



**Figure 3**

**Previous Emergency Response Excavation Area**



**Figure 4**

**Proposed Excavation Plan**

The excavated soil would be segregated by an AECOM representative based on visual observation/screening and field testing with a PID to determine contamination levels. Soil samples would be collected at regular intervals and laboratory tested, as described in more detail below. After all contaminated soil has been removed and the confirmatory soil sampling results accepted by the Water Board, the excavation would be backfilled with clean overburden (i.e., existing residential fill), treated excavated soils and/or imported fill. The excavation would first be backfilled with drain rock needed for dewatering and to establish a working surface, followed by the treated excavated soils, and finally either by any clean soil that came from the excavation and/or clean imported fill would be placed and compacted in 12-inch lifts.

Imported clean soil materials used to fill the excavation would be tested for chemical quality prior to being shipped to the site. Backfill materials are anticipated to include: (1) existing soil fill from the 330 Holly Drive property (0 to 5 feet bgs), which would be temporarily stockpiled and then replaced at a depth greater than 10 feet bgs; (2) imported drain rock or recycled, crushed concrete, to serve as a drainage layer/working platform at the bottom of the excavation; (3) treated excavated soils; and (4) imported earthen fill to complete the filling of the mass excavation. Imported earthen fill and drain rock products would be pre-tested in accordance with the *Information Advisory – Clean Imported Fill Materials* (2001) published by the California Department of Toxic Substances Control (DTSC). Treated excavated soils would be tested to meet the cleanup levels and any imported recycled concrete products would be tested for lead, TPHg, TPHd, TPHmo, and PAHs at the “Borrow Area Stockpile” frequency recommended by DTSC.

Geotextile fabric may be utilized, depending on final design, to separate overlying earthen fill from deeper drain rock/crushed concrete fill. Backfill around the existing transmission pipelines is anticipated to be a concrete encasement employing controlled density fill, pending concurrence from the respective pipeline owners.

A slow-acting oxygen releasing substrate would be added to the mass excavation subgrade, at the downgradient (relative to groundwater flow direction) edge of the excavation during backfill operations. The purpose would be to facilitate *in-situ* remediation of any residual soil contamination above the clean-up criteria. The quantity of this substrate would be calculated based on estimations of the contamination being left in place.

### Site Preparation

Any areas of the proposed excavation site that are vegetated with trees, shrubs, and grasses would be mechanically cleared and grubbed prior to excavation work. A variety of biological mitigation requirements would be implemented prior to, during, and/or after clearing and grubbing of the site. These include planting replacement trees for protected trees that would be removed; conducting pre-construction nesting surveys and establishing protection zones around any nesting birds identified in the surveys; conducting pre-construction bat surveys and establishing protection zones around any roosting bats identified in the surveys; re-creating seasonal wetlands to compensate for lost wetlands; restoration of the 330 Holly Drive property as part natural landscape and part native oak woodland; establishment of permanent open space on the 330 Holly Drive property via a conservation easement; establishment of exclusion fencing to prevent California tiger salamanders and California red-legged frogs from entering the remediation site; and more. See the biological resources analysis (Section IV and Appendix

BIO-1) for details. As discussed in more detail in those sections, permit approvals from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the San Francisco Bay Regional Water Quality Control Board would also be required prior to the clearing and grubbing activities.

A private geophysical contractor would clear existing underground utilities from the site after AECOM marks their locations and notifies Underground Service Alert at least 48 hours in advance of subsurface activities. Storm water and erosion control structures, described below, would be erected prior to start of work at the site. Pre-construction photographs would be taken to document pre-existing conditions at the site.

Prior to excavation, formal work zones would be established and an equipment decontamination area would be constructed. The work zone(s) would include an exclusion zone, contamination reduction zone, and support zone. The work zones would be established and maintained in accordance with the site-specific Health and Safety Plan (HASP), also described below. Barricade tape or snow fencing or an appropriate equivalent would be used to clearly delineate the borders of these zones. The exclusion zone is anticipated to be the excavation area, a small area around the perimeter of the excavation, and the truck loading area.

#### Stormwater Pollution Prevention Plan

The proposed excavation would disturb more than 1 acre of soil and, therefore, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) is required. The SWPPP would identify best management practices (BMPs) to be implemented during construction, such as: routing storm water away from exposed materials and excavation areas; covering stockpiled materials to minimize storm water contact; and restoring disturbed areas with topsoil and vegetation following completion of the construction, matching pre-existing conditions at the site. More details are provided in Section IX, Hydrology and Water Quality.

#### Health and Safety Plan

Prior to initiating any work, AECOM would prepare a Health and Safety Plan to be implemented throughout the remediation project. The HASP would identify procedures and other protections for workers to prevent against collapse of excavation walls, exposure to contaminants, inundation of excavations, excessive noise levels, and other potential hazards. The HASP would identify measures for eliminating or controlling hazards, monitoring exposure levels, worker training procedures, emergency response procedures for a variety of potential emergencies, first aid and medical treatments, and required record keeping.

Due to the potential for generating elevated dust, VOCs, and sulfurous odors during construction activities, a key component of the HASP would be an air monitoring program that AECOM would implement to protect the health of construction workers as well as the public. The air monitoring program would identify required procedures, thresholds for action, equipment, and frequency of monitoring.

#### Community Protection Plan

Prior to initiating any work, AECOM would prepare a Community Protection Plan that explains what measures will be implemented that protect persons and property adjacent to the

project site during implementation and that are also protective of site visitors. This will also include a fact sheet to be posted on the fences, procedures for logging and resolving complaints, and a notification plan.

### VOC Monitoring Plan

Air monitoring for VOCs would also be conducted throughout remediation to document that total VOC concentrations at the work zone perimeter do not exceed site-specific action levels. AECOM would use PIDs that would measure total VOC concentrations continually during all excavation activities. The equipment would log data real time and send alarms to alert the field personnel if action levels are reached. In these instances, work would be stopped until corrective measures can be implemented to restore VOC concentrations to acceptable levels. These data will be documented.

### Odor Control Plan

AECOM would prepare and implement an odor control plan that would identify measures to prevent on- and off-site odor nuisances throughout implementation of the project. At a minimum, required procedures would include: (a) limiting the area of open excavations and (b) shrouding open excavations with plastic sheeting or other covers. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances would include: (c) direct load-out of soils to trucks for off-site disposal or (d) use of the same technique as employed during the emergency response activities, namely utilizing a high pressure washer with a vapor suppressant (e.g., mixture of water, Simple Green, and Sulfree).

If nuisance odors are identified during remediation, work would be halted and the source of odors would be identified and corrected. Work would not resume until all nuisance odors have been abated.

### Dust Control Measures

Construction activities such as excavation, backfilling, stockpiling soil, construction vehicle traffic, and wind blowing over disturbed soil may generate dust and particulate matter when the exposed soil surfaces are dry. In order to mitigate this occurrence, dust control measures would be developed and would be performed during remediation activities at the Site. The Contractor would be required to employ the following dust control measures throughout the project:

- Place temporary plywood or trench plates to protect driveways;
- Reduce vehicle speeds on the Site;
- Cover soil in trucks hauling soil to and/or off the Site;
- Provide labor and equipment for watering of exposed or disturbed soil surfaces sufficient to suppress dust;
- Cover or wet down debris, soil, or other materials when they are not in use;
- Minimize drop heights while loading and unloading soil;
- Clean vehicles and tires; and

- Suspend earth moving or other dust-producing activities during periods of high winds when dust control measures are not able to prevent visible dust plumes.

If dust from activities on the site is observed, immediate corrective actions would be taken to minimize dust generation using the measures listed above and/or the work would be temporarily halted until more favorable conditions exist. Dust control measures are also addressed in Section III, Air Quality.

### Waste Management

Impacted soil and debris that is generated during the proposed remedial excavation would be temporarily stockpiled in staging areas and on top of and covered with polyethylene plastic sheeting. The soil and debris would subsequently be loaded into either end-dump trucks or roll-off bins (or equivalent), tarped (covered), and then transported to a Phillips 66-approved and permitted waste management facility or treated on-site and returned to the excavation after testing.

Water that is removed from the excavation would be conveyed to a tank, subsequently treated in the groundwater treatment system, and then released into the sanitary sewer in accordance with the existing Contra Costa County Sanitary District (CCCSD) discharge permit.

All disposal would be performed in accordance with applicable Federal, State, and local regulations.

### Cleanup Goals

The State Water Resources Control Board (SWRCB) Low-Threat Underground Storage Tank Closure Policy (LTCP), effective on August 7, 2012, is being used to guide the final remediation at the site. The remediation plan was developed by AECOM on behalf of Phillips 66 in 2014<sup>1</sup> and revised in 2016.<sup>2</sup> The proposed remediation is removal (excavation) of petroleum contamination in soil for the purpose of: 1) addressing potential health risks to future users of the property (utility workers) from direct contact and inhalation; 2) addressing potential health risks to downwind residential receptors from outdoor air inhalation; and 3) eliminating the secondary source (the bulk of soil contamination that sustains the groundwater plume).

The soil cleanup goals for addressing potential health risks are designed to protect future users of the property (utility workers) from direct contact and inhalation as well as protecting downwind residential receptors. The health risk cleanup goals apply to soils from 0 to 10 feet bgs, and are: benzene (2.5 mg/kg); ethylbenzene (162 mg/kg); naphthalene (219 mg/kg); and PAHs (4.5 mg/kg). The soil cleanup goal for eliminating the secondary source is 2,000 mg/kg TPH-Total. Further details on the derivation of the soil cleanup goals are presented in Section VIII(b) as well as the remediation plan in the documents above-cited.

The proposed remediation activities would be performed until the final soil cleanup goals listed in Table HM-1 have been achieved. The remediation activities are expected to reduce the soil

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<sup>1</sup> AECOM Technical Services, Inc., *Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, October 2014.

<sup>2</sup> AECOM Technical Services, Inc., *Addendum 01 to Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, January 2016.

contamination footprint by approximately 95 percent, and once the contaminated soil is removed, remaining contaminant levels in groundwater and vapor plumes are expected to quickly decrease naturally.

### Remediation Schedule

It is anticipated that the proposed remediation activities would be performed in the summer of 2016, and a summary report completed and submitted to the Water Board in January 2017. The work is expected to take about 40 work days, or two calendar months. All work would be performed in accordance with the permitted hours for construction noise established in Section 8.25.020(1)(y) of the Concord Municipal Code, which limits allowable hours of construction activities to 7:30 a.m. to 6:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturdays.

### Anticipated Project Personnel and Equipment

Remediation work would be performed by four equipment operators, one health and safety person, one field manager, one biologist, and two laborers, for a total of nine workers at a time. Additionally, between five and ten truck drivers would be needed to haul the contaminated soil from the site to the landfill. The actual number of trucks and drivers would depend on the type of truck (i.e., capacity) used for the project.

The project sponsor is considering use of either aluminum end-dump trailer trucks or roll-off container trucks. The aluminum end dump trailer trucks would have five axles total (three on the tractor and two on the trailer) and a maximum load of 25 cubic yards. The roll-off container trucks would have a bobtail back end and a maximum load of 12 to 15 cubic yards. Each truck is expected to make three runs a day, and the project is anticipated to last 22 days; the actual number of truck runs and project duration would depend on the number and type of trucks used. All project personnel would drive their respective vehicles to and from the site via Bailey Road and the anticipated access point at the railroad crossing. All personnel are expected to work on the site for the duration of the project.

Additional equipment needed for the project would include two excavators, two loaders, a pressure washer, and a frac-tank (a holding tank for temporary storage of groundwater). All equipment would be transported to the site on trailers. After dropping off equipment, trailers would leave and return to pick up the equipment at the end of the job.

## **7. Verification of Successful Remediation**

The proposed remediation is intended to eliminate or reduce to acceptable levels the potential pathways of exposure to human and ecological receptors. The proposed project would result in a reduction of the contaminant volume in soil, which in turn would reduce the dissolution of contaminants into groundwater and volatilization of vapor to air. The successful performance of the soil remediation would be determined and documented by collection of confirmation samples. The soil remediation would be considered complete when soil cleanup goals are achieved. The endpoint of the groundwater remediation would be when the groundwater plume is stable and not migrating and the groundwater contaminant concentrations have been demonstrated to be stable or decreasing.

The dissolved groundwater plume is expected to dissipate over time through treatment and natural processes. As the dissolved groundwater plume dissipates, so will the vapor plume. With the implementation of AECOM's Interim Remedial Work Plan, it is expected that the soil contamination footprint would be reduced by approximately 95 percent. Once the contaminated soil is removed, the dissolved groundwater and vapor plumes are expected to clean up rapidly.

Verification of soil cleanup would be obtained by collecting sidewall and subgrade samples, as outlined in the AECOM Revised Excavation IRM Work Plan.

## **8. Permitting**

The proposed project would require the following approvals by public agencies:

U.S. Navy: Amendments to the existing access agreements with the homeowners and the U.S. Navy would have to be secured before fieldwork begins.

U.S. Army Corps of Engineers (COE): Section 404 Permit for discharge of fill to Waters of the U.S., in compliance with the federal Clean Water Act (CWA).

U.S. Fish and Wildlife Service (USFWS): It is expected that the existing USFWS permit TE 776608-10 would be valid for the excavation activities to be conducted on the CNWS property, subject to confirmation by USFWS. Alternatively, a new Biological Opinion would be required by the USFWS, which would be issued following by a Section 7 Consultation initiated by the COE.

San Francisco Bay Regional Water Quality Control Board (Water Board): Section 401 Water Quality Certification from the Water Board, pursuant to the federal CWA, as a prerequisite to Section 404 Permit from the COE.

State Water Resources Control Board (SWRCB): National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002.

California Department of Fish and Wildlife (CDFW): Section 1602 Streambed Alteration Agreement (SBAA) for alteration of an ephemeral stream on the 330 Holly Drive portion of the project site. Also, an Incidental Take Permit pursuant to Section 2081.1 of the Fish and Game Code for potential impacts to the California tiger salamander.

City of Concord and Central Contra Costa Sanitary District (CCCSD): Sewer Discharge Permits from the City of Concord and Central Contra Costa Sanitary District (CCCSD) for discharge of treated groundwater and remediation dewatering water to the sanitary sewer.

Contra Costa County Environmental Health Division: Well abandonment permits closure of three existing extraction sumps, a piezometer, 10 groundwater monitoring wells, and 12 soil vapor monitoring locations.

City of Concord Building Department: A grading permit from the City of Concord Engineering Division would be required.

## 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 checked="" type="checkbox"/> Air Quality             |
| <input checked="" type="checkbox"/> Biological Resources               | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils                      |
| <input type="checkbox"/> Greenhouse Gas Emissions                      | <input type="checkbox"/> Hazards & Haz. Materials      | <input checked="" 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 checked="" type="checkbox"/> Transportation/Traffic             | <input type="checkbox"/> Utilities/Service Systems     |   |
| <input checked="" type="checkbox"/> Mandatory Findings of Significance |  |   |

**DETERMINATION:**

On the basis of the initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on the attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name

\_\_\_\_\_  
For

## EVALUATION OF ENVIRONMENTAL IMPACTS:

### I. AESTHETICS – *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Have a substantial adverse effect on a scenic vista?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The majority of the project site consists of grass-covered open space on rolling terrain, at an elevation of approximately 395 feet above mean sea level (msl). The proposed remediation site also extends south of the CNWS property onto the former residential property at 330 Holly Drive, which is currently developed with a two-story single-family home, a hobby vineyard, trees, and other landscaping typical of suburban residential development. The proposed remediation area and the adjacent residential structure at 330 Holly Drive are shown on Figure AE-1A. Aside from a vacant hillside parcel located immediately to the southwest of 330 Holly Drive, the area extending to the west, south, and east of this property is developed with single-family homes on varying lot sizes. In addition, the Saint Demetrios Greek Orthodox Church is located about 900 feet to the east.

Gentle rolling hills extend to the north, west, and northeast of the site that begin rising to higher elevations in the Los Medanos Hills, approximately one-half mile north of the site. A series of rounded peaks, shown on Figure AE-1B, mostly reach elevations of over 1,000 feet msl, with some of the taller peaks exceeding 1,400 feet msl. This series of foothills is part of the Diablo Range that includes Mt. Diablo, a 3,849-foot peak located about 5 miles southeast of the project site.

While aesthetic considerations are inherently subjective, the open space hillsides that form a visual backdrop to the project site would be considered by most viewers to constitute a scenic vista, and they are considered as such in this analysis.

The proposed project would temporarily disrupt views across the remediation site toward the scenic hillsides to the north. The currently vacant, open ground above and in the immediate vicinity of the affected pipeline would be occupied by construction vehicles and equipment, including tracked excavators, loaders, backhoes, a frac tank (for storage of dewatered groundwater), and other heavy equipment. Temporary stockpiles of soil would be created along with staging of other construction materials. Heavy haul trucks would be arriving and departing the project area throughout the remediation project, which is expected to take about 40 work days, or two calendar months. This equipment and activity would detract from and interfere with views across the project site toward the north.

The temporary visual clutter associated with the proposed construction activities would not affect a publicly accessible scenic vista. Although the site would be visible from a limited stretch (approximately 400 feet) of Holly Drive west of the affected former residence proposed for demolition, this segment of Holly Drive is a private drive that terminates at a residential property located about 900 feet west of the project site. Impacts to private views are generally not treated as significant impacts under CEQA, particularly when a small number of private views are affected.



a) A portion of the proposed remediation area, with the affected residential property in the background



b) Viewing north toward Los Medanos Hills from the project site

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## Figure AE-1

### Existing Site Conditions

Source: Douglas Herring & Associates

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In this case, very few private views would be affected. Most of the adjacent residential properties do not have direct line-of-sight from the residences to the proposed remediation area, either due to intervening terrain or intervening trees and heavy vegetation. The residence with the most direct view of the site (i.e., the former residence on the project site) would be removed as part of the project, so views from that location would become irrelevant. Although limited views to the site may be available from the nearest residence to the west (though vegetation may block most views), this home is situated on a hill that is more than 60 feet higher in elevation than the project site. Therefore, views toward the distant hills to the north would remain unobstructed from this location during implementation of the project.

Part of the remediation site could be visible from a few residences located east of the remediation site. However, only a portion of the site would be visible when viewing toward the west, and views of the hills to the north would be largely or entirely unobstructed.

The proposed project would not affect a publicly accessible scenic vista and at worst would affect a very limited number of private views. Where private views would be affected, only a small portion of the total viewshed would be affected. Finally, the very limited effects on private views would also be quite limited in duration, lasting for about two months. Following remediation, the site would be backfilled and revegetated and would return to visual conditions existing prior to the implementation of the project. For these reasons, the proposed project would have a *less-than-significant impact* on a scenic vista.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no State-designated scenic highway in the vicinity of the project site.<sup>3</sup>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Substantially degrade the existing visual character or quality of the site and its surroundings?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: As noted above, the majority of the project site consists of grass-covered open space, and also encompasses a landscaped former residential property at 330 Holly Drive. The visual conditions on the site would be substantially degraded throughout implementation of the project. However, as discussed in Section I(a), above, the site is only visible from a limited number of private vantage points. The aesthetic degradation of the site would be very short term, lasting approximately two months. Following completion of remediation, the portion of

<sup>3</sup> California Department of Transportation (Caltrans), Officially Designated State Scenic Highways, accessed May 8, 2015 at: <http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm>.

the site on the CNWS would be returned to its existing condition, so there would be virtually no permanent change in the visual character of the site.

Phillips 66 has acquired the residential property from the former owner, who has vacated the premises. As described in the project description, the structures on this portion of the project site would be removed prior to site remediation, and would be maintained as a vacant buffer following implementation of the project. With the exception of some trees growing along the fence line and one tree growing adjacent to the northeast corner of the existing house, it is expected that the existing trees and much of the landscaping on the property would be retained. Replacement trees and other vegetation would be planted on this property following project implementation. Under post-project conditions, the visual character of this property would be similar to its current condition except the large house would be removed. The vegetated vacant lot would be visually compatible with the neighboring landscaped residential properties. The appearance of the site would be significantly altered due to the removal of the large structure that currently dominates the site, but this would not constitute a substantial degradation of the visual quality of the site. For the foregoing reasons, the proposed project would have a *less-than-significant impact* on the visual character of the site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not introduce any new sources of lighting. All remediation work would be performed during daylight hours, and the site would be returned to existing conditions on the CNWS property, which has no lighting, while removal of the house from the residential property would remove this existing source of nighttime lighting. While windshields of trucks and other vehicles on the site could introduce minor sources of glare during the proposed remediation activities, their presence would be temporary and the effects would be negligible. Therefore, the proposed project would not create a new source of substantial light or glare.

**II. AGRICULTURAL RESOURCES** — *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State’s inventory of forest land, including the Forest and Range Assessment Project and the Forestry Legacy Assessment Project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The spill site is designated “Grazing Land” on the most recent map of important farmland published by the Department of Conservation (DOC), a department of the California Resources Agency.<sup>4</sup> The affected 330 Holly Drive property to the south is designated “Urban and Built-Up Land.” The DOC’s Farmland Mapping and Monitoring Program (FMMP) updates the maps every two years; the most recent map was published in 2014.

Neither of the two land categories assigned to the project site by the FMMP are categories of farmland. The CNWS portion of the site is not currently devoted to agriculture. While the adjacent 330 Holly Drive property includes a hobby vineyard and fruit trees, it has been a residential property located in a developed residential neighborhood, and does not constitute important farmland. The proposed project would therefore have no impact on land designated by the FMMP as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with existing zoning for agricultural use, or a Williamson Act contract?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is not zoned for agricultural use and is not under a Williamson Act contract.

<sup>4</sup> California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, “Contra Costa County Important Farmland 2012” (map), April 2014.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is not zoned as forest land or timberland.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Result in the loss of forest land or conversion of forest land to a non-forest use?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no forest land on the project site; therefore, there is no potential for the project to convert forest land to a non-forest use.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no potential for the project to convert agricultural land to a non-agricultural use or convert forest land to a non-forest use.

**III. AIR QUALITY** — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The Bay Area Air Quality Management District (BAAQMD) adopted its 2010 Bay Area Clean Air Plan (CAP) in accordance with the requirements of the California Clean Air Act (CCAA) to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gas (GHG) emissions in a single, integrated plan; and establish emission control measures to be adopted or implemented in the 2010 through 2012 timeframe.<sup>5</sup> The primary goals of the 2010 Bay Area CAP are to:

- Attain air quality standards;
- Reduce population exposure and protecting public health in the Bay Area; and
- Reduce GHG emissions and protect the climate.

When an air quality plan consistency determination is required for a proposed development project, BAAQMD recommends analyzing the project with respect to the following questions: (1) Does the project support the primary goals of the air quality plan; (2) Does the project include applicable control measures from the air quality plan; and (3) Does the project disrupt or hinder implementation of any 2010 CAP control measures? If the first two questions are concluded in the affirmative and the third question concluded in the negative, the BAAQMD considers the project consistent with air quality plans prepared for the Bay Area.

Any project that would not support the 2010 CAP goals would not be considered consistent with the 2010 CAP. The recommended measure for determining project support of these goals is consistency with BAAQMD CEQA thresholds of significance. As presented in the subsequent impact discussions, the proposed project with mitigations would not exceed the BAAQMD significance thresholds; therefore, the proposed project with mitigations would support the primary goals of the 2010 CAP. As mentioned, projects that incorporate all feasible control measures in the air quality plan are considered consistent with the 2010 CAP.

The proposed project with mitigation measures would support the primary goals of the 2010 CAP, it would be consistent with all applicable 2010 CAP control measures, and would not disrupt or hinder implementation of any 2010 CAP control measures. Therefore, the project would have a less-than-significant impact related to potential conflicts with the applicable air quality plan. The air quality setting and regulatory context are described in Appendix AQ-1.

<sup>5</sup> In 2015, the BAAQMD initiated an update to the 2010 CAP. On February 28, 2014, the District held a public meeting to report progress on implementing the control measures in the 2010 CAP, to solicit ideas and strategies to further reduce ozone precursors, particulate matter, toxic air contaminants, and greenhouse gases, and to seek input on innovative strategies to reduce greenhouse gases, mechanisms for tracking progress in reducing GHG's, and how the District may further support actions to reduce GHGs. The culmination of this effort will be an updated CAP.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** To comply with the SCRs, Phillips 66 plans to demolish an existing residential building of approximately 3,956 square feet prior to remediation activities. The demolition activities are therefore a reasonably foreseeable indirect physical impact of the project and evaluated herein. Prior to demolition, any large, recyclable items, such as solar panels, appliances, hot water heaters, door and window assemblies, and cabinets, would be removed and recycled. The house structure would be collapsed by an excavator by pushing the exterior walls into the interior of the house. It is expected that a work crew of five to six people would complete the demolition in five to seven days.

Excavation is expected to occur in the summer of 2016. Excavation activities would take place from 7:30 a.m. to 6 p.m., five days per week, excluding weekends and holidays. Excavation would involve excavators, loaders, and haul trucks. From beginning to end the proposed project would take two months or 40 work days.

The proposed project would generate short-term emissions of air pollutants, including fugitive dust and equipment exhaust emissions. The California Air Resources Board (CARB)'s CalEEMod (California Emissions Estimator Model, Version 2013.2.2) was used to quantify emissions related to demolition activities. The EMFAC emissions model was used to quantify emissions from employee vehicles, haul trucks, and roll-off containers. The OFFROAD emissions model was used to quantify emissions from off-road equipment such as excavators, loaders, and end dump trailers. United States Environmental Protection Agency's (USEPA) AP-42 model was used to quantify fugitive dust emissions from material loading/unloading, wind erosion, and travel on unpaved surfaces. The emissions calculation methodology and supporting information are included in Appendix AQ-2.

The air quality pollutants analyzed included carbon monoxide (CO), reactive organic compounds (ROG), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter equal to or less than 10 micrometers (coarse particulates, or PM<sub>10</sub>), and particulate matter equal to or less than 2.5 micrometers (fine particulates, or PM<sub>2.5</sub>). The emissions generated from the proposed remediation activities would include:

- Dust (including PM<sub>10</sub> and PM<sub>2.5</sub>), primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe), such as material handling and travel on unpaved surfaces; and
- Combustion emissions of criteria air pollutants (ROG, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>), primarily from operation of heavy off-road equipment, haul trucks, (primarily diesel-operated), and worker automobile trips (primarily gasoline-operated).

Tables AQ-1 and AQ-2 list the estimated unmitigated and mitigated daily and annual exhaust emissions that would be associated with the proposed project and compares those emissions to the BAAQMD's air emission significance thresholds for project operations. Also presented are the fugitive dust emissions, although the BAAQMD significance thresholds are for combustion exhaust emissions only. As demonstrated in the table, all project-related emissions would be below the BAAQMD significance thresholds. With fugitive dust mitigation measures required

**Table AQ-1**  
**Estimated Daily Project Emissions (pounds)**

Emissions Source	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO
	<b>Unmitigated</b>				
Demolition	1.48	12.3	0.88	0.84	9.66
Employee Vehicles	0.01	0.03	<0.01	<0.01	0.51
Haul Trucks	0.26	4.49	0.06	0.06	0.74
Onsite Equipment	2.45	30.0	1.28	1.18	12.6
<b>Total</b>	<b>2.72</b>	<b>34.5</b>	<b>2.23</b>	<b>2.09</b>	<b>13.9</b>
Significance Threshold	54	54	82	54	---
Significant (Yes or No)?	No	No	No	No	No
Fugitive Dust	--	--	281	35.0	---
	<b>Mitigated</b>				
Demolition	0.55	10.8	0.21	0.21	8.81
Employee Vehicles	0.01	0.03	<0.01	<0.01	0.51
Haul Trucks	0.26	4.49	0.06	0.06	0.74
Onsite Equipment	0.91	26.3	0.30	0.29	11.5
<b>Total</b>	<b>1.18</b>	<b>30.8</b>	<b>0.58</b>	<b>0.57</b>	<b>12.8</b>
Significance Threshold	54	54	82	54	--
Significant (Yes or No)?	No	No	No	No	No
Fugitive Dust	--	--	50.0	6.54	---

Source: CARB CalEEMod Version 2013.2.2, EMFAC, OFFROAD, and AP-42

ROG = Reactive Organic Gases

NO<sub>x</sub> = Nitrogen Oxides

PM<sub>10</sub> = Particulate Matter, less than 10 micrometers in diameter

PM<sub>2.5</sub> = Particulate Matter, less than 2.5 micrometers in diameter

CO = Carbon Monoxide

**Table AQ-2  
Estimated Annual Project Emissions (tons)**

Emissions Source	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO
	<b>Unmitigated</b>				
Demolition	0.01	0.12	0.01	0.01	0.10
Employee Vehicles	<0.01	<0.01	<0.01	<0.01	0.01
Haul Trucks	<0.01	0.05	<0.01	<0.01	0.01
Onsite Equipment	0.05	0.60	0.03	0.02	0.025
Fugitive Dust	--	--	1.90	0.22	--
<b>Total</b>	<b>0.07</b>	<b>0.66</b>	<b>1.95</b>	<b>0.26</b>	<b>0.05</b>
Significance Threshold	10	10	15	10	---
Significant (Yes or No)?	No	No	No	No	No
	<b>Mitigated</b>				
Demolition	0.01	0.11	<0.01	<0.01	0.09
Employee Vehicles	<0.01	<0.01	<0.01	<0.01	0.01
Haul Trucks	<0.01	0.05	<0.01	<0.01	0.01
Onsite Equipment	0.02	0.53	0.01	0.01	0.23
Fugitive Dust	--	--	0.34	0.04	--
<b>Total</b>	<b>0.04</b>	<b>0.59</b>	<b>0.37</b>	<b>0.07</b>	<b>0.25</b>
Significance Threshold	10	10	15	10	--
Significant (Yes or No)?	No	No	No	No	No

SOURCE: CARB CalEEMod Version 2013.2.2, EMFAC, OFFROAD, and AP-42

ROG = Reactive Organic Gases

NO<sub>x</sub> = Nitrogen Oxides

PM<sub>10</sub> = Particulate Matter, less than 10 micrometers in diameter

PM<sub>2.5</sub> = Particulate Matter, less than 2.5 micrometers in diameter

CO = Carbon Monoxide

by BAAQMD, all project-generated dust emissions would also be below the BAAQMD significance thresholds.

Remediation activities, particularly during excavation and travel on unpaved surfaces would temporarily generate fugitive dust in the form of PM<sub>10</sub> and PM<sub>2.5</sub>. Sources of fugitive dust would include disturbed soils at the site and trucks carrying uncovered loads of soil. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. Fugitive dust emissions would vary from day to day, depending on the nature and magnitude of excavation activity and local meteorological

conditions. Fugitive dust emissions would also depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the project site. Nearby receptors could be adversely affected by dust generated during remediation activities.

The BAAQMD's CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are employed to reduce these emissions. Mitigation Measures AQ-1 through AQ-3 address the implementation of best management practices to reduce fugitive dust and combustion exhaust emissions per BAAQMD's CEQA Air Quality Guidelines.

Erosion control measures and water programs are typically undertaken to minimize these fugitive dust and particulate emissions. A dust control efficiency of over 50 percent due to daily watering and other measures (e.g., limiting vehicle speed to 15 mph, management of stockpiles, screening process controls, etc.) was used. Based on CalEEMod, one water application per day reduces fugitive dust by 34 percent, two water applications per day reduces fugitive dust by 55 percent, and three water applications per day reduces fugitive dust by 61 percent.

Proposed project emissions would be less than the significance thresholds, as shown in Tables AQ-1 and AQ-2) and the proposed project would also include Mitigation Measures AQ-1 through AQ-3 in accordance with BAAQMD's CEQA Air Quality Guidelines. Therefore, proposed project impacts that would be associated with remediation emissions would be less-than-significant with mitigation. Although the Water Board lacks the specific authority to enforce the following mitigation measures, the project applicant has agreed to implement the mitigation measures, and they will be incorporated into an SCR Order as enforceable requirements.

**Mitigation Measure AQ-1:** *BAAQMD Required Dust Control Measures:* The contractor shall reduce remediation-related air pollutant emissions by implementing BAAQMD's basic fugitive dust control measures, including:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- A publically visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

- Stockpiles and waste containers (e.g. trucks, roll-off bins) shall be covered at all times when not in use. Additionally, any open excavations with impacted soil shall be covered at the end of the day prior to leaving the site. Any exposed non-contaminated soil shall be wetted to prevent fugitive dust.
- Perimeter monitoring for fugitive dust shall be performed during all soil moving activities.
- If dust from activities on the site is observed, immediate corrective actions shall be taken to minimize dust generation using the measures listed above and/or the work shall be temporarily halted until more favorable conditions exist.

**Mitigation Measure AQ-2:** *BAAQMD Required Basic Exhaust Emissions Reduction Measures:* The contractor shall implement the following measures during excavation to reduce remediation-related exhaust emissions:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for workers at all access points.
- All off-road equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

**Mitigation Measure AQ-3:** *BAAQMD Enhanced Exhaust Emissions Reduction Measures:* The contractor shall implement the following measures during excavation to further reduce remediation-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of remediation activities shall meet the following requirements:

- Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
- All off-road equipment shall have:
  - a) Engines that meet or exceed either USEPA or CARB Tier 2 off-road emission standards, and
  - b) Engines that are retrofitted with a CARB Level 2 Verified Diesel Emissions Control Strategy (VDECS). Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.

As described further in the project description, both a Health and Safety Plan (HASP) and a Community Protection Plan would be implemented throughout the remediation project. Due to the potential for generating elevated dust, volatile organic compounds (VOCs), and sulfurous odors during remediation activities, a key component of the HASP would be an air monitoring program that would be implemented to protect the health of workers and the public. The air monitoring program would identify required procedures, thresholds for action, equipment, and frequency of monitoring.

Air monitoring for VOCs would also be conducted throughout remediation to document that VOC concentrations at the work zone perimeter do not exceed site-specific action levels. The site chemicals of potential concern are benzene, toluene, ethylbenzene, and total xylenes; polycyclic aromatic hydrocarbons; and naphthalene. VOC concentrations would be measured continually during all excavation activities. The equipment would log data real time and send alarms to alert the field personnel if action levels are reached. In these instances, work would be stopped until corrective measures can be implemented to restore VOC concentrations to acceptable levels.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** As shown in Tables AQ-1 and AQ-2, project-related emissions would be less than the BAAQMD significance thresholds established in BAAQMD's *CEQA Air Quality Guidelines* even without the required implementation of Mitigation Measures AQ-1 through AQ-3. The BAAQMD *CEQA Air Quality Guidelines* recommend that cumulative air quality effects from criteria air pollutants also be addressed by comparison to the mass daily and annual thresholds. These thresholds were developed to identify a cumulatively considerable contribution to a significant regional air quality impact. Because project-related emissions would be below the significance thresholds even without implementation of the required standard construction mitigation measures, the proposed project's cumulative air quality impacts would be *less than significant*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Expose sensitive receptors to substantial pollutant concentrations?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: According to BAAQMD’s CEQA Air Quality Guidelines and Air Toxics New Source Review Program Health Risk Screening Analysis Guidelines,<sup>6</sup> health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. “Individual Cancer Risk” is the likelihood that a person exposed to concentrations of toxic air contaminants (TACs) over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The Maximum Exposed Individual (MEI) represents the worst-case risk estimate, based on a theoretical person continuously exposed for 70 years at the point of highest compound concentration in the air. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

The BAAQMD has established the CEQA significance threshold for individuals exposed to TAC sources as the increased incremental cancer risk of 10 in one million or greater. A health risk assessment (HRA) was performed to analyze the potential incremental cancer risks to sensitive receptors in the project vicinity of the proposed project, using CARB’s CalEEMod and emission rates from CARB’s EMFAC, OFFROAD emission models, and USEPA’s AP-42 for fugitive dust calculations. Emission factors were input into the USEPA AERMOD (Version 14134)<sup>7</sup> atmospheric dispersion model to calculate ambient air concentrations at receptors in the project vicinity. This assessment is intended to provide a worst–case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and exposure parameters.

These conservative health risk methodologies were used in order to estimate maximum potential health risks. These methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the risk assessment methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of the HRA are highly overstated.

<sup>6</sup> Bay Area Air Quality Management District, *Air Toxics New Source Review Program Health Risk Screening Analysis Guidelines*, January 2010.  
[http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrsa\\_guidelines.ashx](http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrsa_guidelines.ashx)

<sup>7</sup> US Environmental Protection Agency, AERMOD Modeling System.  
[http://www.epa.gov/scram001/dispersion\\_prefrec.htm](http://www.epa.gov/scram001/dispersion_prefrec.htm).

In accordance with California Office of Environmental Health Hazard Assessment (OEHHA) guidelines,<sup>8</sup> the HRA was accomplished by applying the highest estimated concentrations of TACs at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. Appendix AQ-3 provides additional information on the methodology used for the HRA.

### ***Cumulative Health Impact Methodology***

The BAAQMD's *CEQA Air Quality Guidelines* also include standards and methods for determining the significance of cumulative health risk impacts. The method for determining cumulative health risk requires the tallying of health risk from permitted stationary sources, major roadways and any other identified substantial TAC sources in the vicinity of a project site (i.e., within a 1,000-foot radius) and then adding the individual sources to determine whether the BAAQMD's cumulative health risk thresholds are exceeded.

BAAQMD has developed a geo-referenced database of permitted stationary emissions sources throughout the San Francisco Bay Area and the Stationary Source Risk & Hazard Analysis Tool (May 2012) for estimating cumulative health risks from the permitted sources. No permitted sources are located within 1,000 feet of the project site.

BAAQMD has also developed a geo-referenced database of major roadways in the Bay Area and the Highway Screening Analysis Tool (May 2011) for estimating cumulative health risks from such roadways. No major roadways are located within 1,000 feet of the proposed project. BAAQMD *CEQA Air Quality Guidelines* also require the inclusion of surface streets within 1,000 feet of the project with annual average daily traffic (AADT) of 10,000 or greater.<sup>9</sup> Kirker Pass Road meets this criterion.

### ***Incremental Cancer Risk***

Cancer risk is the lifetime probability of developing cancer from exposure to carcinogenic substances. Following HRA guidelines established by OEHHA and the BAAQMD in *Recommended Methods for Screening and Modeling Local Risks and Hazards*,<sup>10</sup> incremental cancer risks were calculated by applying established toxicity factors to modeled concentrations.

### ***Health Impacts on Nearby Sensitive Receptors***

The following describes the health risk assessment associated with existing receptors as a result of project construction activities and cumulative sources.

As shown in Table AQ-3, the unmitigated maximum cancer risk from construction exhaust (including diesel particulate matter or DPM), fugitive dust, and VOC concentrations for an existing residential-adult receptor would be 0.21 per million and for a residential-child receptor would be 2.34 per million. Implementation of required Mitigation Measures AQ-1 through AQ-4 would reduce the maximum cancer risk from construction exhaust (including DPM), fugitive dust, and VOC concentrations for an existing residential-adult receptor to 0.17 per million and for a residential-child receptor to 1.88 per million. (As previously noted, although the Water

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<sup>8</sup> Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessment*, August 2003. [http://oehha.ca.gov/air/hot\\_spots/pdf/HRAguidefinal.pdf](http://oehha.ca.gov/air/hot_spots/pdf/HRAguidefinal.pdf)

<sup>9</sup> Bay Area Air Quality Management District, BAAQMD County Surface Street Screening Tables, May 2011 and CEHTP Traffic Linkage Service Demonstration. [http://www.ehib.org/traffic\\_tool.jsp](http://www.ehib.org/traffic_tool.jsp)

<sup>10</sup> Bay Area Air Quality Management District, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May 2012. <http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CEQA/Risk%20Modeling%20Approach%20May%202012.ashx?la=en>

**Table AQ-3**  
**Estimated Health Impacts for Nearby Sensitive Receptors**

Source	Cancer Risk <sup>1</sup>	Hazard Impact <sup>2</sup>	PM2.5 Concentration
<b>Proposed Project (Unmitigated)</b>			
<b>Proposed Project</b>	<b>0.21/2.34</b>	<b>0.24/0.23</b>	<b>0.06</b>
Significance Threshold	10	1.0	0.3
Significant (Yes or No)?	No	No	No
<b>Proposed Project (Mitigated)</b>			
<b>Proposed Project</b>	<b>0.17/1.88</b>	<b>0.19/0.10</b>	<b>0.05</b>
Significance Threshold	10	1.0	0.3
Significant (Yes or No)?	No	No	No
<b>Cumulative</b>			
Kirker Pass Road	0.7	0.05/0.05	0.02
Mitigated Proposed Project	0.17/1.88	0.19/0.10	0.05
<b>Cumulative Impact</b>	<b>2.6</b>	<b>0.24/0.15</b>	<b>0.07</b>
Significance Threshold	100	10	0.8
Significant (Yes or No)?	No	No	No

Notes:

<sup>1</sup> Proposed project cancer risk values are for adult and child, respectively. Proposed project hazard impact values are for acute and chronic.

<sup>2</sup> Proposed project hazard impact values are for acute risk and chronic risk, respectively.

Board lacks the specific authority to enforce these mitigation measures, the project applicant has agreed to implement the mitigation measures, and they will be incorporated into an SCR Order as enforceable requirements.) A majority of the cancer risk is related to DPM emissions. However, even absent this mitigation, the cancer risk due to the proposed project would be less than the BAAQMD threshold of 10 per million. Therefore, the project's increased cancer risk would be a *less-than-significant impact*. Emissions from Kirker Pass Road would create an additional cancer risk of 0.7 per million. Thus, the cumulative cancer risk from the mitigated proposed project and other nearby sources would be 2.6 per million, well under the BAAQMD threshold for cumulative risk of 100 per million. Therefore, the cumulative cancer risk of the project would also be a *less-than-significant impact*.

***Non-Cancer Health Hazard***

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI), which is defined as the ratio of the proposed project's incremental DPM exposure concentration to a published reference exposure level (REL) as

determined by OEHHA. To compute the total HI, individual ratios or Hazard Quotients (HQs) of each individual air toxic are added to produce an overall HI. If the overall HI is greater than 1.0, then the impact is considered to be significant.

The chronic reference exposure level for DPM as determined by OEHHA is 5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). There is no acute REL for DPM. However, diesel exhaust contains acrolein and other compounds, which do have an acute REL. Based on BAAQMD's DPM speciation data, acrolein emissions are approximately 1.3 percent of the total DPM emissions. The acute REL for acrolein as determined by OEHHA is  $2.5 \mu\text{g}/\text{m}^3$ <sup>11</sup>.

The unmitigated chronic HI would be 0.23, while the risk would be reduced to a chronic HI of 0.10 with implementation of Mitigation Measures AQ-1 through AQ-4. A majority of the chronic HI is related to crystalline silica emissions, which are generated from fugitive dust from movement on unpaved surfaces; wind erosion of storage piles; and grading, loading, and unloading of soil materials. The chronic HI would be well below the BAAQMD threshold of 1 and the cumulative chronic HI would be below the BAAQMD threshold of 10. The project's chronic health impact would therefore be *less than significant*.

The unmitigated acute HI would be 0.24 and the mitigated acute HI would be 0.19, both below the BAAQMD threshold of 1, while the cumulative acute HI would also be below the BAAQMD threshold of 10. Therefore, the proposed project's acute health impact would be *less than significant*.

### *PM<sub>2.5</sub> Concentration*

Dispersion modeling also estimated the exposure of sensitive receptors to project-related concentrations of PM<sub>2.5</sub>; the results are presented in Table AQ-3. The BAAQMD *CEQA Air Quality Guidelines* require inclusion only of PM<sub>2.5</sub> exhaust emissions in this analysis because fugitive dust emissions are addressed under BAAQMD dust control measures as part of Mitigation Measure AQ-1. Implementation of the required Mitigation Measures AQ-2 and AQ-3 would reduce impacts of combustion exhaust (including PM<sub>2.5</sub>). The proposed project's unmitigated annual PM<sub>2.5</sub> concentration from excavation and haul truck activities would be  $0.06 \mu\text{g}/\text{m}^3$ , while the mitigated concentration would be  $0.05 \mu\text{g}/\text{m}^3$ . A majority of the PM<sub>2.5</sub> concentration is related to DPM emissions. Because the annual PM<sub>2.5</sub> concentration due to the proposed project would be below the BAAQMD threshold of  $0.3 \mu\text{g}/\text{m}^3$ , the project would have a *less-than-significant impact* from exposure of sensitive receptors to increased concentrations of PM<sub>2.5</sub>. The cumulative annual PM<sub>2.5</sub> concentration due to the proposed project would be below the BAAQMD threshold of  $0.8 \mu\text{g}/\text{m}^3$  and would also be considered *less than significant*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Create objectionable odors affecting a substantial number of people?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Though offensive odors from stationary and mobile sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress, generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the

<sup>11</sup> California Office of Environmental Health Hazards Assessment Toxicity Criteria Database, 2010. <http://www.oehha.ca.gov/>.

nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

The BAAQMD's significance criteria for odors are subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD considers any project with the potential to frequently expose members of the public to objectionable odors to cause a significant impact. With respect to the proposed project, diesel-fueled construction equipment exhaust would generate some odors. However, these emissions typically dissipate quickly and would be unlikely to affect a substantial number of people.

Generally, odor emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion. Although the project area generally has fairly high average wind speeds, for purposes of this analysis, it is conservatively assumed that construction-related odors could have a *potentially significant impact* on nearby residential receptors. Implementation of Mitigation Measure AQ-5 would reduce the impact to a less-than-significant level. Furthermore, the proposed remediation would eliminate the existing odor nuisance resulting from impacted shallow soils. Although the Water Board lacks the specific authority to enforce the following mitigation measure, the project applicant has agreed to implement the mitigation measure, and it will be incorporated into an SCR Order as an enforceable requirement.

**Mitigation Measure AQ-5:** *Implement an Odor Control Plan.* The construction contractor shall prepare and implement an odor control plan to identify measures to prevent on- and off-site odor nuisances throughout implementation of the project. At a minimum, required procedures shall include: (a) limiting the area of open excavations and (b) shrouding open excavations with plastic sheeting or other covers. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances would include: (c) direct load-out of soils to trucks for off-site disposal or (d) use of the same technique as employed during the emergency response activities, namely utilizing a high pressure washer with a vapor suppressant (e.g., mixture of water, Simple Green, and Sulfree). If nuisance odors are identified during remediation, work shall be halted and the source of odors would be identified and corrected. Work shall not resume until all nuisance odors have been abated.

**IV. BIOLOGICAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: The evaluation of potential impacts to biological resources was performed by Monk & Associates, Inc. (M&A). The analysis is presented in M&A’s Biological Resource Analysis report, which is presented in Appendix BIO-1.<sup>12</sup>

The proposed project could adversely affect special-status species, including nesting raptors and passerine birds, Townsend’s big-eared bat, pallid bat, California tiger salamander, and California red-legged frog. Please see Appendix BIO-1 for complete details on these *potentially significant impacts* and on existing biological conditions at the site. Mitigation measures to reduce these potential impacts to a less-than-significant level are provided at the end of this Initial Study, on page 111.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: The proposed project could adversely affect an ephemeral drainage swale on the 330 Holly Drive portion of the site that would require authorization from the California Department of Fish and Wildlife (CDFW). Non-native Landscape vegetation and 8 raised vegetable boxes will be removed from the swale. A seasonal wetland would be also graded into the upland areas within the swale. Please see Appendix BIO-1 for complete details on this *potentially significant impact* and on existing biological conditions at the site. Mitigation measures to reduce potential biological impacts to a less-than-significant level are provided at the end of this Initial Study, on page 111.

<sup>12</sup> Monk & Associates, Inc., *Biological Resource Analysis, Phillips 66 Pipeline LLC Line 200 Remediation and Maintenance Project, Concord Naval Weapons Station Restoration and Mitigation Project, Concord, California* [Draft], June 15, 2015.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The proposed project would have a *significant adverse impact* on 0.20 acre of jurisdictional seasonal wetland and 0.01 acre of ephemeral drainage, and will require a permit from the U.S. Army Corps of Engineers (Corps). The applicant is applying for a Corps permit, pursuant to Section 404 of the federal Clean Water Act (CWA), requesting authorization to use Nationwide Permit (NWP) 20 (Oil Spill Cleanup) and 47 (Pipeline Repair) for impacts to 0.21 acre of waters of the U.S./State. A CWA Section 401 water quality certification is required from the Water Board to fill the waters of the State on the project site. The applicant must comply with all Section 404 permit and 401 water quality certification conditions. Please see Appendix BIO-1 for complete details on these potential impacts and on existing biological conditions at the site. Mitigation measures to reduce these potential impacts to a less-than-significant level are provided at the end of this Initial Study, on page 111.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with any established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** As discussed in Section IV(a), above, the proposed project could adversely affect nesting migratory birds via direct and indirect impacts to nests, eggs, and/or young. Common migratory birds at the project site include raptors and passerine birds. Impacts to birds protected via the Migratory Bird Treaty Act would be a *potentially significant impact*. Please see Appendix BIO-1 for complete details on these potential impacts and on existing biological conditions at the site. Mitigation measures to reduce these potential impacts to a less-than-significant level are provided at the end of this Initial Study, on page 111.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: The 330 Holly Drive portion of the project site is subject to the City of Concord Tree Preservation and Protection Ordinance, which protects heritage trees and native trees over certain size thresholds. Removal of protected trees requires a permit from the City and planting of replacement trees.

The project would remove 13 trees from the 330 Holly Drive property, but only one, a California black walnut, is a protected tree subject to the City's tree protection ordinance. Removal of these trees is required to complete the remedial grading work. As rated by a certified arborist, the black walnut tree is in decline and has significant structural defects that cannot be abated. Nonetheless, removal of the protected tree would constitute a *potentially significant impact*. Please see Appendix BIO-1 for complete details on this impact. A mitigation measure to reduce the impact to a less-than-significant level is provided at the end of this Initial Study, on page 111.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no adopted Habitat Conservation Plan or other conservation plan applicable to the project site.

**V. CULTURAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: The historical period in the project region is generally considered to start when Spanish explorers began visiting the area in the 1700s. The first known arrival of Europeans was in 1772, when Spaniards Captain Pedro Fages and Father Juan Crespi led a party of explorers into the valley on the northern flanks of Mt. Diablo. The next explorers arrived in 1776, led by Lt. Colonel Juan Bautista de Anza, Lt. Jose Joaquin Moraga, and Father Pedro Font, after their expedition from Mexico to present-day Monterey, California.<sup>13</sup> However, although the Spanish continued to explore the area for many decades, it wasn't until 1846 that the first settlement was established by Don Salvio Pacheco, who had received a 17,921-acre land grant from the Mexican government in 1834 that encompassed much of the land north of Mt. Diablo. He established an adobe residence on his Rancho Monte del Diablo that is still extant in downtown Concord, and is listed as a National Historical Landmark.

An area just to the north of Rancho Monte del Diablo was first developed as a shipping center for resources produced in the area, such as grain, coal, lime, and cattle. The town of Pacheco thrived for a period due to its proximity to a deep-water channel connected to Suisun Bay, which provided access to supply ships. But the ship channel silted up following a series of floods, rendering Pacheco's wharves and warehouses useless. The town's decline was hastened by a major earthquake in 1868, which led leading merchants to relocate. With the help of his son Fernando and son-in-law Francisco Galindo, Don Salvio Pacheco established the town of Todos Santos in 1868 at the center of their Rancho Monte del Diablo. It included a public plaza surrounded by 19 blocks encompassing 20 acres of land. On April 17, 1869 the local newspaper announced that the name of the town had been changed to Concord. The first store was opened by Sam Bacon, a transplanted Pacheco merchant, and others soon followed. By 1879, the town of Concord had a population of 300 people.

The Town of Concord was incorporated in 1905 and the City of Concord, now with a population of 6,500 residents, was incorporated in January 1948. The city grew substantially in the 1950s and 1960s, when extensive areas were developed with residential subdivisions and shopping centers.

The Concord Naval Weapons Station was established in 1942 as a military base north of Concord. (It was first called Bay Point, and later was renamed Port Chicago. It was officially named the Concord Naval Weapons Station in 1962.) It initially encompassed an area around the south shore of Suisun Bay and, following the World War II attack on Pearl Harbor by the Japanese, the base was used for ammunition storage and support functions for the American naval fleet, and included high explosive and gun magazines, military barracks, and a weapons laboratory. After a large explosion at Port Chicago in 1944, the Navy expanded the military base

<sup>13</sup> Concord Historical Society, *An Early History of Concord, California*, [www.concordhistory.com](http://www.concordhistory.com), accessed April 16, 2015.

to include the Inland Area, an area of 5,028 acres at the north edge of Concord, within the City limits. The CNWS provided military support during the Vietnam War (1964-1972), then continued supplying ammunition and maintaining and assembling missiles until the end of the Cold War in 1989. The base had been largely deactivated by 1999, and ownership of the Inland Area is planned to be transferred to the City of Concord in 2017.

While the area north of the Phillips 66 Line 200 release site was developed with underground storage bunkers served by a network of roads, the release site and surrounding area within the CNWS was used for livestock grazing and open space. While more than 500 historic structures were documented on the CNWS during a 1993 survey by the archaeological consulting firm William Self & Associates, the report on the survey concluded that none of the structures maintained sufficient historic significance and integrity to qualify for listing on the National Register of Historic Places (NRHP). A subsequent survey conducted by JRP Historical Consulting Services in 1998 reached the same conclusion.<sup>14</sup>

A cultural resources evaluation was performed for the proposed remediation project by the archaeological consulting firm of Tom Origer & Associates (TOA) that included a review of historic resources listed on the NRHP (National Register), California Historical Landmarks, California Register of Historical Resources (California Register), and California Points of Historical Interest as listed in the Office of Historic Preservation's *Historic Property Directory*.<sup>15</sup> The archival search conducted by TOA identified four recorded historic-era cultural resources within a half-mile of the project area, including a ranch complex, a developed spring, a residential complex, and a rail system. No resources were identified within the immediate vicinity of the proposed remediation site, and a review of historic maps of the area published by the U.S. Department of Interior's General Land Office, the U.S. Geological Survey, or the U.S. Army Corps of Engineers in 1857, 1866, 1872, 1875, 1896, 1898, 1943, and 1953 found no evidence of buildings or structures on or near the project site. No historic resources were identified on the CNWS portion of the project site during previous surveys, and none were identified on the 330 Holly Drive property during a field survey conducted by TOA in May 2015.

TOA concluded that historic resources are unlikely to be present on the project site, but their presence cannot be ruled out. Any historic resources that may be buried at the project site could be damaged or destroyed by the earth-disturbing activities that would be conducted during implementation of the proposed project. Although this would be a *potentially significant impact*, the impact would be reduced to a less-than-significant level through implementation of Mitigation Measure CR-1 (below).

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<sup>14</sup> City of Concord, Concord Community Reuse Project Office, *Concord Community Reuse Plan Draft Revised Environmental Impact Report*, State Clearinghouse No. 2007052094, Chapter 9: Cultural Resources, August 2009.

<sup>15</sup> Tom Origer & Associates, *A Cultural Resources Study for the Phillips 66 Line 200 Remediation Project, Concord Naval Weapons Station, Contra Costa County, California*, May 29, 2015.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: California is known to have been inhabited by humans for at least 11,000 years prior to the arrival of Spanish explorers in the 16<sup>th</sup> century. The San Francisco Bay Area was occupied by Native Americans as far back as 3,000 to 4,000 years ago, but information on human occupation prior to 3,000 B.C. is almost non-existent. However, two archaeological sites investigated in the late 1990s in the area of Los Vaqueros Reservoir (eastern Contra Costa County) produced human remains dating to between 10,000 years and 7,000 years BP (Before Present).<sup>16</sup>

Recorded archaeological sites on the Concord Naval Weapons Station and the surrounding region indicate that at the time of initial Euroamerican incursion into the project area in the 1770s, the region was occupied by Native Americans who spoke Chupcan.<sup>17</sup> These people were a subset of the Penutian-speaking Bay Miwok (referred to as “Costanoans” by the Spanish) residing in northern California at the time the Spanish arrived in the region.<sup>18</sup> The Miwok territory encompassed much of the San Francisco Bay area and extended eastward to the Central Valley. The Chupcan territory was located in the East Bay in the lower Diablo Valley, in the areas occupied today by the cities of Concord, Walnut Creek, and Clayton, and extending eastward perhaps to the community of Bay Point. The total Chupcan population has been estimated to be approximately 300 to 400 individuals in 1772, when Spanish expeditions entered the area.

The Bay Miwok typically established villages adjacent to streams and other water bodies, including the margins of what is now San Francisco Bay. A typical Miwok tribelet in the region is believed to have lived a hunter-gatherer lifestyle in semi-sedentary villages, exploiting the rich bay shore and interior plant and animal resources within its territory. The waters, shore, and marshy shallows of San Francisco Bay yielded fish, waterfowl, marsh plants, and shellfish. Deer and other inland animals were hunted for meat and their hides. Acorns provided an abundant and storable plant staple, supplemented with grass seeds, bulbs, and roots. Some of these resources were collected at seasonal camps used only for a brief period during exploitation of a particular plant or animal. The Miwok employed specialized tool kits of wood, basketry, bone, shell, and flaked and ground-stone implements to hunt or collect, process, and store the various resources in their territory.

With the arrival of the Spanish at the turn of the nineteenth century, the Native Americans in the area were either forced from the area or conscripted to work on one of the large “rancherias” established in the region, where many Miwok died from overwork and introduced European diseases. By the 19<sup>th</sup> century, forced missionization and the epidemic spread of western diseases had reduced the Bay Miwok population significantly, resulting in the disappearance of local tribelets.

<sup>16</sup> City of Concord, *Op. Cit.*

<sup>17</sup> City of Concord, *Op. Cit.*

<sup>18</sup> In anthropological literature, the Costanoans are often referred to as the Ohlone.

As noted in the preceding section, a cultural resources evaluation was performed in May 2015 for the proposed remediation project by the archaeological consulting firm of Tom Origer & Associates (TOA). The investigation included a review of archaeological records on file at the Northwest Information Center (NWIC), at Sonoma State University, which revealed that no prehistoric villages have been recorded in the vicinity of the project site. A field survey of the 330 Holly Drive property by archaeologists did not turn up any archaeological site indicators expected to be found in the region, such as obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and handstones, and mortars and pestles; bedrock outcrops and boulders with mortar cups; or locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire affected stones. The investigators also examined soil boring logs from over 40 locations on the project site and found no indicators of subsurface deposits of cultural resources.

As part of the cultural resources evaluation, in conformance with Senate Bill AB 52, TOA contacted the State of California's Native American Heritage Commission (NAHC) and representatives of tribal groups in the area identified by the NAHC, including the Amah Mutsun Tribal Band, Indian Canyon Mutsun Band of Costanoan, Trina Marine Fuano Family, and the Muwekma Ohlone Indian Tribe in order to identify any concerns these groups may have about the proposed project. At the time of publication of this Initial Study, no responses to the written inquiries sent by TOA had been received from the Native American groups.

The project site is located in an area where there is potential for previously undiscovered prehistoric archaeological sites to be present. If significant prehistoric cultural artifacts are buried within the area of the proposed remediation activities, they could be damaged or destroyed during subsurface disturbance of the site. This would constitute a *potentially significant, adverse impact*. Implementation of the following mitigation measures would reduce this potential impact to a less-than-significant level. Although the Water Board lacks the specific authority to enforce the following mitigation measures, the project applicant has agreed to implement the mitigation measures, and they will be incorporated into an SCR Order as enforceable requirements.

**Mitigation Measure CR-1:** If any historic or prehistoric cultural artifacts are encountered during site disturbance, all ground disturbance within 100 feet of the find shall be halted until the San Francisco Bay Regional Water Quality Control Board (Water Board) and the City of Concord are notified, and a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Indicators of historic resources could include items of ceramic, glass, or metal, and could include building foundations. Prehistoric indicators could include chipped chert and obsidian tools and tool manufacture waste flakes; grinding and hammering implements; or locally darkened soil.

The results of any additional archaeological effort required through the implementation of Mitigation Measures CR-1 or CR-2 shall be presented in a professional-quality report to the Water Board, the City of Concord, and the Northwest Information Center at Sonoma State University in Rohnert Park. The project sponsor shall fund and implement the mitigation in accordance with Section 15064.5(c)-(f) of the *CEQA Guidelines* and Public Resources Code Section 21083.2.

**Mitigation Measure CR-2:** In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Coroner’s Division of the Contra Costa County Office of the Sheriff and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined to be prehistoric, the Coroner’s Division will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a “Most Likely Descendant” (MLD). The MLD in consultation with the archaeological consultant and the project sponsor, shall advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: The Concord General Plan states that no known paleontological resources occur within the planning area, which includes the project site.<sup>19</sup> Although the project site has been previously disturbed, there is some potential, however remote, for encountering paleontological resources on the site during implementation of the project. Any destruction of unique paleontological resources during earthmoving activities would be a *potentially significant impact*. Implementation of the following measure would reduce this potential impact to a less-than-significant level. Although the Water Board lacks the specific authority to enforce the following mitigation measure, the project applicant has agreed to implement the mitigation measure, and it will be incorporated into an SCR Order as an enforceable requirement.

**Mitigation Measure CR-3:** If any paleontological resources are encountered during site grading or other construction activities, all ground disturbance shall be halted until the services of a qualified paleontologist can be retained to identify and evaluate the scientific value of the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Significant paleontological resources shall be salvaged and deposited in an accredited and permanent scientific institution, such as the University of California Museum of Paleontology (UCMP).

<sup>19</sup> U.S. Geological Survey, Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California [map], 2000.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Disturb any human remains, including those interred outside of formal cemeteries?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: See Section V(b).

**VI. GEOLOGY AND SOILS** – *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</i>				
i) <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.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The nearest active earthquake fault to the project site is the Clayton section of the Greenville Fault, which bisects the CNWS in a northwest direction and passes less than 1,000 feet northeast of the remediation site.<sup>20</sup> However, the nearest Alquist-Priolo fault zone is associated with the Concord Fault, which also trends northwest and is located about 3.5 miles southwest of the project site.<sup>21</sup> Other active faults in the region include the Calaveras fault, located approximately 11 miles to the south; the Green Valley Fault, located approximately 11 miles to the northwest; the Hayward Fault, located approximately 17 miles to the southwest; and the San Andreas fault, located about 35 miles to the west. Because there are no faults or associated Alquist-Priolo zones on or near the project site, there is no potential for surface rupture at the site.

<sup>20</sup> City of Concord, *Concord Community Reuse Plan Draft Revised Environmental Impact Report*, Figure 6-4: Regional Faults [map], State Clearinghouse No. 2007052094, August 2009.

<sup>21</sup> California Geological Survey (formerly California Division of Mines and Geology), State of California Special Studies Zones, Walnut Creek Quadrangle [map], effective July 1, 1993.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Similar to most locations throughout the San Francisco Bay Area, the project site is potentially subject to strong seismic ground shaking during an earthquake on one of the major active earthquake faults that transect the region. The project is in an area mapped as having a Very Strong seismic shaking severity potential, equivalent to a Modified Mercalli Intensity of 8, corresponding to moderate structural damage.<sup>22</sup>

Although a strong seismic event during the proposed remediation project could potentially result in collapse of excavation walls and put workers at risk, a detailed engineered design will be developed prior to project implementation that will specify the excavation design, including safe slopes and appropriate shoring techniques to maintain adequate slope stability. It will also specify backfill techniques to allow for the protection of the existing petroleum transmission pipelines following completion of the project. The excavation site will be monitored during project implementation by a professional geologist, engineering geologist, or professional engineer certified by the State of California, who will be charged with ensuring adequate shoring to protect worker health and safety. Other than the existing hazard associated with a buried oil pipeline, there is no potential for structural failure because no permanent above-ground structures would be constructed.

Prior to initiating any work, the remediation contractor (AECOM) would prepare a Health and Safety Plan (HASP) to be implemented throughout the remediation project. The HASP would identify procedures and other protections for workers to prevent against collapse of excavation walls and inundation of excavations, among other potential hazards. The HASP would identify measures for minimizing hazards, worker training procedures, emergency response procedures for a variety of potential emergencies, and first aid and medical treatments.

Due to the safety features that would be incorporated into the excavation design and the HASP, the project would have a *less-than-significant impact* from seismic ground shaking.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Liquefaction occurs when clean, loose, saturated, uniformly graded, fine-grained soils are exposed to strong seismic ground shaking. The soils temporarily lose strength and cohesion, resulting in a loss of ground stability that can cause building foundations to fail. The

<sup>22</sup> Association of Bay Area Governments, Earthquake and Hazards Program, Probabilistic Seismic Hazard Analysis [interactive map], accessed May 8, 2015 at: <http://gis.abag.ca.gov/website/Hazards/?hlyr=seismicHazardAnalysis>.

project site is within an area mapped as having low liquefaction potential.<sup>23</sup> Lateral spreading, another form of seismic ground failure, is generally associated with liquefaction; since the potential for liquefaction at the site is low, the potential for lateral spreading is presumed to also be low.

Ground cracking is another form of ground failure that can occur in response to seismic shaking. According to the Environmental Impact Report (EIR) prepared by the City of Concord for the proposed reuse of the CNWS, the only areas of the Weapons Station subject to ground cracking are on narrow-crested, steep-sided ridges in certain locations in the Los Medanos Hills.<sup>24</sup> These conditions are not present on or near the project site, so there is no potential for ground cracking on the project site.

Ground lurching, a deformation of the ground surface generated by surface rolling during seismic shaking that can result in surface cracks, generally occurs in unconsolidated soils with low cohesion. Soils at the project site consist of silt with clay, lean clay, and clay loam.<sup>25</sup> These are considered cohesive soils, so the potential for ground lurching at the site is presumed to be low.

The overall potential for seismic ground failure at the remediation site appears to be low. While seismic ground failure cannot be ruled out, the proposed project would not result in construction of any new structures on the project site. Any potential for seismic ground failure is an existing condition that would not be altered by the project, and the project would not increase the hazard from seismic ground failure. Therefore, the project would have a *less-than-significant impact* related to seismic ground failure.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>iv) Landslides?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: A landslide is a slope failure created by down-slope slippage of a mass of earth or rock that typically occurs as a planar or rotational feature along single or multiple surfaces. Landslides can range from slow-moving, deep-seated slumps to rapid, shallow debris flows. The hazard is greatest on steep slopes with gradients of 15 percent or more, but can occur on shallower slopes with unstable soils, particularly when saturated. Placing structures at the top of slopes can significantly add to the risk of landslide.

Because the project site is level and is surrounded by relatively level land with no significant slopes, there is no potential for landslide at the project site in its existing condition. Once excavation of the site commences as part of the remediation project, there could be some potential for slope failure within the excavation walls. However, as discussed in Section VI(b), above, a detailed engineered design will be developed prior to project implementation that will specify the excavation design, including safe slopes and appropriate shoring techniques to

<sup>23</sup> U.S. Geological Survey, Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region [map], California: A Digital Database, USGA Open-File Report 00-444, 2000.

<sup>24</sup> City of Concord, *Concord Community Reuse Plan Draft Revised Environmental Impact Report*, Chapter 6: Earth Resources, State Clearinghouse No. 2007052094, August 2009.

<sup>25</sup> AECOM Technical Services, Inc., Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California, Section 1.2: Site Geology, October 2014.

maintain adequate slope stability. Therefore, the potential for landslides would constitute a *less-than-significant impact*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Result in substantial soil erosion or the loss of topsoil?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Any construction project that exposes surface soils creates a potential for erosion from wind and stormwater runoff. The potential for erosion increases on large, steep, or windy sites; it also increases significantly during rainstorms. Although the proposed project would occur on a level site, and is expected to be completed prior to the rainy season, it would entail excavation and stockpiling of soil, both of which would increase the potential for erosion at the site.

The project would disturb more than one acre of ground surface, exceeding the one-acre threshold above which the San Francisco Bay Regional Water Quality Control Board (Water Board) requires coverage under a Construction General Permit (CGP). The implementation of erosion control measures is required for all construction projects that disturb more than one acre of ground surface. The CGP is administered by the Water Board on behalf of the State Water Resources Control Board (SWRCB). As part of obtaining coverage under the CGP, the applicant will be required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) that must identify Best Management Practices (BMPs) for implementation during project construction that will minimize the potential for erosion and sedimentation of stormwater runoff.

While the proposed site grading, excavation, and other soil disturbance at the site would create the potential for erosion, which would be a *potentially significant impact*, the impact would be reduced to a less-than-significant level through implementation of the SWPPP required by Mitigation Measure WQ-1 and additional erosion controls required by Mitigation Measure WQ-2 (see Section IX).

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: As discussed above in Sections VI(a)(iii) and VI(a)(iv), the site appears to have a low potential for landslide, lateral spreading, liquefaction, and ground lurching. Subsidence of land can occur as a result of oil or groundwater extraction or subsurface mining, but can also occur in response to seismic shaking. Soils most susceptible to subsidence are organic soils with a high carbon content, such as peat. Although the potential for subsidence is presumed to be

low, the detailed engineered design that will be developed prior to project implementation will identify any potential for unstable soils and will identify appropriate measures to ensure slope stability in the excavations during project implementation. Because these design features are part of the proposed project, the potential for ground failure at the site is considered a *less-than-significant impact*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wetted. The risks associated with expansive soils generally occur within approximately 5 feet of the ground surface, where substantial changes in soil volume can damage building foundations and pavements. In general, the soils on the CNWS have a moderate to high shrink/swell potential.<sup>26</sup> Although the potential for expansive soils at the proposed remediation site is unknown, the Line 200 pipeline has been present for many decades and has not been damaged by soil expansion; it is also located well below the ground surface. The proposed project would not relocate the pipeline and would not install any new structures. In addition, the existing residential structures will be removed as part of the project, thereby removing the expansive soil risk to the structure. Therefore, the project would have a *less-than-significant impact* from expansive soils.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would not require the use of a septic or alternative wastewater disposal system.

<sup>26</sup> City of Concord, *op. cit.*

**VII. GREENHOUSE GAS EMISSIONS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The CalEEMod (California Emissions Estimator Model, Version 2013.2.2) was used to quantify greenhouse gas (GHG) emissions related to demolition activities. The EMFAC emissions model was used to quantify GHG emissions from employee vehicles and haul trucks and roll-off containers. The CARB’s OFFROAD emissions model was used to quantify GHG emissions from off-road equipment such as excavators, loaders, backhoes, and end dump trailers.

The proposed project’s estimated GHG emissions would be 69.6 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e), well below the BAAQMD threshold of 1,100 metric tons. Thus, the proposed project impacts on GHG emissions and related climate change would be *less than significant*. The emissions calculation methodology and supporting information are included in Appendix AQ–2. The GHG setting and regulatory context are described in Appendix AQ–4.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** On July 23, 2013, the City of Concord adopted a Climate Action Plan (CAP)<sup>27</sup> intended to enable the City to achieve targeted reductions of GHG emissions. The City has established a baseline government and community-wide inventory of GHG emissions. The proposed project would result in a significant impact if it would be in conflict with AB 32 State goals and the goals, policies, and measures of the applicable CAP for reducing GHG emissions. The assumption is that AB 32 and the CAP will be successful in reducing GHG emissions and reducing the cumulative GHG emissions Statewide by 2020. The City and State have taken these measures, because no project individually could have a major impact (either positively or negatively) on the global concentration of GHGs. The proposed project has been reviewed relative to the AB 32 measures and Concord CAP and it has been determined that the proposed project would not conflict with the goals of AB 32 and the applicable CAP.

The principal State plan and policy adopted for the purpose of reducing GHG emissions is AB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. Statewide plans and regulations such as GHG emissions standards for vehicles and the Low Carbon Fuel

<sup>27</sup> City of Concord, *Citywide Climate Action Plan*, March 2013, [http://www.cityofconcord.org/pdf/dept/planning/EIR/climate\\_study\\_review.pdf](http://www.cityofconcord.org/pdf/dept/planning/EIR/climate_study_review.pdf)

Standards LCFS are being implemented at the Statewide level, and compliance at the specific plan or project level is not addressed. Therefore, the proposed project does not conflict with these plans and regulations.

**VIII. HAZARDS AND HAZARDOUS MATERIALS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The proposed project would not involve the routine transport, use, or disposal of hazardous materials. There would be transport of small quantities of petroleum products for the operation and maintenance of construction equipment during the temporary remediation activities. Small containerized quantities of other hazardous materials could also be used during the remediation. The Health and Safety Plan that would be implemented throughout the remediation project would include procedures for addressing the accidental spill of these materials. Following completion of remediation, expected to last for approximately two months, no hazardous materials would be used or stored at the site or transported to the site.

The soil excavated during remediation is not expected to be classified as a hazardous waste. The soil excavated during remediation will be sampled and tested prior to shipment offsite to an appropriate disposal facility. It is expected that the soil will be classified as non-hazardous waste in which case will be shipped to Keller Canyon Landfill, a licensed disposal facility. Any required transport of soil for offsite would be fully contained and would not have the potential to create a significant hazard to the public in the event of a traffic accident or other en-route incident. Disposal will occur at a licensed facility in accordance with applicable federal, State, and local regulations, and would not create a significant hazard to the public or the environment.

In the unlikely event any of the soil exceeds regulatory thresholds for hazardous waste, that soil would be transported by truck in covered roll-off containers designed to contain hazardous waste for disposal at a Class I hazardous waste disposal facility. Disposal would be performed in accordance with applicable federal, State, and local regulations, including the federal Hazardous Materials Transportation Act (HMTA) and California Health and Safety Code Division 20, Chapter 6.5, Articles 6.5, 6.6, and 13. Hazardous waste would be hauled by a hazardous waste hauler licensed by the California Department of Toxic Substances Control (DTSC).

Oil-impacted water and phase-separated product that would be transported in storage tanks to the Phillips 66 Rodeo Refinery for processing in the refinery’s recovered oil system would not be a hazardous waste.

Based on the above considerations, the project would have a *less-than-significant impact* from the transport, use, or disposal of hazardous materials.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The proposed project is intended to remediate environmental conditions that resulted from a prior accidental release of hazardous materials into the environment when a small leak developed in an oil pipeline operated by Phillips 66 Company. Phillips 66 Company's Line 200 conveys a semi-refined crude oil mixture of crude oil and pressure distillate from the Junction Pump Station in Lost Hills (Kern County), California to the Phillips 66 San Francisco Refinery in Rodeo, California. A section of Line 200 crosses the CNWS near its southern boundary, adjacent to low-density residential development in the City of Concord.

Information presented in this section is derived from documents prepared by AECOM Technical Services, Inc., Phillips 66 Company's contractor for the proposed remediation as well as the prior emergency response. The primary documents relied on were a September 2014 groundwater monitoring report,<sup>28</sup> the Revised Excavation Interim Remedial Measure Work Plan,<sup>29</sup> and Addendum 01 to Revised Excavation Interim Remedial Measure Work Plan.<sup>30</sup>

#### ***Prior Emergency Response Remediation***

In November 2007, local residents complained about objectionable odors from the adjacent CNWS. In response to these complaints, an inspection of the pipeline was performed by pipeline operators on November 7, 2011. The inspection identified free phase hydrocarbons (FPH) on the ground surface above the Phillips 66 pipeline. The FPH is also referred to as light non-aqueous phase liquid (LNAPL), which refers to a group of organic substances that are relatively insoluble in water and are less dense than water, such that they float on top of the water table. When exposed to air, the subject LNAPL has a strong sulfurous odor, similar to rotten eggs. Subsequent investigations by Phillips 66 determined that the subsurface soil and groundwater within the pipeline right-of-way on the CNWS and the adjacent 330 Holly Drive property were impacted with LNAPL contamination, resulting from a pinhole leak in Line 200. The pipeline leak appeared to be the result of corrosion.

As detailed in the Project Description, Phillips 66 personnel immediately commenced with an emergency cleanup, excavating and removing contaminated soil around a 261-foot section of the pipeline. The pipeline was repaired by welding a 7-foot section of steel sleeve over the leak; it was then re-covered with a protective wrap. Soils around adjacent parallel oil pipelines operated by Kinder Morgan Energy Partners and Shell Oil Company were also excavated. Soil samples were collected from excavation sidewalls at approximately 4 feet below the ground surface (bgs) and 7 feet bgs to evaluate lateral movement of petroleum product from the pipeline. They were also collected at the ends of excavations where photo-ionization detector

<sup>28</sup> AECOM, *Groundwater Monitoring Report, September 2014 Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, December 2014.

<sup>29</sup> AECOM Technical Services, Inc., *Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, October 2014.

<sup>30</sup> AECOM Technical Services, Inc., *Addendum 01 to Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, January 2016.

(PID) readings indicated that volatile organic compound (VOC) concentrations within the soil surrounding the respective pipelines were above 50 parts per million.

Following removal of contaminated soil, the pipelines were inspected and rewrapped, and the pipelines were backfilled with clean fill. The excavated soils were screened with a PID and petroleum-impacted soils were disposed of at the Keller Canyon Landfill in Pittsburg, located about 3 miles north of the release site. A total of 3,754 cubic yards (approximately 5,631 tons) of non-hazardous soil and debris with elevated levels of benzene, total petroleum hydrocarbons as gasoline (TPHg), diesel (TPHd), and motor oil (TPHmo) were disposed of at Keller Canyon Landfill. In addition, approximately 843,535 gallons of oil-impacted, non-hazardous groundwater generated by excavation dewatering activities were transported to the Phillips 66 Rodeo Refinery for processing. And three 20-cubic yard bins of debris and sand-blasting media (generated during the pipeline repair) were transported to Clean Harbors' Buttonwillow, California facility as a hazardous waste.

### ***Safety and Environmental Precautions***

A variety of safety and environmental precautions were implemented during the previous emergency remediation. Pipeline valves located on either side of the release were closed and clay and soil berms with a height of 18 inches were established around the pipeline release area to contain potential surface run-off and prevent surface run-on. Air monitoring to measure VOC concentrations was conducted with a PID, which determined that the use of respirator protection was not required to protect the health and safety of the response workers or the neighborhood. A benzene-specific monitor was also used to monitor excavations that were covered during periods of non-activity in order to identify any worker exposure hazards. A MultiRAE Plus monitor was used to measure concentrations of hydrogen sulfide, oxygen, carbon monoxide, and VOCs, and evaluate the presence of combustible vapors relative to the lower explosive limit. Air monitoring was conducted at the release site along the fence line prior to field activities, during field activities, and after field activities were completed each day. When elevated readings were detected during air monitoring, excavation activities were halted and the sidewalls and bottom of the excavation were sprayed with a vapor suppressant, a mixture of water, Sulfree W 1500, and Simple Green.

Impacted soil was stockpiled on and covered with visqueen and transferred to covered bins the next day. Impacted groundwater was pumped by vacuum truck and placed into a Baker tank. Following repair of the pipeline and backfilling the excavations with clean fill, the pipeline was placed back into service on November 10, 2011.

A Storm Water Pollution Prevention Plan (SWPPP) was also prepared and implemented during the emergency repair and remediation activities to reduce or eliminate the discharge of pollutants in stormwater. Activities that were part of the SWPPP included removal of soil and vegetation impacted by petroleum hydrocarbons, regrading of the site, and revegetation of the site. The SWPPP identified best management practices (BMPs) for protection of water quality that were implemented throughout the emergency response.

### ***Soil and Groundwater Investigation***

Additional soil and groundwater investigation was performed in 2012 and in early 2013. (The groundwater investigation is discussed below.) Soil borings were advanced at 79 locations around the release site, including 36 borings on the CNWS and 38 borings on the 330 Holly Drive property adjacent to the oil release site; the boring locations are shown on Figure HM-1. The borings were advanced using a combination of hand auguring, hollow stem auger (HSA), and Direct Push Technology (DPT) until native, un-impacted soils were encountered based on

visual observations and PID readings, or until groundwater was encountered. The depths of the borings ranged from 3 feet to 20 feet below ground surface (bgs).

Between 2012 and 2014, extensive investigations were performed at CNWS and the adjacent residential property to determine the extent of petroleum hydrocarbons in soil, soil gas, and groundwater. The contamination is present at the CNWS and adjacent former residential property, but has not spread beyond those properties. The primary chemicals of concern are: 1) the petroleum constituents benzene, ethylbenzene, and naphthalene; and 2) total petroleum hydrocarbon (TPH) mixtures including TPH as gasoline (TPHg), TPH as diesel (TPHd), and TPH as motor oil (TPHmo). The highest concentrations of petroleum constituents detected in soil were located immediately south of the pipeline and the area excavated during the emergency response: benzene at 7.6 milligrams per kilogram (mg/kg) in soil boring SB-13 at 11 feet bgs; ethylbenzene at 3.1 mg/kg in soil boring SB-16 at 4 feet bgs; and naphthalene at 0.71 mg/kg in soil boring SB-30 at 4 feet bgs. The highest concentrations of TPH mixtures in soil also were located immediately south of the pipeline and the area excavated during the emergency response: TPHg at 1,600 mg/kg in boring SB-13 at 11 feet bgs; TPHd at 9,300 mg/kg in boring SB-16 at 2 feet bgs; and TPHmo at 6,800 mg/kg in boring SB-16 at 2 feet bgs. The concentrations in soil rapidly diminish with increasing distance from the pipeline such that only roughly the northern third of the former residential property soil is impacted. The soil around the former residence was not significantly impacted.

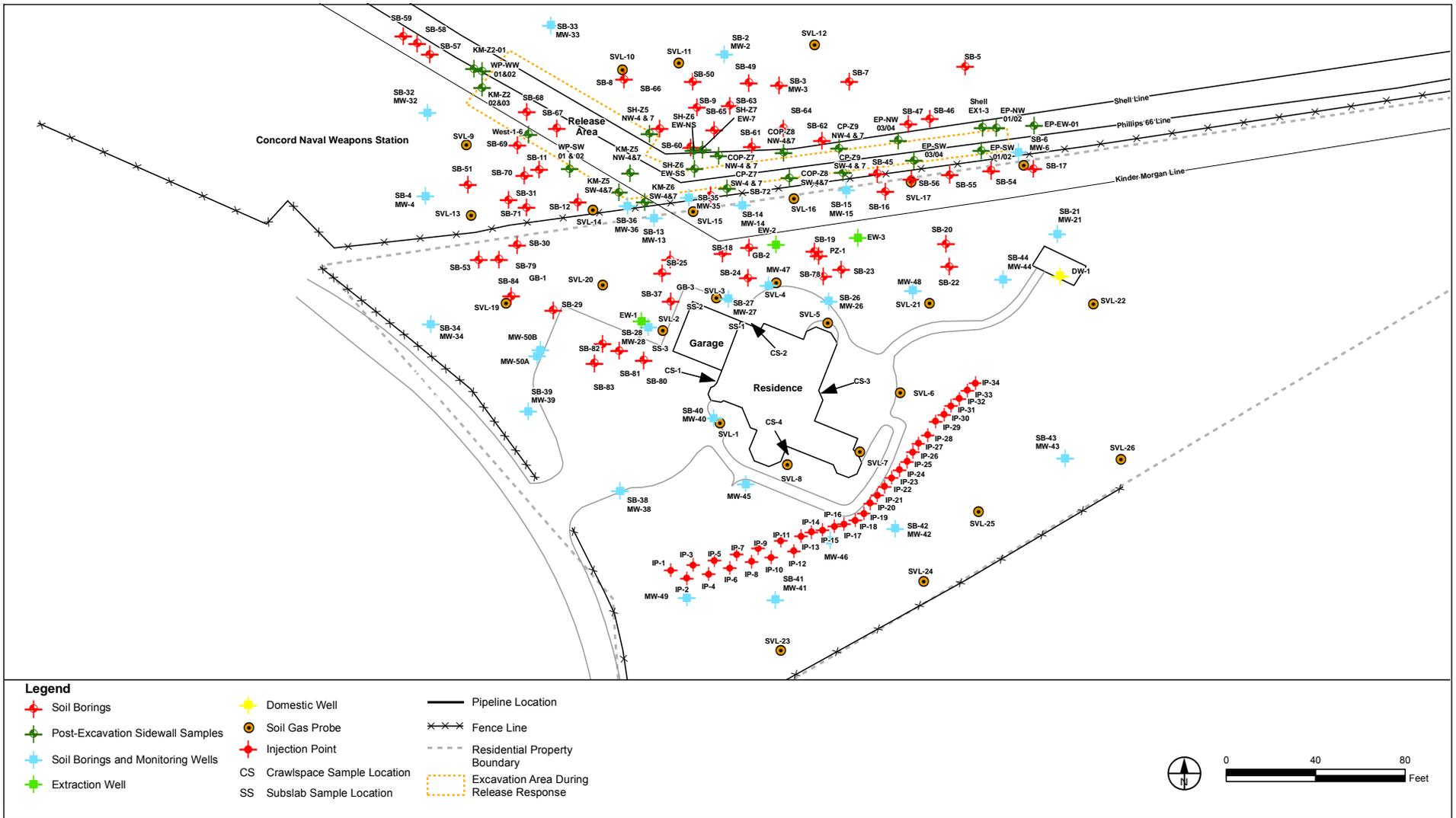
### *Soil Vapor Investigation*

The evaluations for potential exposure to contaminated subsurface vapors included: 1) an outdoor air health risk assessment to evaluate risks to workers working near and residents downwind of the pipeline release area, and 2) an investigation to assess vapor intrusion to indoor air at the former residence.

An outdoor air health risk assessment was performed in June 2013 in accordance with USEPA recommended methods. Potential cancer and non-cancer risks associated with the inhalation of VOCs in the ambient air at the site were calculated for three exposure scenarios, including long-term residential occupancy and the construction scenario for the previous and proposed remediation work. Based on the results of the May and June 2013 air sampling, the findings indicated no significant risk to construction workers or to long-term residents. The increased cancer risk and the increased non-cancer Hazard Index (HI) for both population groups would be far below the risk thresholds recommended by the California Department of Toxic Substances Control (DTSC), which are 1 in a million cancer risk and an HI of 1.0, respectively.

A soil vapor and soil investigation was also conducted in 2013 to determine whether VOCs and/or petroleum hydrocarbon vapors were migrating into the (former) residence adjacent to the release site or creating hazardous conditions elsewhere in the vicinity of the release. A total of 26 multi-depth soil vapor wells (screened at 2.5 feet bgs, 5 feet bgs, and 7.5 feet bgs) (SVLs) were installed on the project site as shown on Figure HM-1. This included eight SVLs around the perimeter of the residential structure at 330 Holly Drive, as shown on Figure HM-1. Soil vapor samples were collected and analyzed for volatile petroleum chemicals of concern, such as benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, TPHg, TPHd, hydrogen sulfide (H<sub>2</sub>S), and fixed gases, including methane (CH<sub>4</sub>), nitrogen (N<sub>2</sub>), oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>). In addition, soil samples were collected to determine whether clean soil (TPH concentrations less than 100 mg/kg) was present around the former residence.

No methane or hydrogen sulfide was detected at any of the SVL locations. No volatile petroleum chemicals were detected at locations SVL-3, SVL-18, SVL-19, SVL-21, and SVL-23 through SVL-25. Benzene and/or TPHg along with depleted oxygen were detected in the deeper soil vapor samples at SVL-1, SVL-2, SVL-4, SVL-5, SVL-6 through SVL-17, and SVL-20.



**Figure HM-1**

**Previous Soil, Groundwater, and Soil Gas Sampling Locations**

In the shallower soil vapor samples, there was significant oxygen and either no benzene or TPHg were detected or they were detected at concentrations below health risk criteria. Naphthalene was not detected except for one location, SVL-26, where it was determined that it was likely from a different source. Vapor sampling conducted in the crawl space in May 2013 found no detections of BTEX, TPHg, TPHd, naphthalene, CH<sub>4</sub>, or CO<sub>2</sub> above instrument reporting limits. The soil analytical results document that clean soil appears to extend to at least 7.5 feet bgs around the former residence. The absence of detected contaminants in shallow soil gas, the presence of high oxygen concentrations in some intermediate depth and all shallow-depth soil vapor samples, and the soil results indicating the presence of clean soil all indicate that there is active bioattenuation of the petroleum vapors. The investigation concluded that soil gas migration to both indoor and outdoor air represents insignificant risk to residents or other receptors, and it was unnecessary to conduct a health risk assessment.<sup>31</sup>

### ***Groundwater Monitoring***

Between July 2012 and April 2014, AECOM installed 29 groundwater monitoring wells on the project site, distributed throughout the site; seven of them were installed on the CNWS property and the remainder were placed on the 330 Holly Drive property, as shown on Figure HM-1. Three extraction wells and one piezometer were also installed on the 330 Holly Drive property. Installed to depths ranging from 9 feet to 35 feet bgs, the wells were sampled for polycyclic aromatic hydrocarbons (PAHs), TPH, VOCs, and general water chemistry parameters.<sup>32</sup> Analytical results for groundwater samples collected from these wells since December 2012 are presented in Tables 1 and 2 of Appendix HM-1.

Benzene was detected at concentrations ranging from 4.9 to 600 micrograms per liter (µg/L) in four wells (MW-27, MW-36, MW-40, and MW-47), exceeding the Water Board's 1-µg/L ESL and the 1-µg/L Maximum Contaminant Level (MCL) adopted by the California Department of Public Health. Ethylbenzene was detected at concentrations of 0.75 to 17 µg/L in the samples collected from wells MW-27, MW-36, MW-40, and MW-47; these concentrations were below the applicable 30-µg/L ESL and 300-µg/L MCL. Toluene was detected in the same wells at concentrations between 0.57 and 97 µg/L, which are below the 150-µg/L MCL. The concentration detected in MW-47 exceeded the 40-µg/L ESL for toluene, but the samples from the other wells were below the ESL. Total xylenes were detected in these wells at concentrations of 0.90 to 25 µg/L. The concentrations detected in the sample collected from MW-47 exceeded the 20-µg/L ESL, but all of the total xylene concentrations were well below the MCL of 1,750-µg/L.

Naphthalene was detected at concentrations of 2.9 and 6.5 µg/L in the samples collected from MW-27 and MW-47, respectively. The concentration detected in the sample collected from MW-47 exceeded the 6.2-µg/L ESL; no MCL has been established for naphthalene. TPHd was detected at concentrations of 55 to 340 µg/L in the September 2014 samples collected from MW-27, MW-35, MW-36, and MW-47. All of the concentrations detected, except for those detected in MW-36, exceeded the 100-µg/L ESL. No MCL has been established for TPHd. TPHg was detected at concentrations of 120 to 3,500 µg/L in the samples collected from MW-27, MW-36, MW-40, and MW-47. TPHg iso-concentration contours based on the sampling data are shown on Figure 6 of Appendix HM-1. All of the concentrations detected exceeded the 100-µg/L ESL.

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<sup>31</sup> AECOM Technical Services, Inc., *Soil Gas Investigation Summary Report, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, June 2013.

<sup>32</sup> Two wells (MW-47 and MW-48) were not sampled for PAHS.

No MCL has been established for TPHg. Groundwater sampled from MW-36 had 1.3 µg/L of 1-methylnaphthalene, which has no ESL or MCL.

A domestic water supply well (DW-1) located in a separate pump house previously provided the domestic water supply to the 330 Holly Drive property (see Figure HM-1). The well was disconnected in 2013 and potable and irrigation water are now supplied by the Contra Costa Water District, the City of Concord's municipal water supplier. Water from DW-1 was sampled monthly from June 2012 through September 2013, and is now sampled quarterly. Groundwater samples collected from DW-1 in September 2014 had non-detect concentrations of BTEX, TPHg, TPHd, TPHmo, and VOCs. All samples were analyzed in accordance with EPA-approved methods. Neither VOCs nor TPH were detected above the laboratory reporting limits in these or any other previous samples obtained from DW-1.

### *Interim Remediation*

First, in September 2013, an oxygen-releasing compound was injected downgradient (south) of the former 330 Holly Drive residence to enhance degradation of the petroleum contamination in groundwater and thereby prevent off-site migration of contaminated groundwater from the residential property. AECOM injected approximately 2,040 pounds of a slow-release oxygen slurry compound (ORC Advanced®) at a total of 34 locations down-gradient of the former residence and contamination plume, shown on Figure 16 of Appendix HM-1. With a controlled release of oxygen over a period of 9 to 12 months, this product is intended to create and maintain the geochemical environment necessary for aerobic biodegradation of the petroleum hydrocarbons. Using direct push technology (DPT) drilling that allows for injection at controlled depths and flow rates, the oxygen compound was injected at depths of 8 to 18 feet bgs to target both the impacted vadose zone and the saturated zone below it.

Prior to the injection of the slow-release oxygen compound, four monitoring wells (MW-32, MW-33, MW-41, and MW-42) were sampled in August 2013 for dissolved gases, alkalinity, biochemical oxygen demand, chemical oxygen demand, total organic carbon, sulfide, metals, PAHs/polynuclear aromatic compounds (PNAs), TPH, and VOCs, in order to establish a baseline for determining the effectiveness of the injected ORC Advanced®. Two additional monitoring wells (MW-45 and MW-46) were added in April 2014. Post-injection samples were collected and analyzed in January 2014, April 2014, and September 2014. Additional parameters—anions, total kjeldahl nitrogen, ammonia, and aerobic heterotrophic bacteria—were also analyzed.

The September 2014 monitoring showed that dissolved oxygen (DO) levels increased in the downgradient monitoring wells during the month following the injection of the oxygen compound, indicating that biodegradation of petroleum hydrocarbons was occurring. Average DO concentrations in wells MW-41 and MW-42 had increased from 0.92 to 1.94 milligrams per liter (mg/L). Oxygen reduction potential (ORP) readings, which went from negative (-25.2 mV) to positive (228.5 mV) between August 2013 and September 2014, also indicated increases in oxidizing conditions in groundwater down-gradient of the injection gallery one year after the application of ORC Advanced®.

Second, in December 2013, a groundwater extraction system was installed downgradient (south) of the pipeline release area (source area) and upgradient from the former 330 Holly Drive residence to remove LNAPL and contaminated groundwater to limit migration of the most contaminated groundwater from the source area to areas downgradient (e.g., beneath the former residence and further south). A groundwater extraction system was installed in December 2013 consisting of three extraction sumps located immediately downgradient of the source area; the locations are shown on Figure HM-1. Groundwater extraction commenced from well EW-1 in December 2013 on an interim basis, then on a continuous basis starting a

month later. Continuous extraction from wells EW-2 and EW-3 commenced in July 2014. The extracted water is conveyed via an underground pipe to a storage tank located adjacent to the northwest corner of the 330 Holly Drive property. The collected water is treated in a granular activated carbon (GAC) filtration system that captures dissolved-phase petroleum constituents, and is then discharged into the nearby sanitary sewer system in accordance with a discharge permit issued by the Central Contra Costa Sanitary District (CCCSD). Water quality of the treated groundwater is regularly monitored from grab samples taken prior to discharge. As of October 2014, the groundwater extraction system had extracted approximately 222,850 gallons of groundwater, which has reduced groundwater elevations north of the former residence.

Although prior sampling indicated that soil vapor gas had not intruded into the crawl space below the former residence at 330 Holly Drive, as discussed above, temporary mechanical ventilation of the crawl space was installed and commenced on October 6, 2014 as a precautionary measure to control potential vapor intrusion into the former residence while it was still occupied. That system operated until the former residence was vacated in August 2015.

The interim remedial measures also included restoration of areas disturbed by construction to match the pre-existing conditions.

### ***Proposed Final Remediation***

The State Water Resources Control Board (SWRCB) Low-Threat Underground Storage Tank Closure Policy (LTCP), effective on August 7, 2012, is being used to guide the final remediation at the site. The remediation plan was developed in 2014<sup>33</sup> and revised in 2015.<sup>34</sup> The proposed remediation is removal (excavation) of petroleum contamination in soil for the purpose of: 1) addressing potential health risks to future users of the property (utility workers) from direct contact and inhalation; 2) addressing potential health risks to downwind residential receptors from outdoor air inhalation; and 3) eliminating the secondary source (the bulk of soil contamination that sustains the groundwater plume). The soil cleanup goals are summarized in Table HM-1.

The soil cleanup goals are intended to protect future users of the property (utility workers) against potential health risks from direct contact and inhalation with soil contaminated with benzene, ethylbenzene, naphthalene, and PAHs. Two sets of potential criteria were considered for determination of these cleanup goals: 1) the direct contact and outdoor air exposure screening levels in the SWRCB's LTCP (shown in the third column of Table HM-1); and 2) screening levels for exposure of a utility worker to outdoor air developed based on a site-specific evaluation (shown in the fourth column of Table HM-1).

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<sup>33</sup> AECOM Technical Services, Inc., *Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, October 2014.

<sup>34</sup> AECOM Technical Services, Inc., *Addendum 01 to Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California*, January 2016.

**Table HM-1**  
**Summary of Soil Cleanup Goals for Individual Exposure Pathways or Concerns and Final Cleanup Goals**

Soil Depth Interval (feet bgs)	Chemical of Potential Concern (COPC)	Exposure Pathways or Concerns				Final Cleanup Goal (Selected Lowest of All Pathways or Concerns) (mg/kg)
		Direct Contact and Outdoor Air – Utility Worker (mg/kg)	Outdoor Air – Utility Worker (mg/kg) (Note 1)	Outdoor Air – Downwind Residential Receptor (mg/kg) (Note 2)	Migrating or Mobile LNAPL (Secondary Source) (mg/kg)	
		Basis: LTUCP	Basis: SSE (a)	Basis: SSE (a)	Basis: SSE (b)	
0 to 10	Benzene	14	55	2.5	na	2.5
	Ethylbenzene	314	2,814	162	na	162
	Naphthalene	219	537,676	>219	na	219
	PAHs	4.5	nv	nv	na	4.5
	TPH-total	na	na	na	2,000	2,000
>10	Benzene	na	na	na	na	na
	Ethylbenzene	na	na	na	na	na
	Naphthalene	na	na	na	na	na
	PAHs	na	na	na	na	na
	TPH-total	na	na	na	2,000	2,000

**Notes**

LTUCP – SWRCB Low-Threat UST Case Closure Policy

SSE – Site-specific evaluation

(a) AECOM Technical Services, Inc., Addendum 01 to Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California, January 2016.

(b) AECOM Technical Services, Inc., Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company Line 200 Release, Concord Naval Weapons Station, Concord, California, October 2014.

PAHs – Polycyclic aromatic hydrocarbons in benzo(a)pyrene equivalents.

TPH – Total petroleum hydrocarbons

TPH-total – Sum of TPH-gasoline, TPH-diesel, and TPH-motor oil

## Table Notes (con't.)

MNA – Monitored Natural Attenuation

na – Not applicable

nv – Not volatile

**Note 1** - *Site-Specific, Outdoor Air Utility Worker Soil Cleanup Goals* were developed (see *Technical Memorandum I-1*, dated August 26, 2015) based on a 4,576-ft<sup>2</sup> area of 330 Holly Drive. Subsequent to *Technical Memorandum I-1*, the City of Concord reported to Phillips 66, in a meeting on September 18, 2015, that the project-affected area on the CNWS will be transferred in fee title from the U.S. Navy directly to the East Bay Regional Parks District (EBRPD). Considering this additional 3,787-ft<sup>2</sup> of CNWS to be transferred to in fee title to EBRPD, the total area contributing to outdoor air emissions for utility worker exposure is revised to 8,363 ft<sup>2</sup>. The *Site-Specific, Outdoor Air Utility Worker Soil Cleanup Goals* presented above were not recalculated to reflect this larger 8,363-ft<sup>2</sup> area, but the associated cleanup goals would be lower if recalculated. However the *Site-Specific, Outdoor Air Utility Worker Soil Cleanup Goals* presented above are not controlling, and are based on sufficiently conservative assumptions that the RWQCB determined (in a December 3, 2015 teleconference with Phillips 66 and AECOM) that the *Site-Specific, Outdoor Air Utility Worker Soil Cleanup Goals* presented above are an acceptable approximation of the cleanup goals required for the larger area that will become park land, and are adequately protective of future utility workers.

**Note 2**- *Site-Specific, Outdoor Air Residential Soil Cleanup Goals* were developed (see *Technical Memorandum I-1*, dated August 26, 2015, Table I-10; and *Technical Memorandum I-2*, dated August 27, 2015) to conservatively protect current and future down-wind residential receptors from post-IRM emissions from residual soil contamination from a 3,787-ft<sup>2</sup> area of CNWS to be treated to residential cleanup goals, and a 4,576-ft<sup>2</sup> area of 330 Holly Drive to be treated to utility worker cleanup goals. Subsequent to *Technical Memorandum I-1*, the City of Concord reported to Phillips 66, in a meeting on September 18, 2015, that the project-affected area on the CNWS will be transferred in fee title from the U.S. Navy directly to the EBRPD. The CNWS Reuse Plan and Concord 2030 General Plan designate this affected area as conservation open space; and current EBRPD planning documents designated this area as “conservation zone 1 (no park uses)”. Therefore, the affected area of CNWS will be remediated to utility worker-based cleanup goals (rather than residential-based, as evaluated in *Technical Memoranda I-1 and I-2*). The *Site-Specific, Outdoor Air Residential Soil Cleanup Goals* presented above were not recalculated to reflect the change from residential-based to utility-worker-based soil cleanup goals for the 3,787-ft<sup>2</sup> area of CNWS to become future EBRPD land. However, if recalculated, the resulting, revised Site-Specific, Outdoor Air Residential Soil Cleanup Goals would be lower than indicated above. However the analyses in *Technical Memoranda I-1 and I-2* are sufficiently conservative that the RWQCB determined (in a December 3, 2015 teleconference with Phillips 66 and AECOM) that the *Site-Specific, Outdoor Air Residential Soil Cleanup Goals* presented above are an acceptable approximation of cleanup goals for this area (that will be remediated, and become future EBRPD land, currently designated as conservation open space), and are adequately protective of the downwind residential subdivision. Conservative assumptions made in *Technical Memoranda I-1 and I-2* include (but are not limited to): 1) no vadose zone biodegradation occurs during volatilization of residual soil COPCs (even though site data indicates the presence of an active vadose soil bioattenuation zone), 2) the petroleum source does not attenuate with time (even though site data indicates that MNA is occurring), and 3) residential receptors are exposed to outdoor air 24 hours per day for 30 years (even though MNA will shorten the duration of any potential exposure to much less than 30 years).

The cleanup goals for addressing potential health risks to downwind residential receptors from outdoor air inhalation include removing soils from 0 to 10 feet bgs that are contaminated with benzene, ethylbenzene, and naphthalene. These were developed based on a site-specific risk assessment in accordance with guidelines in the SWRCB's Leaking Underground Fuel Tank (LUFT) Manual (for a non-fuel tank scenario) to determine cleanup goals for residual petroleum remaining outside of the proposed active remediation area that are protective of the outdoor air exposure pathway for downwind residential receptors. These cleanup goals are shown in the fifth column of Table HM-1.

The LNAPL migrated from the release site both vertically and laterally under the pressure of its own mass and permeated the local groundwater table and vadose (i.e., unsaturated) zone soil above the water table. The LNAPL at the soil-groundwater interface has become a secondary source which appears to be dissolving into the groundwater and contributing to the dissolved phase groundwater plume. Observable LNAPL (i.e., a sheen or measureable thickness) is currently present in four monitoring wells located on the 330 Holly Drive property down gradient of the release site, as well as extraction well EW-1. By removing the LNAPL-impacted soils and backfilling the excavations with clean fill, this secondary source would be eliminated.

LNAPL saturation was selected as the primary parameter for evaluating LNAPL mobility from impacted site soils, in accordance with the approach recommended by the U.S. Environmental Protection Agency (USEPA), and TPH-Total was selected as an indicator of LNAPL saturation. The selected cleanup goal of 2,000 mg/kg TPH-Total represents an LNAPL saturation of approximately 1 percent, which is well below the concentration range that would typically indicate that only residual LNAPL remains (i.e., no migrating or mobile LNAPL would remain when soil concentrations are below this cleanup goal), and is therefore a conservative threshold for removal (to the extent practicable) of both migrating and mobile LNAPL, as well as most of the secondary source material. The lateral extent of site areas where soil concentrations of TPH-Total exceed the 2,000-mg/kg threshold are shown with isoconcentration contours on Figures 20 through 23 in Appendix HM-1, as measured at 5 feet, 7 feet, 10 feet, and 13 feet bgs, respectively. Cross-sections of the vertical extent of contamination are shown on Figures 26 and 27 in Appendix HM-1. Soil containing TPH-Total greater than 2,000 mg/kg may be excavated to depths greater than 10 feet bgs only if practicable.

The proposed remediation activities would be performed until the final soil cleanup goals listed in Table HM-1 have been achieved. The remediation activities are expected to reduce the soil contamination footprint by approximately 95 percent, and once the contaminated soil is removed, remaining contaminant levels in groundwater and vapor plumes are expected to quickly decrease naturally. Verification of soil cleanup would be obtained by collecting sidewall and subgrade soil samples at depth intervals of 0 to 5 feet bgs, 5 to 10 feet bgs, and 10 to 16 feet bgs. Verification samples would be tested for BTEX, naphthalene, PAHs, TPHg, TPHd, and TPHmo using USEPA-recommended methods.

If verification sampling indicates areas with exceedances of approved cleanup goals that are technically impracticable to excavate, Phillips 66 would perform an evaluation in consultation with Water Board staff to determine whether these areas represent an acceptable risk if left in place.

With successful implementation of the proposed remediation activities, including the Health and Safety Plan that would be part of the project, the proposed project would reduce existing hazards to people and the environment, and would not create any new public health or environmental hazards. The existing residence was constructed in 1994 and is not expected to contain asbestos-containing building materials (ACBM), lead-based paint, or other hazardous building materials that could be released to the environment during demolition of the building.

Therefore, the proposed project would have a *less-than-significant impact* related to creating a hazard to the public or the environment through accidental release of hazardous materials into the environment.

**Summary**

The purpose of the remedial action is to reduce exposure of petroleum products to potential human and ecological receptors by (1) removing impacted soil to achieve the site-specific cleanup goals that are protective of utility worker direct contact and outdoor air criteria; (2) removing impacted soil to achieve the site-specific cleanup goals protective of the residential outdoor air pathway; and (3) removing soils that contain migrating and mobile LNAPL and act as secondary source material. Cleanup goals are summarized, by exposure pathway, chemical of concern, and depth interval in Table HM-1.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no schools in the vicinity of the project site. The nearest school is Ayers Elementary School, located at 5120 Myrtle Drive, more than one-half mile from the site. In addition, the Clayton Valley Presbyterian Child Center, a child care facility operated by the Clayton Valley Presbyterian Church, is located about one-half mile south of the site, at 1578 Kirker Pass Road. The project would not emit hazardous emissions or handle hazardous materials within one-quarter mile of an existing or proposed school.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 actually consists of several lists, including:

- A list of hazardous waste sites compiled by the California Department of Toxic Substances Control (DTSC);
- A list of contaminated water wells compiled by the California Department of Health Services (DHS) (subsequently reorganized into the California Department of Health Care Services and the California Department of Public Health);

- A list of leaking underground storage tank sites and solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the State Water Resources Control Board (SWRCB); and
- A list of solid waste disposal facilities from which there is a migration of hazardous waste, compiled by the Local Enforcement Agency (LEA). These lists are consolidated by the Department of Resources Recycling and Recovery (CalRecycle).

Each of these lists must be updated at least annually, and must be submitted to the Secretary for Environmental Protection, the head of the California Environmental Protection Agency (CalEPA). DTSC maintains the EnviroStor database for purposes of complying with Section 65962.5, while the SWRCB maintains the GeoTracker database. Both of these databases were consulted during this environmental review. There were no hazardous waste sites identified within 3,000 feet of the project site on the EnviroStor database.<sup>35</sup> The Phillips 66 Line 200 release is listed on the SWRCB's GeoTracker database, which tracks the history of the release and the subsequent remediation activities and regulatory oversight.<sup>36</sup> The purpose of the proposed project is to address the hazard to the public and the environment that was created by the accidental release from Line 200. As discussed above, remediation will continue until the cleanup goals have been met and the environmental and health hazards have been reduced to insignificant levels. Therefore, this would be a *less-than-significant impact*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is not located within the area covered by an airport land use plan and is not near any airports; the nearest public use airport to the project site is Buchanan Field Airport, located about 5.75 miles west of the project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There are no private airstrips in the project area.

<sup>35</sup> California Department of Toxic Substances Control, EnviroStor Site/Facility Search, Accessed June 5, 2015 at: <http://www.envirostor.dtsc.ca.gov/public/>.

<sup>36</sup> State Water Resources Control Board, GeoTracker Database, Accessed May 12, 2015 at: [http://geotracker.waterboards.ca.gov/profile\\_report.asp?global\\_id=T10000004219](http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000004219).

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) <i>Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The *Contra Costa County Emergency Operations Plan* establishes policies and procedures for responding to emergencies within the Contra Costa Operational Area, which includes the cities and towns as well as the unincorporated areas of the County.<sup>37</sup> It identifies procedures for a wide range of emergencies, including earthquake, flood, wildland fire, tsunami, landslide, hazardous materials incident, dam failure, national security emergency, and more. It provides for coordination during emergencies with local jurisdictions, the California Emergency Management Agency (CALEMA) Mutual Aid Region II, the California Emergency Management Agency Warning Center, the California Standardized Emergency Management System (SEMS), and the National Incident Management System (NIMS), as applicable.

Implementation of the proposed remediation project would not interfere with implementation of the Emergency Operations Plan. It would not block or disrupt access on local roadways that might be used by emergency responders or as evacuation routes. Following completion of the short-term remediation work, the project would not cause an increase in the population on the site, and therefore would not cause an increased burden on emergency responders in the event of a natural disaster or other emergency.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) <i>Expose people or structures to significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The California Department of Forestry (CAL-FIRE) has primary responsibility for fighting wildland fires in unincorporated areas, and provides fire-fighting assistance to local fire protection agencies on wildland fires within incorporated cities. CAL-FIRE also provides response for other types of emergencies, including automobile accidents, drownings, medical emergencies, hazardous materials spills, search and rescue missions, and much more.

The project is located at an interface between urbanized development and wildlands in the form of grazed, non-native grasses sporadically interspersed with oak trees. The 330 Holly Drive portion of the project site is within a Local Responsibility Area (LRA), which assigns primary fire protection to the Contra Costa County Fire Protection District (CCCFPD), while the CNWS portion of the site is a Federal Responsibility Area (FRA). Neither the LRA nor the FRA portions of the site are within or near a Very High Fire Hazard Severity Zone (VHFHSZ), as mapped by

<sup>37</sup> Contra Costa County, Office of Emergency Services, *Contra Costa Operational Area Emergency Operations Plan*, May 2011.

CAL-FIRE. The nearest VHFHSZ is on the flanks of Mt. Diablo, about 3.5 miles to the south.<sup>38</sup> A State Responsibility Area Moderate Fire Hazard Severity Zone is located to the northeast of the CNWS, approximately one-half mile northeast at the project site.<sup>39</sup> Potential impacts related to fires, both on the site and in the surrounding wildlands, are addressed in Section XIV(a).

The project site is not located within a Very High Fire Hazard Severity Zone, and is therefore not subject to additional fire safety requirements as such. Because the project is not within a State Responsibility Area, CAL-FIRE would only play a secondary support role within the project site. As discussed in more detail in Section XIV(a), primary responsibility for fire protection would lie with the CCCFPD on the 330 Holly Drive property and with the CNWS Fire Department on the CNWS site. Given the lack of substantial fuel for a wildland fire on the site and the fact that the site is not within an area identified by CAL-FIRE as having a high fire hazard, coupled with the fact that the project would not create any habitable structures, it may be concluded that the proposed project would have a *less-than-significant impact* related to wildland fires.

**IX. HYDROLOGY AND WATER QUALITY** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Violate any water quality standards or waste discharge requirements?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: Excavation and other soil-disturbing activities associated with the project could potentially affect water quality as a result of erosion of sediment. In addition, leaks from construction equipment; accidental spills of fuel, oil, or hazardous liquids used for equipment maintenance; and accidental spills of construction materials are all potential sources of pollutants that could degrade water quality during remediation activities.

Stormwater runoff from the site flows south onto and across the Holly Drive property, and then flows onto Holly Drive and Holly Creek Place. From there it is collected in the City of Concord’s gravity-fed stormwater collection and drainage system located under City streets. Subsequently, storm water runoff from the project area drains into Mount Diablo Creek, located about a mile west of the project site. Mount Diablo Creek is on the list of impaired water bodies compiled by the San Francisco Bay Regional Water Quality Control Board (Water Board) pursuant to Section 303(d) of the federal Clean Water Act (CWA). It is listed as impaired for diazinon and toxicity (source unknown).<sup>40</sup> (In the case of diazinon, it is being addressed via a TMDL for pesticides in urban creeks.) The creek ultimately discharges into Suisun Bay, which is

<sup>38</sup> California Department of Forestry and Fire Protection (CAL-FIRE), Fire and Resource Assessment Program, “Contra Costa County Very High Fire Hazard Severity Zones in LRA, As Recommended by CAL-FIRE” [map], January 7, 2009.

<sup>39</sup> California Department of Forestry and Fire Protection (CAL-FIRE), Fire and Resource Assessment Program, “Contra Costa County Fire Hazard Severity Zones in SRA” [map], November 7, 2007.

<sup>40</sup> San Francisco Bay Regional Water Quality Control Board, *Final 2010 Integrated Report (CWA Section 303(d) List/305(b) Report)*, Category 5 2010 California 303(d) List of Water Quality Limited Segments, USEPA Final Approval October 11, 2011, accessed December 10, 2015 at: [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/2010state\\_ir\\_reports/category5\\_report.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/category5_report.shtml).

hydrologically connected to San Pablo Bay and San Francisco Bay; each of these water bodies is also listed on the 303(d) list of impaired water bodies.

The uncontrolled discharge of pollutants into impaired water bodies is considered particularly detrimental. According to the U.S. Environmental Protection Agency (USEPA), sediment is one of the most widespread pollutants contaminating U.S. rivers and streams. Sediment runoff from construction sites is 10 to 20 times greater than from agricultural lands and 1,000 to 2,000 times greater than from forest lands.<sup>41</sup> Consequently, the discharge of stormwater from large construction sites is regulated by the Water Board under the federal CWA and California's Porter-Cologne Water Quality Control Act.<sup>42</sup> Pursuant to the CWA, the Water Board regulates construction discharges under the National Pollutant Discharge Elimination System (NPDES). The project sponsor of construction or other activities that disturb more than 1 acre of land must obtain coverage under NPDES Construction General Permit (CGP) Order 2009-0009-DWQ, administered by the Water Board.<sup>43</sup>

The proposed project would disturb over 1 acre of land, and would therefore require coverage under the CGP. (The proposed excavation area would total 28,005 square feet (0.643 acre) on the CNWS and 11,565 square feet (0.265 acre) on the Holly Drive property; an additional area of roughly 0.25 acre would be disturbed by the demolition of the former residence and associated concrete pavements.)

The CGP requires project sponsors to implement construction Best Management Practices (BMPs) at the project site and comply with numeric action levels (NALs) in order to achieve minimum federal water quality standards. The CGP requires control of non-stormwater discharges as well as stormwater discharges. Measures to control non-stormwater discharges such as spills, leakage, and dumping must be addressed through structural as well as non-structural BMPs. Although certain types of land disturbance are exempt from coverage under the CGP, such as disking for agricultural purposes, the proposed project, which shares similar characteristics to a typical construction project, would not be exempt.

Construction stormwater BMPs are intended to minimize the migration of sediments off-site. They can include covering soil stockpiles, sweeping soil from streets or other paved areas, performing site-disturbing activities in dry periods, and planting vegetation or landscaping quickly after disturbance to stabilize soils. Other typical stormwater BMPs include erosion-reduction controls such as hay bales, water bars, covers, sediment fences, sensitive area access restrictions, vehicle mats in wet areas, and retention/settlement ponds. In the case of the proposed project, the BMP requirements would also include routing stormwater away from stockpiled soil and open excavations.

To obtain coverage, the applicant must electronically file a number of permit-related compliance documents (Permit Registration Documents (PRDs)), including a Notice of Intent (NOI), a risk assessment, site map, signed certification, Stormwater Pollution Prevention Plan

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<sup>41</sup> U.S. Environmental Protection Agency, Office of Water, *Stormwater Phase II Final Rule, Construction Site Runoff Control, Minimum Control Measure*, EPA 833-F-00-008 Fact Sheet 2.6, Revised December 2005.

<sup>42</sup> The Porter-Cologne Water Quality Act established the regulatory of the State Water Resources Control Board and the Regional Water Quality Control Boards to regulate water quality in California so as to protect beneficial uses of water resources, but does not directly apply to the proposed project, and is not discussed further in this Initial Study.

<sup>43</sup> CGP Order 2009-0009-DWQ remains in effect, but has been amended by CGP Order 2009-0014-DWQ, effective February 14, 2011, and CGP Order 2009-0016-DWQ, effective July 17, 2012. The first amendment merely provided additional clarification to Order 2009-0009-DWQ, while Order 2009-0016-DWQ eliminated numeric effluent limits on pH and turbidity (except in the case of active treatment systems), in response to a legal challenge to the original order.

(SWPPP), Notice of Termination (NOT), NAL exceedance reports, and other site-specific PRDs that may be required. The PRDs must be prepared by a Qualified SWPPP Practitioner (QSP) or Qualified SWPPP Developer (QSD) and filed by a Legally Responsible Person (LRP) on the Water Board's Stormwater Multi-Application Report Tracking System (SMARTS). (QSDs are typically civil engineers, professional hydrologists, engineering geologists, or landscape architects.) Once filed, these documents become immediately available to the public for review and comment.

In addition to the potential for erosion and the associated impact to water quality, the project would entail direct discharge into the local sanitary sewer. Due to the relative shallowness of groundwater at the site, the proposed excavations would be dewatered by pumps that would discharge the water, which is contaminated with BTEX, naphthalene, TPHg, and TPHd, into a sealed holding tank in a secured staging area adjacent to the remediation site. The water would then be treated on site through a carbon filtration system that was set up during the previous remediation activities. The treated groundwater would then be discharged into an existing sanitary sewer lateral via a sewer cleanout located near the front of the 330 Holly Drive property. Water quality of the treated groundwater would be monitored from grab samples taken prior to discharge. Previous monitoring of the treated dewatered groundwater showed the water was at Non-Detectable (ND) for the contaminants listed above.<sup>44</sup>

The previous discharge associated with previous groundwater remediation was done in accordance with a Special Discharge Permit issued by the Central Contra Costa Sanitary District (CCCSD); the permit has been renewed for the proposed project. Terms of the permit require quarterly monitoring and reporting on water quality following pretreatment in the carbon filtration system and implementation of BMPs. The permit prohibits direct discharge into the storm drainage system, and prohibits discharge of free petroleum product, hazardous wastes, or hazardous materials into the sanitary sewer. The discharge rate is capped at a maximum of 20 gallons per minute, with weekly flow meter readings required to verify compliance. Operation and maintenance activities must be logged and the logs must be submitted to the CCCSD along with the quarterly monitoring reports.

Because the project would discharge contaminated groundwater to the sanitary sewer and not to surface waters, the discharge would not be subject to Waste Discharge Requirements from the Water Board. However, under the terms of the CCCSD Special Discharge Permit, the project sponsor will treat the contaminated groundwater prior to discharging it to the sanitary sewer. The CCCSD Permit does not allow the discharge of contaminated groundwater to the sanitary sewer above specified thresholds. Regular monitoring would verify compliance with this restriction. Therefore, the discharge of dewatered groundwater would not adversely affect water quality or violate water quality standards. However, as discussed above, the land-disturbing activities associated with the proposed remediation project could have substantial erosion and sedimentation effects on surface water quality that, if uncontrolled, could result in a *potentially significant impact* on water quality. Implementation of Mitigation Measures WQ-1 and WQ-2 would ensure that construction impacts on surface water quality remain less than significant. Although the Water Board lacks the specific authority to enforce the following mitigation measures, the project applicant has agreed to implement the mitigation measures, and they will be incorporated into an SCR Order as enforceable requirements.

**Mitigation Measure WQ-1:** The project sponsor shall obtain National Pollutant Discharge Elimination System (NPDES) construction coverage as required by Construction General Permit (CGP) No. CAS000002, as modified by State Water Resources Control Board (SWRCB)

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<sup>44</sup> Chuck Epstein, CHMM, Senior Project Manager, AECOM, personal communication, May 27, 2015.

Order No. 2009-0009-DWQ. In accordance with the CGP requirements, the project applicant shall electronically file the Permit Registration Documents (PRDs), which include a Notice of Intent (NOI), a risk assessment, site map, signed certification, Stormwater Pollution Prevention Plan (SWPPP), and other site-specific PRDs that may be required. The SWPPP shall be prepared by a Qualified SWPPP Developer who has attended a training course sponsored or approved by the Water Board.

At a minimum the SWPPP shall identify Best Management Practices (BMPs) for implementation during project construction that are in accordance with the applicable guidance and procedures contained in the California Stormwater Quality Association's *California Stormwater Best Management Practices Handbook* (2015), or as required by the Contra Costa Clean Water Program. Typical construction BMPs may include hay bales, water bars, covers, sediment fences, sediment ponds, geotextile blankets, fiber rolls, temporary slope drains, mulching of exposed areas vehicle mats in wet areas, and other erosion-reducing features. The remediation contractor shall implement the BMPs identified in the SWPPP throughout the remediation work to help stabilize graded areas and reduce erosion and sedimentation. Structural construction BMPs shall be installed prior to initiation of ground disturbance.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** Groundwater at the project site is relatively shallow; based on data from groundwater monitoring wells installed throughout the site in September 2013, depths to groundwater at the site ranged from 7.42 feet to 12.71 feet below the ground surface (bgs). This groundwater occurs within a shallow, confined water-bearing zone that is predominantly silty clay.<sup>45</sup> Confined aquifers in the project area are typically located in water-bearing formations of sand and/or gravel underlain by clay. Shallow groundwater quality is somewhat compromised

<sup>45</sup> AECOM Technical Services, Inc., *Revised Excavation Interim Remedial Measure Work Plan, Phillips 66 Company, Line 200 Release, Concord Naval Weapons Station, Concord, California*, October 2014.

by naturally occurring characteristics including hardness and relatively high concentrations of total dissolved solids (TDS), chlorides, and iron.<sup>46</sup>

As previously noted, it will be necessary to dewater the proposed excavations of intruding groundwater. The potential impacts on water quality from dewatering are addressed in Section IX(a), above. Although the amount of groundwater that would be extracted during the remediation project is unknown, under the terms of the discharge permit the amount could not exceed 20 gallons per minute, equivalent to 28,800 gallons per day. With remediation lasting up to two months, up to 1,728,000 gallons of groundwater could potentially be extracted during the course of the proposed remediation activities, though it is unlikely to be this much. However, groundwater at the site does not comprise part of the domestic water supply for the City of Concord and surrounding areas. Water is supplied to the area by the Contra Costa Water District, whose primary source of water is surface water from the Central Valley Project via the Sacramento-San Joaquin Delta, with additional supplies provided by the East Contra Costa Irrigation District, Mallard Slough, recycled water, groundwater from off-site wells, and water transfers.<sup>47</sup> Furthermore, the groundwater extraction would be temporary and short-term.

Following completion of the proposed remediation activities, the project would not consume any water, including groundwater. The dewatering from excavations is not expected to substantially lower the level of the groundwater table. In addition, the project would not create new impervious surfaces that could interfere with groundwater recharge; rather, it would remove existing impervious surfaces, thereby increasing recharge potential. Therefore, for the foregoing reasons, the project would have a *less-than-significant impact* on groundwater supplies.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** As discussed in Section IX(a), above, the proposed remediation work would include temporary excavations that would substantially alter the existing drainage pattern in the immediate vicinity of the project site, and measures would be required to ensure that the project does not create substantial erosion or siltation of downstream receiving waters during the remediation work. The changes to drainage patterns would be temporary and would be confined to a limited area. Following completion of the project, the portion of the site on the CNWS would be re-graded and returned to its existing condition, and the 330 Holly Drive property would be preserved in perpetuity as an open space buffer. The Holly Drive property would be revegetated by hydroseeding with grasses and would develop a drainage pattern similar to the rest of the site, which consists of sheet flow toward the adjacent streets, where it is

<sup>46</sup> City of Concord, *Draft Supplemental Environmental Impact Report to the 2030 Concord General Plan EIR for the Concord Development Code Project, City of Concord, Contra Costa County, California*, State Clearinghouse No. 2006062093, Chapter 7: Hydrology and Water Quality, Section 7.1.7: Groundwater, April 11, 2012.

<sup>47</sup> City of Concord, *Draft Supplemental Environmental Impact Report to the 2030 Concord General Plan EIR for the Concord Development Code Project, City of Concord, Contra Costa County, California*, State Clearinghouse No. 2006062093, Chapter 16: Utilities, Section 16.1.1.1: Water Supply Sources, April 11, 2012.

collected and discharged into the City of Concord’s stormwater collection system. Therefore, the project would have a less-than-significant permanent impact from erosion and siltation and implementation of Mitigation Measures WQ-1 and WQ-2 would ensure that the *potentially significant temporary impact* during remediation activities would be reduced to a less-than-significant level. Although the Water Board lacks the specific authority to enforce the mitigation measures, the project applicant has agreed to implement the mitigation measures, and they will be incorporated into an SCR Order as enforceable requirements.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: While the project would temporarily alter the existing drainage pattern on the site during remediation and restoration activities, as discussed in Sections IX(a) and (c), the permanent effects would be minimal, and would not have the potential to result in flooding, either on or off the site. All work would be performed during the summer months when drainages are dry. Furthermore, the creation of new wetlands as project mitigation would actually ameliorate the threat of flooding by detaining surface flows onsite and distributing them in the new wetlands. New wetlands will be created at a 2-to-1 ratio such that the new wetlands will twice as large as the impacted wetlands. Consequently, the project would substantially reduce the threat of flooding.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: See Sections IX(a) and (c), above.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>f) Otherwise substantially degrade water quality?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Aside from the dewatering activities and erosion concerns addressed in Sections IX(a) and (c), the project would not adversely affect water quality. Implementation of the project would improve water quality of the groundwater at the site.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The existing single-family home on the project site would be demolished and no new housing would be erected in its place. Furthermore, the site is not located within a 100-year flood plain.<sup>48</sup>

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: See Item IX(g), above.

<sup>48</sup> Federal Emergency Management Agency, Flood Insurance Rate Map, Contra Costa County, California and Incorporated Areas, Community Panel Number 060013 0304 F, June 16, 2009.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) <i>Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The nearest potential dam failure inundation zone is associated with the Upper Pine Creek Dam located in Mt. Diablo State Park. The project site is located approximately 3.75 miles northeast of the nearest area of potential inundation from failure of this dam.<sup>49</sup> There is no potential for the proposed project to expose people to risk of flooding resulting from failure of a levee or dam.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
j) <i>Inundation by seiche, tsunami, or mudflow?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Tsunamis (seismic sea waves) are long-period waves that are typically caused by underwater disturbances (landslides), volcanic eruptions, or seismic events that vertically displace the water in a large body of water. Areas that are highly susceptible to tsunami inundation tend to be located in low-lying coastal areas such as tidal flats, marshlands, and former bay margins that have been artificially filled but are still at or near sea level. In the San Francisco Bay Area, any potential tsunami would originate in the Pacific Ocean, and to reach East Bay areas including the project site, would need to pass through the relatively narrow Golden Gate and into San Francisco Bay, where it would lose much of its energy. Given the project site's distance from the Golden Gate (30 miles) and elevation (apx. 395 feet above mean sea level), there is no potential for inundation of the site by tsunami. This is confirmed by maps prepared by the California Department of Conservation<sup>50</sup> and the Association of Bay Area Governments (ABAG),<sup>51</sup> both of which indicate that the project site is not within a tsunamis inundation hazard area.

A seiche is a free or standing wave oscillation(s) of the surface of water in an enclosed or semi-enclosed basin that may be initiated by an earthquake. There is no surface water body near the project site; there is therefore no potential for inundation of the site due to seiche.

<sup>49</sup> ArcGIS, Dam Failure Inundation Areas, accessed May 25, 2015 at: <http://www.arcgis.com/home/webmap/viewer.html?webmap=8fe15fd6b8284957a043c138729fdd30>.

<sup>50</sup> California Department of Conservation, Contra Costa County Tsunamis Inundation USGS 24K Quads, Accessed May 26, 2015 at: [http://www.conservation.ca.gov/cgs/geologic\\_hazards/Tsunami/Inundation\\_Maps/ContraCosta/Pages/ContraCosta.aspx](http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/ContraCosta/Pages/ContraCosta.aspx)

<sup>51</sup> Association of Bay Area Governments, Earthquake and Hazards Program, Tsunami Inundation Map for Coastal Evacuation [interactive map], Accessed May 26, 2015 at: <http://gis.abag.ca.gov/website/Hazards/?hlyr=tsunami>.

Debris flows, mudslides, and mudflows begin during intense rainfall as shallow landslides on steep slopes. The rapid movement and sudden arrival of debris flows can pose a hazard to life and property during and immediately following a triggering rainfall. There are no steep slopes on or in the vicinity of the project site, and it is not located downslope of unstable areas that would be subject to mudflows. There is therefore no potential for mudslides or debris flows.

**X. LAND USE AND PLANNING** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Physically divide an established community?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would entail remediation of soil and groundwater contamination in a limited area within the CNWS and on an adjacent former residential property. There is no potential for the project to physically divide an established community.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project site is located within the City of Concord, and is therefore subject to the policies promulgated in the *Concord 2030 General Plan*. The portion of the project site within the CNWS is designated Concord Reuse Project Open Space (CRP-OS) on the City’s General Plan Land Use Map. The CRP designations on the Land Use Map (there are four categories in total) are assigned to the CNWS; each CRP designation refers to General Plan Figure 3-3 for details. Figure 3-3 designates the CNWS portion of the project site as Conservation Open Space. The General Plan indicates that this is one of two open space “districts” within the CRP-OS land use designation, and is assigned to environmentally sensitive lands in the Los Medanos Hills and along Mount Diablo Creek that are intended for long-term preservation as open space. The General Plan notes that most of this area is planned to become part of a new regional park. Following remediation, the project site would be backfilled and returned to existing conditions as open space. The project would therefore not conflict with the CRP-OS land use designation.

The portion of the project site on the former residential property adjacent to the CNWS, at 330 Holly Drive, is designated Rural Residential (RR). The General Plan states that this designation is intended for very low density residential development, at densities less than 2.5 units per net acre, and clustered development is preferred to maximize open space. The portion of the project

site that is within the Rural Residential designation would be maintained as a vacant, landscaped buffer, which would be consistent with the Rural Residential land use designation.

Similarly, the proposed project would be consistent with the zoning districts assigned to the site. The portion of the project site within the CNWS is in a Study District (S) and the other portion of the site is in a Rural Residential (RR20) zoning district. The City's municipal code indicates that the Study District is intended as an interim zoning district for the Concord Reuse Project; it applies to all CNWS lands within the City of Concord planning area. A planning and environmental review process will determine future uses and development standards for the site. The development code for the Study District states that no permits or approvals will be issued for new development prior to adoption of a specific plan or equivalent regulatory document that conforms to the City's general plan. The proposed project would require only a grading permit and encroachment permit from the City of Concord; it would not require approval of new development. Therefore, the project would not conflict with the permitted uses in the S district.

The 330 Holly Drive property would be preserved as permanent open space, so it would not conflict with RR20 zoning district or be subject to the development standards for the RR20 district.

Removal of a mature tree located adjacent to the northwest corner of the former residence on the remediation site could potentially conflict with the City's Tree Preservation and Protection Ordinance.<sup>52</sup> The ordinance requires a permit for the relocation, removal, cutting down, or any other act that causes the damage or destruction of a protected tree. Protected trees include native trees with a diameter of 12 inches or more as measured at breast height and non-native trees with a diameter of 24 inches or more. No protected native trees would be removed, but the weeping willow tree located adjacent to the house could meet the size threshold for protected non-native trees. However, the project applicant would obtain a tree removal permit from the City, if applicable, prior to removing the tree and would comply with the permit conditions, which would include planting of replacement trees at a 3-to-1 ratio or implementing a revegetation program if a certified arborist determines that a revegetation program would be superior to the use of replacement trees.<sup>53</sup> Because the project sponsor would comply with the applicable provisions of the City's Tree Preservation and Protection Ordinance, the project would not conflict with the Concord Zoning Ordinance.

Because the project does not propose to construct any new buildings or structures or otherwise introduce new uses to the project site, this environmental review did not include a review of all policies promulgated in the *Concord 2030 General Plan*. However, the policies contained in the Land Use and Parks, Open Space, and Conservation elements of the General Plan were reviewed to ensure there no applicable policies with which the project could potentially conflict; no such policies were identified. Since the Holly Drive property will not be redeveloped in the future with a replacement residence, it would not be subject to a variety of General Plan policies pertaining to land use and new development.

Based on the foregoing analysis, the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purposed of avoiding or mitigating an environmental effect.

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<sup>52</sup> City of Concord, Municipal Code, Chapter 18.310.

<sup>53</sup> City of Concord, Municipal Code, Section 18.310.060.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Conflict with any applicable habitat conservation plan or natural community conservation plan?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: There is no habitat conservation plan applicable to the project site.

**XI. MINERAL RESOURCES** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Although regionally significant mineral deposits of diabase (equivalent to volcanic basalt) are located in the Mount Zion area just outside the southeast corner of the City of Concord, no regionally significant mineral deposits have been mapped by the State.<sup>54</sup> The project site appears to lie just to the north of a small area classified Mineral Resource Zone (MRZ) category MRZ-4 by the California Department of Conservation's Division of Mines and Geology (DMG) (subsequently renamed the California Geological Survey).<sup>55</sup> The MRZ-4 designation is assigned to areas where there is inadequate information available to enable the DMG to assign any other MRZ category, such as MRZ-2, which denotes that significant mineral deposits are known to be present, or there is sufficient information to indicate that there is a high likelihood for their presence. Even if commercially recoverable mineral deposits were located within the project site, the project would not affect their availability, which is already nil due to the presence of existing residential development in the area. The proposed project would therefore have no potential to adversely affect the availability of known mineral resources.

<sup>54</sup> California Department of Conservation, Division of Mines and Geology, Designated Areas Update: Regionally Significant Construction Aggregate Resource Areas in the South San Francisco Bay Production-Consumption Region, Clayton Quadrangle (Plate 10 of 29), 1996.

<sup>55</sup> California Department of Conservation, Division of Mines and Geology, Generalized Mineral Land Classification Map of the South San Francisco Bay Production-Consumption Region (Plate 1 of 29), 1996.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>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?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The *Concord 2030 General Plan* states that there are no significant mineral resources within the City limits.<sup>56</sup> Although some aggregate mineral resources exist in the southeast portion of the City’s extended Planning Area, the project site is not located anywhere near these resources and would have no effect on their availability.

**XII. NOISE** – *Would the project result in:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** From the standpoint of noise, the proposed project is essentially a short-term construction project. Once the proposed remediation activities are completed, there would be no long-term operations with the potential to generate noise. Therefore, the analysis of potential noise impacts focuses exclusively on the temporary noise that would be generated by the proposed remediation activities. These activities would utilize heavy diesel-powered equipment typical of general construction projects and would include excavation and earth-moving activities that are also typically associated with construction projects. In addition to heavy-duty haul trucks, the proposed project would utilize tracked excavators, loaders, and backhoes, among other equipment.

Typical maximum sound levels for the equipment expected to be in use at the project site are listed in Table N-1. They are sound levels as measured 50 feet from the equipment.

<sup>56</sup> City of Concord, *Concord 2030 General Plan*, Parks, Open Space, and Conservation Element, Section 6.5: Conservation.

**Table N-1**  
**Construction Equipment Noise Levels**

Equipment	Sound Level at 50 Feet $L_{max}$ dBA <sup>1</sup>
Backhoe	78
Air Compressor	78
Dump Truck	76
Excavator	81
Flat Bed Truck	74
Ground Compactor	83
Pump	81
Roller	80

Source: City of Concord, SEIR for Concord Development Code Project, April 2012.

<sup>1</sup> $L_{MAX}$  = the maximum sound level for a particular duration and time period.

dBA = A-weighted decibels, corrected for typical human response to noise.

The residential portion of the project site has already been vacated by the former residents and the property is now owned by Phillips 66. Therefore, these residents would not be exposed to construction noise. The nearest residential receptors would be the first three homes on the north side of Holly Creek Place, just to the south and southeast of the 330 Holly Drive property. These homes are located between 140 feet and 180 feet from the former residence proposed for demolition.

Noise generally attenuates over level ground by 3 dBA for each doubling of distance, absent any intervening structures or features. The excavator that would be used for demolishing the former residence would likely emit the loudest noise that would be experienced at the nearest residential receptors. Based on the 3-dB attenuation factor, the operational noise from the excavator would be about 78 dBA at 100 feet away, and would be around 76 or 77 dBA at the nearest residence. Absent special construction or windows, typical residential construction provides at least 15 dB of sound reduction for interior spaces. Therefore, the maximum interior noise level at the nearest residence could be as high as 62 dBA. This peak noise level, if attained, would be experienced temporarily and sporadically. The majority of construction activity would be conducted at greater distances from this and the other adjacent residences, and would result in correspondingly lower noise levels at the residences.

Similar to most jurisdictions in California, the City of Concord does not typically consider noise impacts from temporary construction to constitute a significant impact as long as codified restrictions on construction hours are observed. Section 8.25.020(1)(y) of the Concord Municipal Code regulates construction noise by limiting allowable hours of construction activities to 7:30 a.m. to 6:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturdays.

The EIR for the Concord Development Code Project cites General Plan Policy S-2.2.6, which limits construction noise in the vicinity of noise-sensitive land uses such as residences or

hospitals to between 7:00 a.m. and 7:00 p.m.<sup>57</sup> However, the Safety and Noise Element of the 2030 Concord General Plan does not include this policy. Accordingly, the more restrictive construction hours established in the Municipal Code are assumed to apply to the proposed project. The construction activities associated with the proposed project would comply with the City's noise ordinance. Consequently, the temporary noise that would be generated by the project would have a *less-than-significant impact* on neighboring residents and no mitigation would be required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Vibration generated by construction activity has the potential to damage structures and cause annoyance to people. Vibration-related damage can be structural, such as cracking of floor slabs, foundations, columns, beams, or walls, or cosmetic architectural damage, such as cracked plaster, stucco, or tile. Disturbance to people can range from barely perceptible vibration to interference with sleep. Due to the seismically active nature of the San Francisco Bay Area, an experience of heavy vibration could provoke fear or anxiety about an earthquake.

Ground vibration that may be imperceptible to people can also cause secondary effects, such as the rattling of dishes in a cabinet. Reoccurring primary and secondary vibration effects often lead people to believe that the vibration is damaging their home, although vibration levels are well below minimum thresholds for damage potential.

Implementation of the proposed project would generate groundborne vibration from excavation of soil, loading of trucks, backfilling excavations, demolition of the former residence at 330 Holly Drive, and demolition of pavements on this property. The equipment for these activities with the greatest potential for creating vibration would be tracked excavators, a backhoe, and heavy-duty haul trucks. An assessment of the potential for project-related vibration to be perceived at neighboring residential properties or to cause structural or cosmetic building damage was performed as part of this environmental review. Because groundborne vibration falls off rapidly with distance, the greatest potential vibration effects would be generated by project activities closest to neighboring homes. Demolition of the former residence would occur as close as 140 feet away from the nearest offsite residence, located due south of the former residence proposed for demolition. The closest excavation activities would be 180 feet away from the nearest residence, though most excavation would occur at further distances from nearby homes.

The potential vibration impacts of the project were evaluated using Caltrans' *Transportation and Construction Vibration Guidance Manual*, which provides a formula for calculating vibration from operation of construction equipment.<sup>58</sup> Because vibration results in excited movement of the particles that compose an elastic system such as the ground or a structure, vibration effects are

<sup>57</sup> City of Concord, Draft Supplemental Environmental Impact Report to the 2030 Concord General Plan EIR for the Concord Development Code Project, City of Concord, Contra Costa County, California, State Clearinghouse No. 2006062093, Chapter 3: Land Use, Section 3.3.4, April 11, 2012.

<sup>58</sup> California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, September 2013.

often described by a measurement of peak particle velocity (PPV), measured in inches per second (in./sec). PPV is generally accepted as the most appropriate descriptor for evaluating the potential for damage to buildings, while the human body is more responsive to average vibration amplitude, which is calculated as the average of amplitude squared over time, typically a 1-second period. Average vibration amplitude (AVA) is always less than PPV, typically about 70 percent of the PPV value for a single frequency condition. As discussed below, the Caltrans guidelines provide PPV thresholds for both human exposure and structural exposure to groundborne vibration.

The Caltrans Vibration Manual cites studies on human response to continuous vibration such as that generated by construction equipment (as opposed to transient vibration caused by impact pile drivers or blasting). Based on a synthesis of these studies, Caltrans recommends criteria for evaluating human annoyance due to the effects of vibration. These criteria are listed in Table N-2, which categorizes the range of human response to different levels of steady-state vibration. The expected project-generated vibration is compared to these thresholds, which are lower (i.e., more sensitive) than human response to transient vibration or continuous vibration from traffic sources.

**Table N-2  
Human Response to Steady-State Vibration**

Peak Particle Velocity (PPV) (inches/second)	Human Response
0.4	Very Disturbing/Severe
0.17	Disturbing
0.10	Strongly Perceptible
0.04	Distinctly Perceptible
0.01	Barely Perceptible

Source: Caltrans, *Transportation and Construction Vibration Guidance Manual*, Sept. 2013.

The criteria recommended by Caltrans for evaluating potential structural damage from continuous vibration sources or frequent intermittent vibration sources (e.g., from a jackhammer) are presented in Table N-3; these criteria are used as thresholds of significance for this evaluation of the project's potential vibration impacts on nearby residential buildings.

**Table N-3**  
**Vibration Thresholds for Potential Damage to Buildings**  
 (for Continuous or Frequent Intermittent Sources)

Peak Particle Velocity (PPV) (inches/second)	Human Response
0.08	Extremely fragile historic buildings
0.1	Fragile buildings
0.25	Historic and some old buildings
0.3	Older residential structures
0.5	New residential structures
0.5	Modern commercial buildings

Source: Caltrans, *Transportation and Construction Vibration Guidance Manual*, Sept. 2013.

The Caltrans Vibration Manual lists reference PPV values for various types of construction equipment and provides the following formula for calculating nearby ground vibration levels:

$$PPV_{Equipment} = PPV_{Ref} (25/D)^n \text{ (in/sec)}$$

Where:

$$PPV_{Ref} = \text{reference PPV at 25 ft.}$$

$$D = \text{distance from equipment to the receiver in ft.}$$

$$n = 1.1 \text{ ( the value related to the attenuation rate through ground)}$$

Using this formula and the listed PPV reference values, potential vibration effects from the proposed project were calculated. It is assumed that the demolition of the former residence at 330 Holly Drive would employ a tracked excavator (assumed to have similar vibration-generating characteristics as a small bulldozer) and loaded trucks. Vibration from larger equipment, including a vibratory roller, jackhammer, and large bulldozer, was also modeled for comparison purposes, though use of this equipment is not anticipated. A distance of 140 feet was used, which would be the shortest distance from the proposed remediation activities to the nearest residence, though most activity would occur at greater distances. The results are presented in Table N-4.

**Table N-4**  
**Predicted Vibration Levels at Nearest Residential Receptors**

Equipment	Reference PPV at 25 ft. (in/sec)	Distance from Equipment (feet)	Attenuation Factor	Calculated PPV at Receptor	Human Response Thresholds	
					Barely Perceptible	Distinctly Perceptible
Vibratory Roller	0.21	140	1.1	0.0316	0.01	0.04
Large Bulldozer	0.089	140	1.1	0.0134	0.01	0.04
Loaded Trucks	0.076	140	1.1	0.0114	0.01	0.04
Jackhammer	0.035	140	1.1	0.0053	0.01	0.04
Small Bulldozer	0.003	140	1.1	0.0005	0.01	0.04

Sources: Caltrans, *Transportation and Construction Vibration Guidance Manual*, Sept. 2013; Douglas Herring & Associates

Based on the results presented in Table N-4 and comparing them to the thresholds for structural damage listed in Table N-3, the proposed project would not have the potential to cause any structural damage to nearby residences. Even use of a vibratory roller, which is not proposed, would not cause damage to an extremely fragile historic building, and would have even less potential to damage the modern residential homes located in the vicinity of the project.

Any human annoyance due to vibration likely to be experienced at the nearest residence would be very minor. Of the equipment that would be operated on the 330 Holly Drive portion of the project site, loaded trucks would have the greatest potential vibration impact. With a calculated PPV of 0.0114, operation of loaded trucks would just slightly exceed the Barely Perceptible threshold of 0.01 at the nearest residence, and would be well below the Distinctly Perceptible threshold of 0.04. Furthermore, adding just 20 feet to the distance results in a PPV of 0.0099, below the Barely Perceptible threshold. Again, even use of a vibratory roller, which is not proposed, would have a PPV value below the Distinctly Perceptible threshold.

These results indicate that residents in the single nearest home could at times experience barely perceptible vibration during demolition of the former residence; vibration levels at other neighboring residences would be below the Barely Perceptible threshold. By moving into a different room in the house, the perceptible vibration would likely fall off. The majority of the demolition-related activities would occur more than 160 feet from the nearby residence, and therefore would fall below the Barely Perceptible vibration threshold. The times when vibration exceeded the Barely Perceptible threshold would be quite limited in duration and would be very temporary, occurring for a few days at most. Even at the nearest receptor, vibration would never reach a level of Distinctly Perceptible. Therefore, based on the preceding analysis, the proposed project would have a *less-than-significant impact* from groundborne noise and vibration.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** Once the short-term remediation activities were completed, there would be no operational noise generated by the project, and the project would have no effect on existing ambient noise levels.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The project's temporary impacts on ambient noise levels are discussed in Section XII(a), above, and its temporary vibration impacts are evaluated in Section XII(b). In addition to those effects, implementation of the proposed remediation activities would also have the potential to expose onsite workers to excessive noise. Long-term exposure to high noise levels (e.g., over 85 dBA) can lead to permanent hearing impairment and has also been linked to non-hearing health effects such as hypertension, stress, high blood pressure, and other adverse cardiovascular effects.

The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace, based on a worker's time-weighted average exposure over an 8-hour day. OSHA's permissible exposure limit (PEL) for noise is 90 dBA for all workers.<sup>59</sup> The OSHA standard uses a 5-dBA exchange rate, which means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to the higher noise level is cut in half. Thus, workers can be exposed to a time-weighted average noise level of 95 dBA for a maximum of 4 hours; exposure to 100 dBA would be limited to 2 hours per day.

As noted in the Project Description, AECOM would prepare a Health and Safety Plan (HASP) to be implemented throughout the remediation project that would include provisions for protecting workers from excessive noise levels, such as requiring hearing protection when working in the vicinity of noisy equipment. With compliance with the mandatory HASP, workers would not be exposed to noise levels in excess of the OSHA noise exposure limits. The project would therefore have a *less-than-significant impact* from a temporary increase in ambient noise levels in the immediate vicinity of project operations.

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<sup>59</sup> 29 CFR 1910.95.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The nearest public use airport to the project site is Buchanan Field Airport, located about 5.75 miles west of the project. There is therefore no potential for project workers to be exposed to excessive noise levels from airport operations.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** There are no private airstrips within 5 miles of the project site. There is therefore no potential for project workers to be exposed to excessive noise levels from private airstrip operations.

### **XIII. POPULATION AND HOUSING** – *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>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)?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Explanation:** The proposed project would have no population growth-inducing impact. It would not introduce a new land use, including construction of new homes.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The former occupants of the home at 330 Holly Drive have vacated the property and located housing elsewhere. They have been compensated by the Phillips 66 Company for the displacement, which enabled them to readily purchase a replacement home at some other location. The displacement of a single family does not constitute displacement of substantial numbers of existing housing. Therefore, this impact would be *less than significant*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: As noted in Section XIII(a), above, a single family was displaced by the proposed project, and this family received adequate compensation to allow them to purchase a new home in another location, either within the City of Concord or elsewhere. Whether or not the family elected to construct a new replacement home, this would not constitute substantial construction of replacement housing. Therefore, this impact would be *less than significant*.

**XIV. PUBLIC SERVICES** - *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Fire protection and emergency medical services are provided to the project site by two different agencies. On the CNWS, fire protection is provided by the CNWS Fire Department, which has a station near the northwest corner of the Weapons Station, about 4.8 miles northwest of the project. The Navy has a mutual aid agreement with the Contra Costa

County Fire Protection District (CCCFPD) for providing mutual assistance if either agency's fire protection and emergency resources are depleted at the time of an emergency.

The 330 Holly Drive portion of the project site is served by the CCCFPD, which operates out of 24 fully staffed fire stations distributed throughout the County, along with two other stations staffed with paid-on-call Reserve Firefighters.<sup>60</sup> The CCCFPD staffs 19 engine companies and 5 truck companies, with a minimum daily staffing of 77 personnel. Among numerous specialty response units and programs is a wildland firefighting program equipped with 18 wildland fire apparatus. The closest CCCFPD fire station to the project site is Station No. 8, located at 4647 Clayton Road, in Concord, about 2 miles west of the project. Due to its proximity, response time to the project site is presumed to be less than 5 minutes.

During the temporary implementation of the proposed project, there would be a minimal potential for fire, which could result from sparks from equipment igniting the grassland on the CNWS or could occur during demolition of the residence at 330 Holly Drive. In addition, there would be a small potential for a worker to be injured or suffer a medical emergency during implementation of the project. These risks would be minimal and, in the unlikely event of a fire, would not substantially interfere with either fire department's ability to provide emergency response services, and would not require the provision of new or physically altered fire protection facilities. The Health and Safety Plan that would be implemented throughout the remediation project would include emergency response procedures for a variety of potential emergencies, along with first aid and medical treatments. The HASP would further reduce the potential impact on emergency medical response services.

The potential impact on fire protection services would be *less than significant*.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: Similar to the bifurcation of fire protection services, the project site is served by two different police protection agencies. The U.S. Navy currently has responsibility for safety and security on the CNWS, though any criminal investigation is referred to the Concord Police Department under the terms of a 1993 Memorandum of Understanding (MOU). Police protection services are provided to the 330 Holly Drive property by the Concord Police Department (CPD), which operates out of headquarters at 1350 Galindo Street. The CPD has approximately 160 sworn officers, or 1.3 officers per 1,000 residents.

The proposed temporary remediation work would be completed in approximately two months by subcontractors and employees of AECOM. The project would not induce population growth that could result in increased calls for police services, and would not introduce any type of attractive nuisance that could draw people likely to engage in behavior that might provoke a police response. Therefore, implementation of the proposed project would be expected to have no impact on police protection services.

<sup>60</sup> Contra Costa County Fire Protection District, Emergency Services, accessed May 20, 2015 at: <http://www.cccfpd.org/emergency-operation.php>.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>c) Schools?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project is a temporary remediation project that would be completed in approximately two months. It would not result in any growth in population, and therefore would have no potential to increase demand for school services or facilities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>d) Parks?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project is a temporary remediation project that would be completed in approximately two months. It would not result in any growth in population, and therefore would have no potential to increase demand for park facilities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>e) Other public facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project is a temporary remediation project that would be completed in approximately two months. It would not result in any growth in population, and therefore would have no potential to increase demand for other public facilities, such as libraries, community centers, civic offices, or museums.

**XV. RECREATION** —

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would essentially have no effect on the use of existing neighborhood and regional parks or other recreational facilities. A single family would be displaced by the project, which could potentially result in a negligible incremental reduction in demand for parks and recreational facilities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project does not entail construction or expansion of recreational facilities.

**XVI. TRANSPORTATION/TRAFFIC** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The project would not conflict with any applicable plans, ordinances, or policies related to the circulation system. No significant impacts on intersections, streets, highways, or freeways would result from the project, as discussed further below. Potential project impacts on public transit and bicycle and pedestrian facilities are addressed in Section XVI(f), below.

***Background***

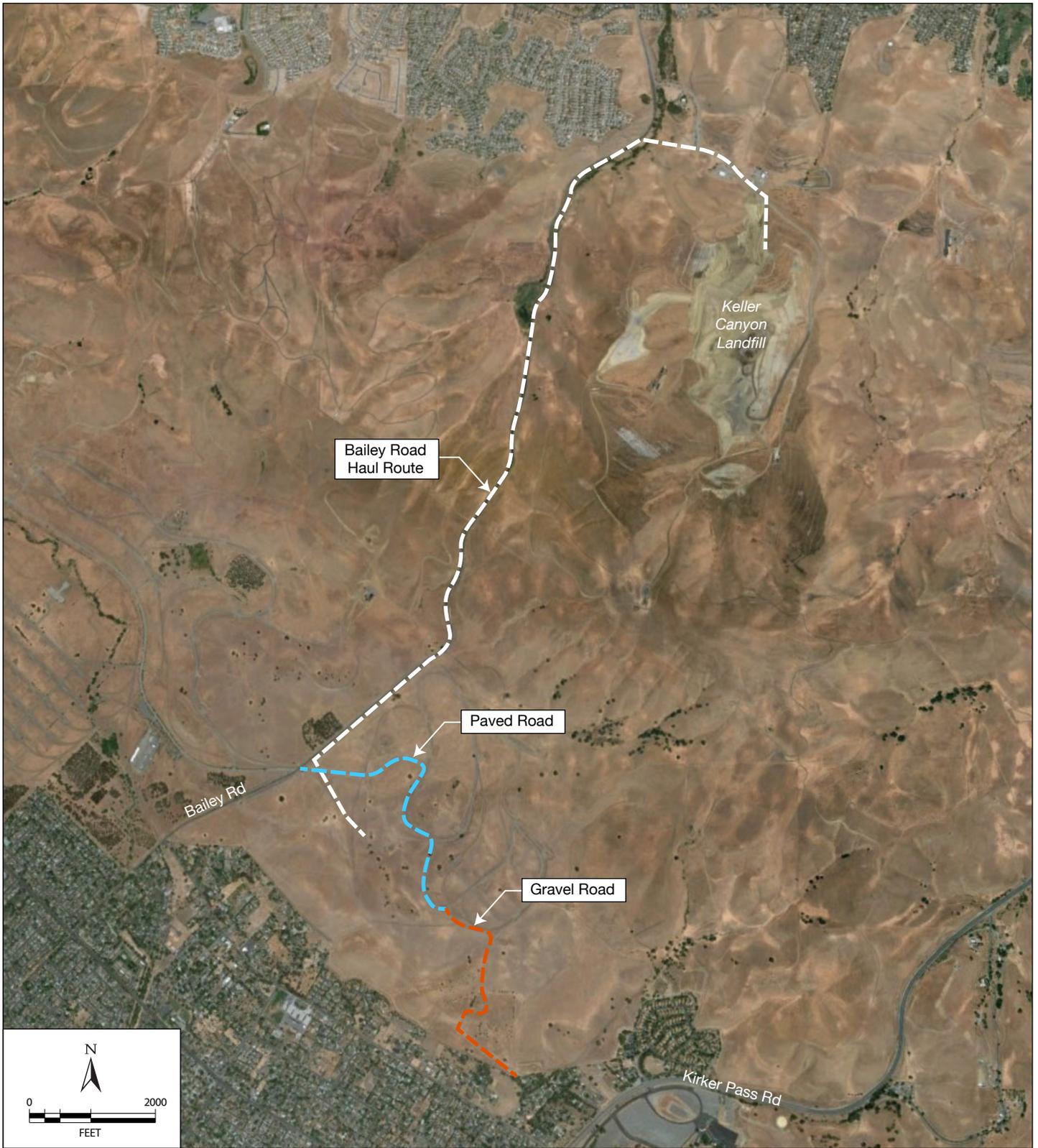
PHA Transportation Consultants conducted a traffic study for this Initial Study to evaluate the impacts of using a segment of Bailey Road in Contra Costa County to transport contaminated soil from the CNWS to Keller Canyon Landfill, located about 3 miles north of the project site. The study also addressed the impacts of traffic generated by project construction workers. The study focused on roadway design characteristics, geometrics, traffic conditions, and the potential impact of project-related truck traffic on Bailey Road. Figure T-1 shows the proposed haul route, which would include approximately a mile of overland travel across the CNWS site on a combination of paved and gravel roads before reaching Bailey Road. Although there are no intersections between the entrance gate to the CNWS property and the landfill entrance, there is a railroad crossing immediately to the north (apx. 10 feet) of the CNWS entrance gate.

**Existing Traffic Conditions and Operations**

***Traffic Flow and Speed***

PHA conducted traffic counts on Bailey Road just north of the railroad crossing in mid-April 2015 to record current traffic volume, speed, and vehicle classifications. Results indicated that this section of Bailey Road currently carries about 8,050 vehicles per day during the week. Traffic volume could be lower during weekends without commute traffic. A two-lane road such as this section of Bailey Road with no intersections in between and a speed limit of 35 to 45 miles per hour (mph) could accommodate 15,000 vehicles daily at acceptable level of service (LOS). Traffic count data also indicated that the morning peak hour on Bailey Road occurs between 7:00 a.m. and 8:00 a.m., accounting for about 13 percent (1,080 vehicles in both directions) of the daily volume. The afternoon peak hour occurred between 4:45 p.m. and 5:45 p.m., accounting for 8 percent (620 vehicles in both directions) of the daily traffic volume.

The average vehicle speed recorded near the railroad crossing is 49 mph, while the 85th percentile speed is about 60 mph. This speed is generally consistent with field observations. The higher speed at this location is likely because this is a straight stretch of the roadway. Field



**Figure T-1**

**Proposed Haul Route**

Source: Monk & Associates

observations indicated vehicle speed is lower, near the advisory speeds between 35 mph and 40 mph, around the curves at the hill crest. (See additional discussion of speed limits in Section XVI(d) below.)

### *Vehicle Volume and Classification*

As indicated above, Bailey Road carries about 8,050 vehicles per day during the week. Passenger cars and trailers, vans, and pickup trucks (Federal Vehicle Classification Class 2 and 3) account for about 86 percent of all vehicles, while the remaining vehicles are motor bikes, buses, and larger vehicles of various lengths and axle counts. Field observation indicated the longest vehicles traveling along Bailey Road between the Keller Canyon Landfill access road and railroad crossing are school buses. There were tractor-trailer trucks (18 wheelers) on Bailey Road, but all were traveling between the landfill and areas to the north, in the direction of Pittsburg. Figure T-2 shows the longest and heaviest vehicles observed traveling on Bailey Road between Concord and Pittsburg. The pie chart in Figure T-3 shows the traffic composition on Bailey Road based on a vehicle classification analysis. Traffic count data and a detailed classification summary are included in Appendix T-1.

### *Existing Levels of Service*

PHA collected weekday vehicle turning movement counts on Bailey Road at the railroad crossing and the access road to Keller Canyon Landfill from 7:00 a.m. to 9:00 a.m. and from 4:00 p.m. to 6:00 p.m. and performed traffic operations analyses. The purpose of the analysis was to evaluate traffic LOS, which measures the degree of difficulty and delays for vehicles passing

through and/or making turns at an intersection. LOS is a qualitative measurement of traffic operation with a ranking scale of A to F. LOS A represents little to no delays, and LOS E represents at-capacity conditions with long delays. LOS F represents jammed conditions. Most city and county jurisdictions and public agencies consider LOS A through D acceptable conditions. Table T-1 shows the definitions and criteria for each LOS ranking.

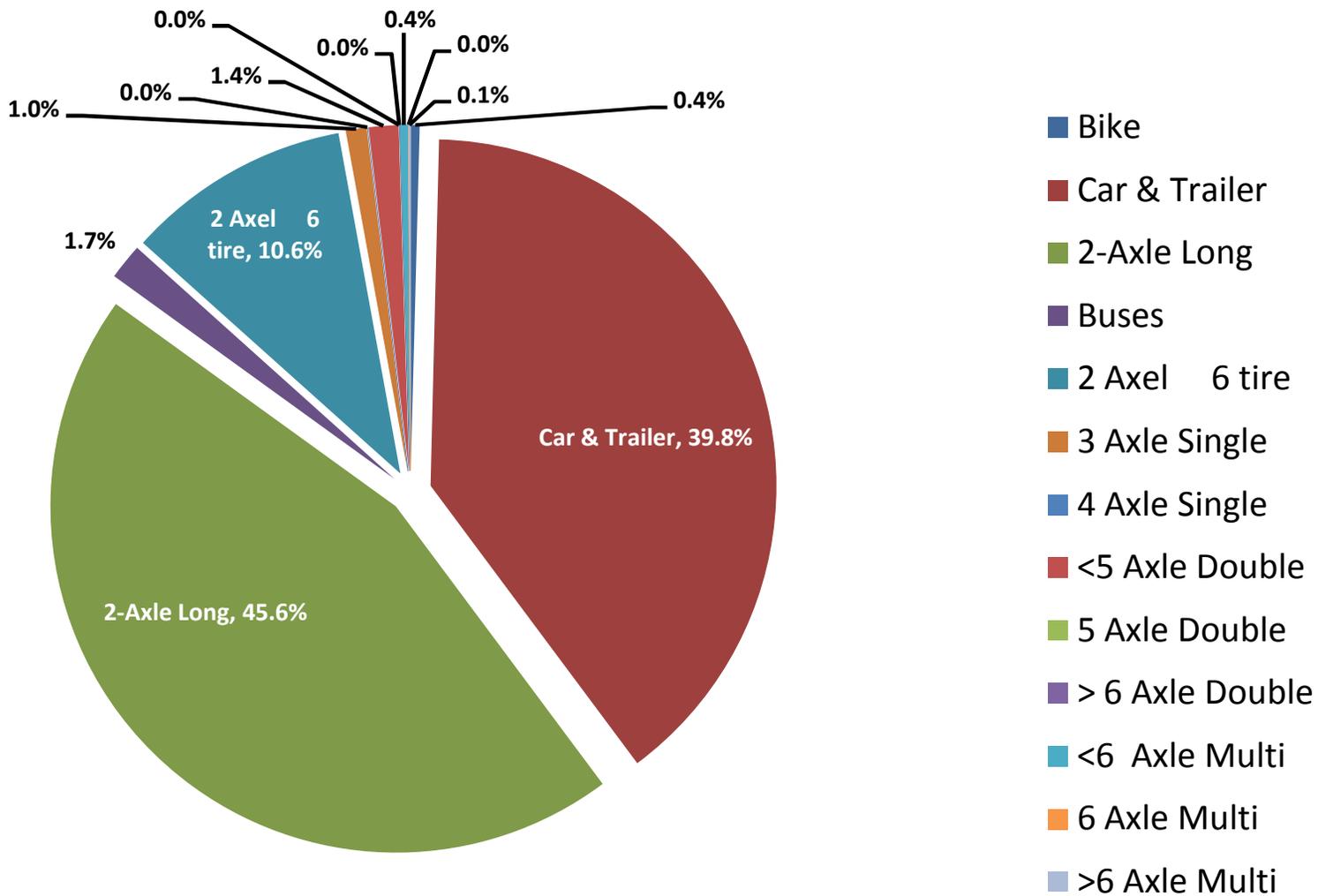
The lowest acceptable LOS in the City of Concord is LOS D; no LOS thresholds have been established by Contra Costa County or the Contra Costa County Transportation Authority (CCTA) for unsignalized intersections in the County. For purposes of the threshold of significance for the analysis of the proposed remediation project's potential traffic impacts, a threshold of LOS D is employed. If the project would cause one of the unsignalized study intersections to degrade to LOS E or F, that would constitute a significant adverse impact. No intersections already operate at LOS E or F, so a threshold of significance for those cases is not relevant to this analysis.



**Figure T-2**

**Heavy Vehicles Observed on Bailey Road**

Source: PHA Transportation Consultants



**Figure T-3**

**Bailey Road Vehicle Classification Breakdown**

**Table T-1  
Traffic Operation Level of Service Criteria**

Signalized Intersections	
LOS <sup>1</sup>	Control Delay per Vehicle <sup>2</sup> (Seconds)
A	0.0- 10.0
B	10.1-20.0
C	20.1-35.0
D	35.1-55.0
E	55.1-80.0
F	>80.0
Non-Signalized Intersections	
LOS <sup>1</sup>	Control Delay per Vehicle <sup>2</sup> (Seconds)
A	0.0-10.0
B	10.1-15.0
C	15.1-25.0
D	25.1-35.0
E	35.1-50.0
F	>50.0

SOURCE: Highway Capacity Manual (HCM) 1985, 1997, 2000, and 2010.

<sup>1</sup>LOS = level of service

<sup>2</sup>Control delay includes delays of initial deceleration, move-up-time in the queue, stops, and re-acceleration. Calculated LOS is for minor street approaches. Major street traffic movements would operate at LOS A as they do not have traffic control.

The Bailey Road intersection at the access road to Keller Canyon Landfill is a three-way intersection. Traffic is controlled by “YIELD” signs at the landfill access road, while traffic on Bailey Road is not controlled. The northbound approach has one through lane and one right-turn lane. The southbound approach has one through lane and one left-turn lane. The westbound approach has one left-turn lane and one right-turn lane.

LOS analysis indicated that through traffic from both Bailey Road approaches, including left and right turns, operated at LOS A with little to no delays in either the AM or PM peak hours. Right-turn traffic from the landfill access road operated at LOS B with approximate delays of less than 15 seconds. Left-turn traffic from the landfill entrance road operated at LOS E with about 40 seconds of delay during both the AM and PM peak hours. The lower LOS for the left turn is expected, since left-turn traffic must wait for a sufficiently long gap in the traffic stream on Bailey Road before being able to turn onto Bailey Road.

While the left-turn traffic experiences longer delays compared to traffic from other approaches, traffic data show very few vehicles (two vehicles in the AM peak hour and zero in the PM peak hour) making left turns from the landfill access road. The analysis assumed all vehicles turning into and coming out from the landfill access road are heavy trucks. Passenger vehicles would experience shorter delays, as they are more maneuverable and have quicker acceleration.

Traffic operation for the proposed project truck access point is discussed in the following section, since there is currently no traffic at this location.

## Potential Project Impacts

### *Trip Generation Estimates and Distribution*

From the standpoint of generating traffic, the proposed project would have two primary components: (1) the excavation and off-haul of contaminated soil and (2) the demolition of the former residence and off-haul of the resulting demolition debris. Up to eight crew members would work on the excavation portion of the project and up to nine workers would be used for demolition of the home, for a total of 17 crew members working on the site. Although it is expected that demolition of the former residence would occur prior to other remediation activities, for purposes of this analysis, it is conservatively assumed that both phases of work would occur simultaneously.

Based on the information provided by the project proponent, it is assumed conservatively that the demolition of the former residence may use up to four trucks daily and the excavation would use up to ten trucks daily. Thus, a total of up to 14 trucks would be used to transport materials to the landfill each day. Each truck is assumed to carry three loads daily for 42 loads total, or 84 trips daily.

Based on the number of personnel expected to be working on the site, the project would add 34 worker trips daily (17 inbound trips in the AM peak hour and 17 outbound in the PM peak hour). It is estimated that about 50 percent of worker traffic would travel to and from the Line 200 remediation site via Bailey Road from the north and the remaining 50 percent would approach from the south via Bailey Road. All project-related traffic would utilize the CNWS entrance gate on Bailey Road; none of the traffic would approach the site from Holly Drive.

It was conservatively assumed that all 14 haul trucks (equivalent to 28 auto trips) would also travel to and from the site during the peak hours (essentially commuting to the site), though it is likely that some trucks would remain on site overnight and would not need to travel to and from the work site each day. While a few loaded trucks could transport soil or demolition debris to the landfill during peak hours, most of the 84 daily trips by loaded trucks would occur between the morning and afternoon peak hours. If a few haul trips occurred during the peak hours, it would not alter the conclusions of the traffic analysis reported below.

All of the haul trucks would be running between the CNWS gate on Bailey Road (near the railroad crossing) and Keller Canyon Landfill. Although a small number of truck trips hauling residential demolition debris would be destined to other locations than Keller Canyon Landfill, all of these trucks would still travel north on Bailey Road, but would continue past the landfill to the Highway 4 interchange. By conservatively assuming these trips would also be destined for Keller Canyon Landfill, the impact at the landfill entrance represents a worst-case analysis, and the small number of additional truck trips on Highway 4 would have an infinitesimal effect on the Highway 4 interchange and on Highway 4 traffic conditions.

The loads to other destinations would include up to four loads of drywall that would be sent to the Zanker Road Materials Recovery Facility in San Jose; up to six loads of trees, lumber, and plywood that would be sent to Hamilton Tree Services in Martinez; up to seven loads of concrete that would be sent to Dutra Materials in Richmond; and up to two loads of mixed metals, wire, and white goods that would be sent to Rapid Recycle in Pacheco.

In summary, the project is expected to add 146 daily trips (Monday through Friday) to Bailey Road, under conservative assumptions described above, representing an increase of less than 2 percent in the existing daily traffic volumes. This short-term increase would last for up to two months.

### Traffic Operations with Project-Generated Traffic

To assess the project impact on traffic operations, PHA analyzed LOS with the added project traffic at two intersections: (1) Bailey Road at the landfill access road, and (2) Bailey Road at the CNWS gate just south of the railroad crossing. Table T-2 summarizes the LOS analysis results with a comparison of with and without project traffic conditions, including worker commute traffic. All truck traffic was converted to passenger car equivalents (PCE) by multiplying by a factor of 2. Results of the LOS analyses indicated that all movements at the landfill entrance would operate at the same LOS with and without project-generated traffic, while the intersection at the CNWS gate would operate at LOS C or better. Through movements, not shown in Table T-2 currently operate at LOS A and would continue to do so with the addition of project-generated traffic. Therefore, the proposed project would have a *less-than-significant impact* on traffic intersection operations.

**Table T-2  
Existing and Projected Level of Service at Study Intersections**

Study Intersections	Existing Conditions				Project Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Bailey Road / Landfill Access Road								
- Right turn from Bailey Road	0.0	A	0.0	A	0.0	A	0.0	A
- Left turn from Bailey Road	9.5	A	10.2	B	9.5	A	10.4	B
- Right turn from landfill access road	12.4	B	14.0	B	12.4	A	14.3	B
- Left turn from landfill access road	40.6	E	20.5	C	42.1	E	21.1	C
2. Bailey Road / CNWS Access Road								
- Right turn from Bailey Road	n.a.	n.a.	n.a.	n.a.	0.0	A	0.0	A
- Left turn from Bailey Road	n.a.	n.a.	n.a.	n.a.	0.4	A	0.0	A
- Right turn from CNWS access road	n.a.	n.a.	n.a.	n.a.	0.0	A	19.4	C
- Left turn from CNWS access road	n.a.	n.a.	n.a.	n.a.	0.0	A	19.4	C

SOURCE: PHA Transportation Consultants

Notes:

LOS = level of service

CNWS = Concord Naval Weapons Station

n.a. = not applicable (as there is no side street traffic under existing conditions)

Study intersection LOS was calculated with SYNCHRO computer software.

Traffic count data were collected in mid-April 2015.

**Pavement Impact**

In addition to the above traffic operational impact, PHA evaluated the potential truck impact on Bailey Road pavement by checking the Traffic Index (TI) with and without the project trucks. TI is the representation of traffic volume and classification used in pavement design. A higher TI means higher traffic load and requires higher pavement strength. Briefly, TIs are calculated by converting various classes of trucks recorded on the roadway to a single axle equivalent to estimate pavement strength needed.

Results of the calculation indicated that the TI for this section of Bailey Road is 9.0 for a service life of 20 years as a one-lane road. With the addition of approximately 100 five-axle project truck trips, or 50 trips in one direction, the TI would remain unchanged at 9.0. The impact of project truck traffic on pavement service life would therefore be negligible. The TI calculation in this case is conservative, as it assumed the added project traffic would be present on Bailey Road for 20 years. In reality, as discussed previously, the project is expected to be completed in about 22 working days or two calendar months, after which the project traffic would no longer occur.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: As discussed in Section XVI(a), above, the project would not result in a significant increase in traffic, and therefore would not conflict with the Contra Costa County Congestion Management Program. The project would not adversely affect the level of service on Bailey Road and would not create any new intersections. Furthermore, the project would be very short-term in duration, lasting approximately two months.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not result in any change in air traffic patterns. It would not generate any air traffic and has no potential to affect existing air traffic. As noted in Section VIII(e), the nearest airport to the project site is located about 5.75 miles west of the project

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Explanation:** The project has the potential to increase traffic hazards due to the truck traffic it would introduce on Bailey Road. This impact would be less-than-significant with mitigation.

## Existing Bailey Road Design Characteristics and Conditions

### *Roadway Geometrics and Pavement Conditions*

Bailey Road between Concord Boulevard and the access road to Keller Canyon Landfill is a two-lane non-stop roadway largely serving through traffic between Concord and the Pittsburg area. The haul route between the CNWS railroad crossing and Keller Canyon Landfill is about 3 miles long, and it would take about 4 minutes to travel from one point to the other, driving at or near the posted speed limits.

Travel lanes are between 10 and 11 feet wide, although lanes are slightly wider approaching the Keller Canyon Landfill access road intersection. Between the CNWS gated entrance at Bailey Road and the Keller Canyon Landfill access road, there are no intersections except for two locked gates serving agricultural lands. There is no parking along this section of Bailey Road except for an unpaved pullout about half-way down the west side of the hill adjacent to the southbound lane and a formalized paved pullout serving northbound traffic near the Keller Canyon Landfill access road intersection. Shoulder areas are generally unpaved.

Bailey Road pavement appears to be in satisfactory conditions, although there are short portions where striping is worn or missing due to pavement resurfacing. (See additional discussion of pavement in Section XVI(a), above.)

This segment of Bailey Road is hilly. The elevation at the crest of the hill is about 700 feet, while the elevation at the railroad crossing is about 290 feet. This elevation change represents a rise of 410 feet over a distance of 6,400 feet between the hill crest and the anticipated truck access point near the railroad crossing.

Some papers, cans, and other windblown debris are evident along the shoulder areas. Dumping of larger trash does occur but is generally in areas where vehicles can pull off the road, such as at the CNWS gated access and a gated agricultural driveway in the south side of the hill.

### *Speed Limits*

The posted regulatory speed limit on this segment of Bailey Road varies between 35 mph and 45 mph. The 35-mph zones include the portion north of Concord Boulevard to beyond the first curve north of Myrtle Drive and again north of the CNWS gated entrance and railroad crossing beginning where the roadway slope steepens at the foot of the hill and continuing to near the hill crest. The 45-mph speed limit applies elsewhere. Advisory speed limits of 35 mph and 40 mph combined with curve warning signs exist at two locations in the northbound direction and four locations in the southbound direction. Observed speed appeared higher, especially near the railroad crossing where the road is relatively flat and straight with long sight distance. (See additional discussion of existing speeds in Section XVI(a), above.)

### *Signing and Striping*

The length of Bailey Road between Concord Boulevard and the Keller Canyon Landfill access road is striped as a two-way “no passing” zone supplemented by white painted edge lines. A five-ton truck weight limit sign is posted in the eastbound direction just east of Concord Boulevard. In the westbound direction, a three-ton truck weight limit sign is posted just west of the Keller Canyon Landfill access road and a five-ton sign is placed near the hill crest.

### *Sight Distance*

Sight distance at the CNWS gate-railroad crossing intersection with Bailey Road, the anticipated truck access point, is excellent, with long straight approaches well over 1,000 feet. Sight distance at the Bailey Road/Keller Canyon Landfill access road intersection is also satisfactory, with over 500 feet in both directions. The recommended sight distance for roadways with a 45-mph speed limit is about 470 feet, based on a 5-percent decline and wet pavement.

### *Traffic Collision Records*

PHA reviewed traffic collision records for a 5-year period (January 1, 2008 to December 31, 2012) to evaluate collision experience for Bailey Road. Collision records for 2013 and later were still being compiled and not yet available. The data were compiled from the Statewide Integrated Traffic Records System (SWITRS) obtained via the Transportation Injuries Mapping System (TIMS) website at UC Berkeley. The data showed three reported collisions on Bailey Road between the CNWS railroad crossing and the entrance to Keller Canyon Landfill. Figure T-4 shows the approximate locations of the reported traffic collisions over the 5-year period.

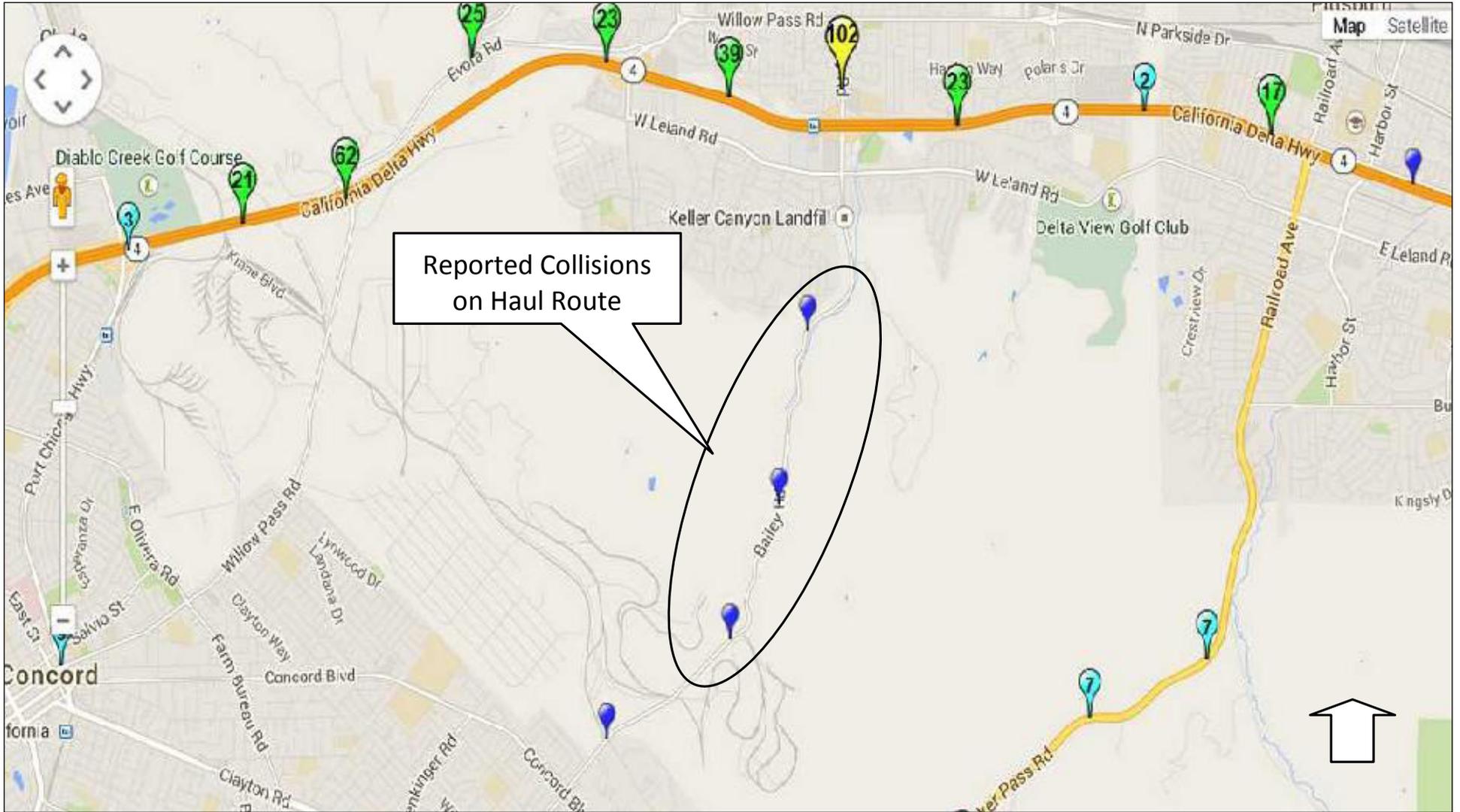
### *Required Transportation Permits*

Contra Costa County Public Works Department transportation engineering and permit staff have indicated that, as long as the truck size and weight are within the legal limit as set forth by Caltrans, no transportation permits would be required for the project. Caltrans’ legal truck size limits are 65 feet long and 8.5 feet wide. The gross weight limit is 80,000 pounds. Transporting contaminated soil may require permits from other agencies.

### *Potential Project Impacts*

As discussed previously, Bailey Road is a two-lane hilly rural road with no paved shoulder on either side of the road. Travel lanes vary between 10 and 11 feet wide and are slightly narrower than standard 12-foot-wide lanes. Tractor-trailer trucks currently using Bailey Road are all traveling between the landfill and the Pittsburg area. The longest vehicles observed traveling on the haul route between Concord and Pittsburg were school buses.

Given the 700-foot elevation and the curves at the crest, the narrow lanes, and the lack of shoulders, maneuvering a tractor-trailer truck through this segment of Bailey Road could be a challenge. Any problems associated with big trucks during transport along the roadway could create problems for Bailey Road. The sharp angle at the anticipated truck access point, the utility pole, and the railroad crossing warning sign structure at the corner also would make it difficult for tractor-trailer trucks to make turns and, at a minimum, would force trucks exiting the CNWS to swing into the opposing lane of oncoming traffic. Other aspects of the project truck traffic could also create hazards on Bailey Road. The project would therefore have the potential to increase traffic hazards, which would be a *potentially significant impact*. With implementation of the following mitigation, the project impact would be less than significant. Although the Water Board lacks the specific authority to enforce the following mitigation measures, the project applicant has agreed to implement the mitigation measures, and they will be incorporated into an SCR Order as enforceable requirements.



**Figure T-4**

Traffic Collisions on Bailey Road (1/1/2008 – 12/31/2012)

Source: PHA Transportation Consultants

**Mitigation Measure T-1:** (a) The contractor shall widen/pave an area at the CNWS entrance to create a better angle for tractor-trailer trucks to turn in and out of the CNWS site. Figure T-5 shows options for the recommended paving/widening at the access point to improve truck access.

OR

(b) The contractor shall employ flag men/women to halt traffic in both lanes while trucks maneuver out onto Bailey Road.

OR

(c) The contractor shall use smaller roll-off container trucks for hauling. Using smaller trucks would mean more haul trips, but Bailey Road carries relatively low traffic volumes and would be able to accommodate the additional trips that would be generated by using smaller trucks. Therefore, this mitigation measure would not create any significant traffic impacts on Bailey Road.

**Mitigation Measure T-2:** Once the type of truck to be used has been selected, the contractor shall test the truck to verify that safe turning movements can be made to and from the Concord Naval Weapons Station (CNWS) entrance on Bailey Road. If turning movement difficulties are identified, the contractor shall use smaller roll-off container trucks for hauling.

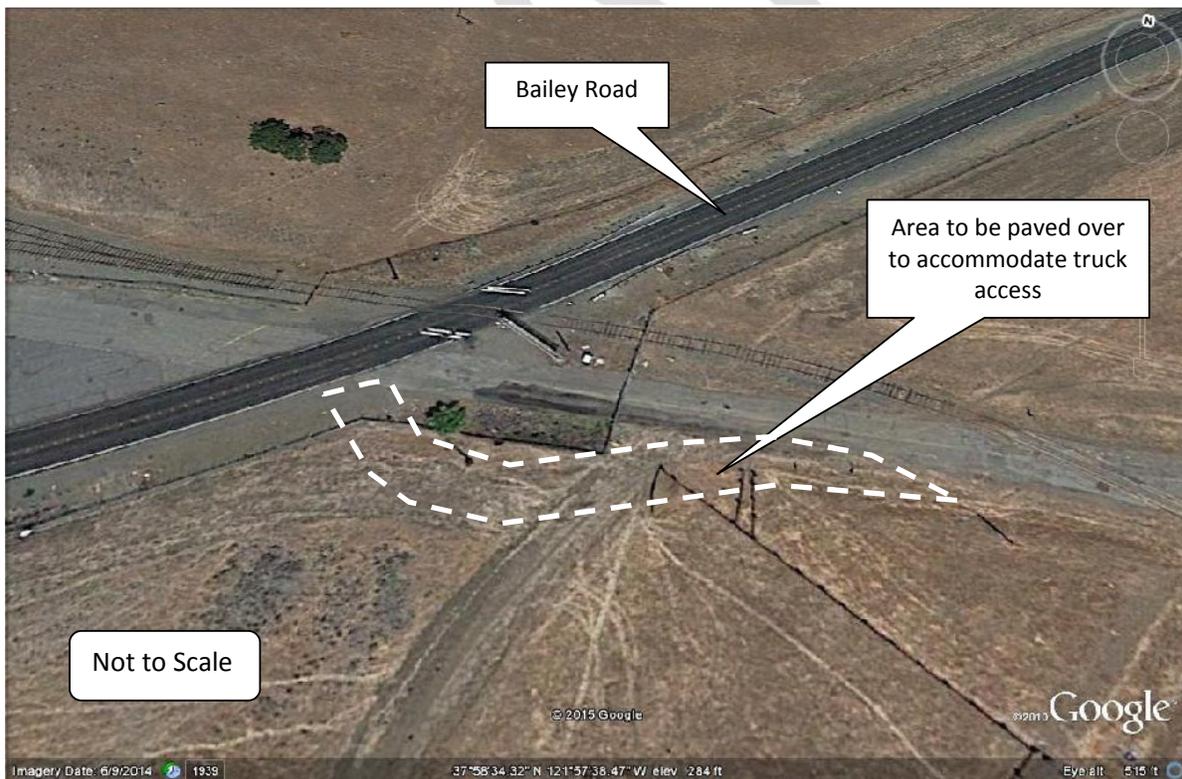
**Mitigation Measure T-3:** The contractor shall place temporary warning signs on Bailey Road near the Concord Naval Weapons Station (CNWS) access point to warn motorists of truck access.

**Mitigation Measure T-4:** The contractor shall establish safety and precautionary procedures for truckers as set forth in the health and safety plan.

**Mitigation Measure T-5:** The contractor shall require all truckers to test drive the haul route prior to hauling.

**Mitigation Measure T-6:** The contractor shall require truckers to cover haul containers to avoid leaving debris on the roadway during transport, inspect the haul route, and clean up at the end of the day if debris is found.

**Mitigation Measure T-7:** The contract for the proposed work shall prohibit truckers from hauling soil or waste on Bailey Road during the peak commute hours. Hauling shall be prohibited between 7:00 a.m. and 8:00 a.m. and between 4:45 p.m. and 5:45 p.m.



**Figure T-5**

**Mitigation Option to Widen CNWS Entrance Pavement**

Source: PHA Transportation Consultants

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Result in inadequate emergency access?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The short-term remediation project would not affect emergency access to the site. In the event of an emergency at the site, such as a medical emergency involving a worker, emergency response personnel would approach the project site from Holly Drive, which would not be affected by the project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety to such facilities?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The project would not conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. The proposed hazardous materials remediation work would be temporary and would not affect any transit, bicycle, or pedestrian routes.

**XVII. UTILITIES AND SERVICE SYSTEMS** — *Would the project:*

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Water that is removed from the excavation would be conveyed to a tank, subsequently treated in the groundwater treatment system, and then released into the sanitary sewer in accordance with the existing Contra Costa County Sanitary District (CCCSD) discharge permit. The CCCSD operates a wastewater treatment plant in Martinez that is permitted by the Regional Water Quality Control Board (Water Board). Effluent from the plant is regularly monitored to ensure that water quality standards are not violated. (See Section XVII(b) for additional information about the wastewater treatment plant.) There have been no violations of water quality standards by the treatment plant during the past two and a half years (January 1,

2013 through June 2, 2015),<sup>61</sup> and there are no Water Board enforcement actions pending against the EBMUD.<sup>62</sup> The project would be required to comply with the conditions of the discharge permit, which prohibits discharge of free petroleum product, hazardous wastes, or hazardous materials into the sanitary sewer. Therefore, the proposed project would not cause the CCCSD wastewater treatment plant to exceed wastewater treatment requirements of the Water Board.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The CCCSD operates a wastewater treatment plant in Martinez that has a treatment capacity of 54 million gallons per day (mgd). The plant treats an average of 45 million mgd.<sup>63</sup> The CCCSD discharge permit for the project restricts the discharge of treated groundwater into the sanitary sewer to 20 gallons per minute, or 28,800 gallons per day. The temporary incremental increase in wastewater that would be created by the project for approximately two months would be readily accommodated by the existing treatment capacity at the CCCSD treatment plant. No construction of new or expanded treatment facilities would be required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: The proposed project would not cause an increase in stormwater discharge and would not require construction of new or expanded stormwater drainage facilities. The project would have no impact on stormwater drainage facilities. The proposed project would remove 13,581 square feet (0.31 acre) of existing impervious surfaces from the Holly Drive property and no new impervious surfaces would be installed as part of the Remediation Project. Consequently there would be a decrease in stormwater discharge owing to increased

<sup>61</sup> State Water Resources Control Board, California Integrated Water Quality System Project (CIWQS), Wastewater Violation Report, Facilities, accessed June 2, 2015 at: [https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?vioReportType=Violation&reportID=2527024&inCommand=drilldown&reportName=PublicVioFacilityReport&group=Contra Costa](https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?vioReportType=Violation&reportID=2527024&inCommand=drilldown&reportName=PublicVioFacilityReport&group=Contra+Costa).

<sup>62</sup> State Water Resources Control Board, California Integrated Water Quality System Project (CIWQS), Enforcement Orders Report, accessed June 2, 2015 at: <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet>.

<sup>63</sup> Central Contra Costa Sanitary District, Facilities Overview: Treatment Plant, accessed June 2, 2015 at: <http://www.centalsan.org/index.cfm?navId=154>.

percolation areas, and therefore construction of new or expanded stormwater drainage facilities would not be required.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) <i>Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Implementation of the proposed project would temporarily consume water for suppression of dust during demolition, excavation, backfilling, and grading activities. Although an estimate of the amount that would be used for this purpose was not available, the amount is presumed to be moderate for several reasons. Groundwater will be encountered in the excavations, so some of the soil that would be excavated would be saturated and would not generate dust. Furthermore, the area of disturbance would be limited, and would be far smaller than many typical construction projects that include grading of multiple acres of land. Finally, the haul route across the CNWS would be over approximately 5,100 feet of paved road and 3,750 feet of unpaved road that would be graveled prior to the initiation of remediation work. Therefore, haul trucks, which would be covered, would not be a significant source of dust generation and watering of the haul route would not be required. The consumption of water for dust suppression and washing of equipment would be short-term and would be a minute fraction of the daily water consumption in the area. There is no potential for the short-term water demand from the project to adversely affect the water supply or require new entitlements.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e) <i>Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: The proposed project would not result in new generation of conventional wastewater. The project would not entail construction of new facilities with the potential to generate wastewater, and throughout implementation of the remediation activities there would be a portable chemical toilet on the site for use by workers. However, as discussed in Section IX(a), the project would discharge contaminated groundwater to the sanitary sewer in accordance with a Special Discharge Permit from the Central Contra Costa Sanitary District (CCCSD), which requires the project sponsor to treat the contaminated groundwater prior to discharging it to the sanitary sewer. The CCCSD Permit does not allow the discharge of contaminated groundwater to the sanitary sewer above specified thresholds. The amount of wastewater that would be discharged to the sanitary sewer would be negligible relative to the CCCSD's existing treatment capacity, and issuance of the Special Discharge Permit by the CCCSD demonstrates that the District has sufficient capacity to serve the short-term needs of

the proposed project. Therefore, the project would have a *less-than-significant impact* on wastewater treatment capacity and facilities.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) <i>Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: Solid waste generated by the project, including non-hazardous soil excavated from the remediation area, would be disposed of at Keller Canyon Landfill, located about 3 miles north of the project site. As discussed in Section VIII(a), the soil excavated during remediation would be sampled and tested prior to shipment to the landfill to confirm that it is non-hazardous and can be legally disposed of at this Class II landfill. In the unlikely event any of the soil exceeds regulatory thresholds for hazardous waste, that soil would be transported by truck in covered roll-off containers designed to contain hazardous waste for disposal at a Class I hazardous waste disposal facility. Please see Section VIII(a) for additional information.

The resulting debris from demolition of the affected former residence would be separated mechanically and by hand into segregated waste streams, such as concrete, wood, metal, roofing materials, insulation, etc. and would be hauled in trucks to Keller Canyon Landfill for proper disposal as demolition debris.

Keller Canyon Landfill is a Class II landfill that accepts municipal solid waste, non-liquid industrial waste, contaminated soils, ash, grit, and sludges. Design capacity is approximately 75 million cubic yards (cy) by volume, with a net disposal capacity of about 60 to 64 million cy. At the time Contra Costa County submitted a 2006 AB939 Annual Report to the California Integrated Waste Management Board (CIWMB) (now CalRecycle), the estimated remaining capacity of the landfill was sufficient to accommodate the projected waste stream until 2040 or 2050.<sup>64</sup> Annual disposal in 2008 was approximately 782,688 tons of waste, equivalent to about 2,609 tons per day (TPD). However, the landfill has a permitted capacity of 3,500 TPD and has an application pending before the County to increase the maximum daily tonnage to 4,900 TPD.<sup>65</sup>

The waste that would be generated by the project would be a minute amount relative to the daily volume of waste disposed of at Keller Canyon Landfill. Furthermore, there would not be ongoing generation of waste; the waste soil and demolition debris would be generated over a short time period, and no more waste would be generated following completion of the remediation activities. As noted above, Keller Canyon Landfill has sufficient remaining disposal capacity to accommodate the current and anticipated waste stream for well over 20 years, and the proposed project would have an infinitesimally small effect on the capacity of the landfill. Therefore, the project would have a *less-than-significant impact* on solid waste disposal capacity.

<sup>64</sup> City of Concord, Concord Community Reuse Project Office, *Concord Community Reuse Plan Draft Revised Environmental Impact Report*, State Clearinghouse No. 2007052094, Chapter 16: Utilities, Section 16.1.4.2: Landfills, August 2009.

<sup>65</sup> Contra Costa County, Conservation and Development Department, Keller Canyon Landfill–Application to Amend Land Use Permit, accessed May 21, 2015 at: <http://www.cccounty.us/4984/Keller-Canyon-Landfill>.

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE** —

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) <i>Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: There is no potential for the project to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal so long as the mitigation measures identified in Appendix BIO-1 are implemented. There is a remote possibility for encountering buried historic/prehistoric cultural resources on the site, but mitigation measures have been identified in Section V to minimize potential impacts in the event such resources are encountered during project construction. As previously noted, although the Water Board lacks the specific authority to enforce the most of the mitigation measures identified in this Initial Study, the project applicant has agreed to implement all of the mitigation measures identified herein, and they will be incorporated into an SCR Order as enforceable requirements.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) <i>Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Explanation: No significant cumulative impacts were identified for the proposed project.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) <i>Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Explanation: During implementation of the project, air emissions from contaminated soil and operation of construction equipment could potentially have adverse effects on project workers. In addition, operational noise from heavy equipment could adversely affect neighboring residents. Implementation of mitigation measures identified in sections III, Air Quality, and XII, Noise, would reduce these potentially significant impacts to less-than-significant levels. As previously noted, although the Water Board lacks the specific authority to enforce the most of the mitigation measures identified in this Initial Study, the project applicant has agreed to implement all of the mitigation measures identified herein, and they will be incorporated into an SCR Order as enforceable requirements.

## REPORT PREPARATION

This Initial Study and Mitigated Negative Declaration was prepared under the direction of Douglas Herring & Associates (DHA), with support from Monk & Associates, the RCH Group, Tom Origer & Associates, PHA Transportation Consultants, and the Water Board. This IS/MND reflects the independent review, analyses and judgment of the Water Board, as the lead agency for the project. Project participants included:

Project Manager:	Doug Herring, AICP, Principal Douglas Herring & Associates 1331 Linda Vista Drive El Cerrito, CA 94530
Water Board:	Ross Steenson, CHG Groundwater Protection and Waste Containment Division San Francisco Bay Regional Water Quality Control Board 1515 Clay Street, Suite 1400 Oakland, CA 94612
Air Quality:	Mike Ratte, Senior Air Quality Scientist RCH Group 11060 White Rock Road, Suite 150-A Rancho Cordova, CA 95670
Biological Resources:	Geoff Monk, Principal Monk & Associates, Inc. 1136 Saranap Avenue, Suite Q Walnut Creek, CA 94595
Cultural Resources:	Janine Origer, Senior Associate Tom Origer & Associates P.O. Box 1531 Rohnert Park, CA 94927
Traffic:	Pang Ho, Principal PHA Transportation Consultants 2711 Stuart Street Berkeley, CA 94705

## MITIGATION MEASURES

### Air Quality

**Mitigation Measure AQ-1:** *BAAQMD Required Dust Control Measures:* The contractor shall reduce remediation-related air pollutant emissions by implementing BAAQMD's basic fugitive dust control measures, including:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- A publically visible sign shall be posted with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
- Stockpiles and waste containers (e.g. trucks, roll-off bins) shall be covered at all times when not in use. Additionally, any open excavations with impacted soil shall be covered at the end of the day prior to leaving the site. Any exposed non-contaminated soil shall be wetted to prevent fugitive dust.
- Perimeter monitoring for fugitive dust shall be performed during all soil moving activities.
- If dust from activities on the site is observed, immediate corrective actions shall be taken to minimize dust generation using the measures listed above and/or the work shall be temporarily halted until more favorable conditions exist.

**Mitigation Measure AQ-2:** *BAAQMD Required Basic Exhaust Emissions Reduction Measures:* The contractor shall implement the following measures during excavation to reduce remediation-related exhaust emissions:

- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for workers at all access points.
- All off-road equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

**Mitigation Measure AQ-3:** *BAAQMD Enhanced Exhaust Emissions Reduction Measures:* The contractor shall implement the following measures during excavation to further reduce remediation-related exhaust emissions:

All off-road equipment greater than 25 horsepower (hp) and operating for more than 20 total hours over the entire duration of remediation activities shall meet the following requirements:

- Where access to alternative sources of power are available, portable diesel engines shall be prohibited; and
- All off-road equipment shall have:
  - a) Engines that meet or exceed either USEPA or CARB Tier 2 off-road emission standards, and
  - b) Engines that are retrofitted with a CARB Level 2 Verified Diesel Emissions Control Strategy (VDECS). Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such are available.

**Mitigation Measure AQ-4:** *Implement a Health and Safety Plan.* The contractor shall implement an air monitoring program to identify required health and safety procedures, thresholds for action, equipment, and frequency of monitoring. VOC concentrations shall be measured continually during all excavation activities.

**Mitigation Measure AQ-5:** *Implement an Odor Control Plan.* The construction contractor shall prepare and implement an odor control plan to identify measures to prevent on- and off-site odor nuisances throughout implementation of the project. At a minimum, required procedures shall include: (a) limiting the area of open excavations and (b) shrouding open excavations with plastic sheeting or other covers. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances

would include: (c) direct load-out of soils to trucks for off-site disposal or (d) use of the same technique as employed during the emergency response activities, namely utilizing a high pressure washer with a vapor suppressant (mixture of water, Simple Green, and Sulfree). If nuisance odors are identified during remediation, work shall be halted and the source of odors would be identified and corrected. Work shall not resume until all nuisance odors have been abated.

## Biological Resources

**Mitigation Measure BIO-1:** To compensate for the loss of one “protected” California black walnut, in accordance with the Concord Municipal Code, 3, five gallon California black walnuts will be planted on the project site as the smaller size will ensure higher odds of survival at the project site.

Additional compensatory mitigation includes that the private property at 330 Holly Drive will be restored to a natural landscape condition. All structures will be removed down to the dirt. The vegetable beds and landscape vegetation will be removed from a drainage swale on this property. In addition, the applicant will implement a native oak woodland planting plan on the western one half of the private property where the structures are being removed. Upon completion of the remediation project the private property at 330 Holly Drive will be preserved in perpetuity via recordation of an open space Perpetual Deed Restriction that is recorded on the title of the private property. The native oak tree restoration project will create a wildlife oasis between residential subdivisions south of the former Residential residence and the CNWS. M&A also confirmed in a meeting with the City of Concord on September 18, 2015 that under the City of Concord Reuse Plan for the CNWS, that the area of the CNWS affected by the proposed remediation project, and significant contiguous acreage to the north of this area will be deeded directly from the U.S. Navy to the East Bay Regional Park District to be managed as open space/park land. Thus, in consideration that an existing conservation easement occurs immediately south of the private property at 330 Holly Drive, and 1.4 acres of the private property at 330 Holly Drive will be permanently protected as open space via the recordation of an open space Perpetual Deed Restriction, the restored and preserved private property will add to a significant regional open space.

**Mitigation Measure BIO-2:** In order to avoid impacts to nesting birds, a nesting survey should be conducted 15 days prior to commencing with construction work or tree removal if this work would commence between February 1<sup>st</sup> and August 31<sup>st</sup>. The nesting survey should include examination of all trees within 200 feet of the entire project site (i.e., within a zone of influence of nesting birds), not just trees slated for removal. The zone of influence includes those areas off the project site where birds could be disturbed by earth-

moving vibrations and/or other construction-related noise. A nest survey report should be prepared upon completion of the survey and provided to the City of Concord with any recommendations required for establishment of protective buffers as necessary to protect nesting birds.

If birds are identified nesting on or within the zone of influence of the construction project, a qualified biologist should establish a temporary protective nest buffer around the nest(s). The nest buffer should be staked with orange construction fencing or orange lath staking. The buffer must be of sufficient size to protect the nesting site from construction related disturbance and should be established by a qualified ornithologist or biologist with extensive experience working with nesting birds near and on construction sites. Nesting buffers can be up to 50 feet from the nest site or nest tree dripline for small birds and up to 300 feet for sensitive nesting birds that include several raptor species known from the region of the site. The amount, extent, and timing of disturbance are all relative parameters that must be evaluated by a qualified ornithologist to establish an effective nesting buffer that will prevent harm to the eggs and/or young. Upon completion of nesting surveys, if nesting birds are identified on or within a zone of influence of the site, a qualified ornithologist/biologist that frequently works with nesting birds should prescribe adequate nesting buffers to protect the nesting birds from harm.

No construction or earth-moving activity should occur within any established nest protection buffer prior to September 1 unless it is determined by a qualified ornithologist/biologist that the young have fledged (that is, left the nest) and have attained sufficient flight skills to avoid project construction zones, or that the nesting cycle is otherwise completed. In the region of the project site, most species complete nesting by mid-July. This date can be significantly earlier or later, and would have to be determined by the qualified biologist. At the end of the nesting cycle, and abandonment of the nest by its occupants, as determined by a qualified biologist, temporary nest buffers may be removed and construction may commence in established nesting buffers without further regard for the nest site.

**Mitigation Measure BIO-3:** In order to avoid impacts to roosting special-status bats, a biologist should survey trees and buildings on the project site 15 days prior to commencing with any removal or demolition. All bat surveys should be conducted by a biologist with known experience surveying for bats. If no special-status bats are found during the surveys, then there would be no further regard for these bat species.

If special-status bat species are found on the project site a determination should be if there are young bats present. If young are found roosting in any tree or building, impacts to the tree or building should be avoided until the young have reached independence. A non-disturbance buffer fenced with orange construction fencing should also be established around the

maternity site. The size of the buffer zone should be determined by a qualified bat biologist at the time of the surveys. If adults are found roosting in a tree or building on the project site but no maternal sites are found, then the adult bats can be flushed or a one-way eviction door can be placed over the tree cavity (or building access opening) prior to the time the tree or building in question would be removed or disturbed. No other mitigation compensation would be required.

**Mitigation Measure BIO-4:** Based on the Corps confirmed map, jurisdictional 0.20 acre of seasonal wetland and 0.01 acre of ephemeral drainage will be impacted by the project. The applicant is applying for a Corps permit, requesting authorization to use Nationwide Permit (NWP) 20 (Oil Spill Cleanup) and 47 for impacts to 0.21 acre of waters of the U.S./State. NWP 47 authorizes activities required for the inspection, repair, rehabilitation, or replacement of any currently serviceable structure or fill for pipelines that have been identified by the Pipeline and Hazardous Materials Safety Administration's Pipeline Safety Program (PHP) within the U.S. Department of Transportation as time sensitive and additional maintenance activities done in conjunction with the time sensitive inspection and repair activities. A 401 water quality certification will be required from the Water Board to fill the waters of the State on the project site.

There are no wetland conservation banks approved for use by the San Francisco Regulatory District of the Corps and/or the Water Board available for use by the applicant to compensate for impacts to waters of the U.S./State from the initial remediation emergency response. Thus, to mitigate impacts to waters of the U.S. and State the applicant is proposing to re-create seasonal wetlands and other water swales at the project site in the same immediate area where these features were impacted. To mitigate for permanent impacts to 404 square feet (202 linear feet) of ephemeral drainage ("other waters") that occurred during the initial emergency response in 2011-2012, in 2012 the applicant created two new drainage swale features on the CNWS. In addition, a third drainage swale is proposed to be created on the private property at 330 Holly Drive (Sheet 3). The created drainage swale on this property will deliver storm event flows to the re-created seasonal wetlands on the CNWS. The new swales (other waters) total 785 linear feet providing a 3.9:1 mitigation ratio for linear impacts to waters of the U.S./State. In addition, proposed re-created seasonal wetlands on the project site total 10,650 square feet providing a 1.25:1 mitigation ratio for seasonal wetland impacts that occurred during the emergency response.

Additional compensatory mitigation includes that the private property at 330 Holly Drive will be restored to a natural landscape condition. All structures will be removed down to the dirt. The vegetable beds and landscape vegetation will be removed from a drainage swale on this property. In addition, the applicant will implement a native oak woodland planting plan on the western one half of the private property where the

structures are being removed. Upon completion of the remediation project the private property at 330 Holly Drive will be preserved in perpetuity via recordation of an open space Perpetual Deed Restriction that is recorded on the title of the private property. The native oak tree restoration project will create a wildlife oasis between residential subdivisions south of the former residence and the CNWS. M&A also confirmed in a meeting with the City of Concord on September 18, 2015 that under the City of Concord Reuse Plan for the CNWS, that the area of the CNWS affected by the proposed remediation project, and significant contiguous acreage to the north of this area will be deeded directly from the U.S. Navy to the East Bay Regional Park District to be managed as open space/park land. Thus, in consideration that an existing conservation easement occurs immediately south of the private property at 330 Holly Drive, and 1.4 acres of the private property at 330 Holly Drive will be permanently protected as open space via the recordation of an open space Perpetual Deed Restriction, the restored and preserved private property will add to a significant regional open space.

**Mitigation Measure BIO-5:** Any proposed changes/modifications to the drainage swale on the private property at 330 Holly Drive would require entering into a SBAA with CDFW. The applicant may satisfy this mitigation requirement by providing the City of Concord with a fully executed copy of a SBAA with CDFW for the project. The conditions of the executed SBAA shall become a condition of project approval.

**Mitigation Measure BIO-6:** The USFWS has already provided an incidental take permit for the portion of the project on the CNWS and the work area on the CNWS will not be expanded by the project. In addition, the CNWS is exempt from state laws/regulations. Accordingly, no new incidental take permit is required for proposed remediation work on the CNWS. However, all avoidance measures required by the USFWS's BO must be implemented prior to commencing with remediation work on the CNWS.

Pursuant to Section 2081 of the Fish and Game Code, incidental taking authority must be obtained from the CDFW for impacts to the swale on the private property located at 330 Holly Drive. Similarly, as the USFWS did not cover the private property at 330 Holly Drive with its BO for the emergency project, this agency must also amend its BO (or reissue a BO) for the Corps prior to the time the Corps can issue its permit for the project. The proposed remediation project shall not be allowed to commence until such time that incidental take permits are issued by the CDFW and USFWS, or there is written evidence that these agencies have declined to process incidental take permits for the remediation project.

Avoidance measures that must be implemented per the USFWS' last BO include that the project area be excluded from migrating California tiger salamanders via the installation of an exclusion

fence. The exclusion fence shall consist of a qualified wildlife exclusion fence material for California tiger salamanders such as silt fence or a commercially available wildlife exclusion fence such as those made by ERTEC Corporation. The project site should be surrounded with silt fencing backed by orange construction fence, or with an orange silt fence. The silt fencing should either be landscape stapled every three inches and/or be buried three inches deep along the bottom edge to prevent animals from slipping under the fence. A qualified biologist should conduct a pre-installation survey of the fence installation area immediately prior to installation and should inspect it daily for the duration of the project.

**Mitigation Measure BIO-7:** The USFWS has already provided an incidental take permit for the portion of the project on the CNWS and the work area on the CNWS will not be expanded by the project. Accordingly, no new incidental take permit is required for proposed remediation work on the CNWS. However, the USFWS did not cover the private property at 330 Holly Drive and thus, this agency must amend its BO (or reissue a BO) for the Corps prior to the time the Corps can issue its permit for the project. The proposed remediation project shall not be allowed to commence until such time that an incidental take permit is issued by the USFWS for the private property at 330 Holly Drive, or there is written evidence that USFWS has declined to process a new or amended incidental take permit for the remediation project.

The project site should be staked and surrounded with silt fencing backed by orange construction fence. The silt fencing should be installed at the bottom edge either via installation of landscape staples and in lieu of landscape staples should be buried three inches deep along the bottom edge to prevent animals from slipping under the fence. A qualified biologist should conduct a pre-installation survey of the fence installation area immediately prior to installation and should inspect it daily for the duration of the project.

All construction equipment and work should be limited to the area within the fenceline. This minimizes the project-related disturbance to habitats outside the footprint of the project to the maximum extent possible. A biologist should remain onsite during the remediation work to salvage any California red-legged frog or California tiger salamander should one be encountered over the course of the remediation work. If a federally listed species is encountered then all work should be paused while USFWS is consulted for appropriate next steps.

Best Management Practices should be implemented to minimize the potential mortality, injury or other impacts to federally listed species. All trash items should be removed daily from the project site to reduce the potential for attracting predators such as crows and ravens. Any impacted soils and materials that are excavated should be containerized and removed from the site expeditiously to prevent local wildlife and federally listed species from becoming exposed or killed by the effects of petroleum products.

All fueling and maintenance of equipment and vehicles, and staging areas should remain at least 20 meters (67 feet) from any drainage feature, or as far away as available space allows at the work area.

### Cultural Resources

**Mitigation Measure CR-1:** If any historic or prehistoric cultural artifacts are encountered during site disturbance, all ground disturbance within 100 feet of the find shall be halted until the San Francisco Bay Regional Water Quality Control Board (Water Board) and the City of Concord are notified, and a qualified archaeologist can identify and evaluate the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the resource(s). Indicators of historic resources could include items of ceramic, glass, or metal, and could include building foundations. Prehistoric indicators could include chipped chert and obsidian tools and tool manufacture waste flakes; grinding and hammering implements; or locally darkened soil.

The results of any additional archaeological effort required through the implementation of Mitigation Measures CR-1 or CR-2 shall be presented in a professional-quality report to the Water Board, the City of Concord, and the Northwest Information Center at Sonoma State University in Rohnert Park. The project sponsor shall fund and implement the mitigation in accordance with Section 15064.5(c)-(f) of the *CEQA Guidelines* and Public Resources Code Section 21083.2.

**Mitigation Measure CR-2:** In the event that any human remains are encountered during site disturbance, all ground-disturbing work shall cease immediately and a qualified archaeologist shall notify the Coroner's Division of the Contra Costa County Office of the Sheriff and advise that office as to whether the remains are likely to be prehistoric or historic period in date. If determined to be prehistoric, the Coroner's Division will notify the Native American Heritage Commission of the find, which, in turn, will then appoint a "Most Likely Descendant" (MLD). The MLD in consultation with the archaeological consultant and the project sponsor, shall advise and help formulate an appropriate plan for treatment of the remains, which might include recordation, removal, and scientific study of the remains and any associated artifacts. After completion of analysis and preparation of the report of findings, the remains and associated grave goods shall be returned to the MLD for reburial.

**Mitigation Measure CR-3:** If any paleontological resources are encountered during site grading or other construction activities, all ground disturbance shall be halted until the services of a qualified paleontologist can be retained to identify and evaluate the scientific value of the resource(s) and, if necessary, recommend mitigation measures to document and prevent any significant adverse effects on the

resource(s). Significant paleontological resources shall be salvaged and deposited in an accredited and permanent scientific institution, such as the University of California Museum of Paleontology (UCMP).

### Hydrology and Water Quality

**Mitigation Measure WQ-1:** Prior to issuance of a grading permit the project sponsor shall obtain National Pollutant Discharge Elimination System (NPDES) construction coverage as required by Construction General Permit (CGP) No. CAS000002, as modified by State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ. In accordance with the CGP requirements, the project applicant shall electronically file the Permit Registration Documents (PRDs), which include a Notice of Intent (NOI), a risk assessment, site map, signed certification, Stormwater Pollution Prevention Plan (SWPPP), and other site-specific PRDs that may be required. The SWPPP shall be prepared by a Qualified SWPPP Developer who has attended a training course sponsored or approved by the Water Board.

At a minimum the SWPPP shall identify Best Management Practices (BMPs) for implementation during project construction that are in accordance with the applicable guidance and procedures contained in the California Stormwater Quality Association's *California Stormwater Best Management Practices Handbook* (2015), or as required by the Contra Costa Clean Water Program. Typical construction BMPs may include hay bales, water bars, covers, sediment fences, sediment ponds, geotextile blankets, fiber rolls, temporary slope drains, mulching of exposed areas vehicle mats in wet areas, and other erosion-reducing features. The remediation contractor shall implement the BMPs identified in the SWPPP throughout the remediation work to help stabilize graded areas and reduce erosion and sedimentation. Structural construction BMPs shall be installed prior to initiation of ground disturbance.

### Traffic and Transportation

**Mitigation Measure T-1:** (a) The contractor shall widen/pave an area at the CNWS entrance to create a better angle for tractor-trailer trucks to turn in and out of the CNWS site. Figure T-5 shows options for the recommended paving/widening at the access point to improve truck access.

**OR**

(b) The contractor shall employ flag men/women to halt traffic in both lanes while trucks maneuver out onto Bailey Road.

OR

(c) The contractor shall use smaller roll-off container trucks for hauling. Using smaller trucks would mean more haul trips, but Bailey Road carries relatively low traffic volumes and would be able to accommodate the additional trips that would be generated by using smaller trucks. Therefore, this mitigation measure would not create any significant traffic impacts on Bailey Road.

**Mitigation Measure T-2:** Once the type of truck to be used has been selected, the contractor shall test the truck to verify that safe turning movements can be made to and from the Concord Naval Weapons Station (CNWS) entrance on Bailey Road. If turning movement difficulties are identified, the contractor shall use smaller roll-off container trucks for hauling.

**Mitigation Measure T-3:** The contractor shall place temporary warning signs on Bailey Road near the Concord Naval Weapons Station (CNWS) access point to warn motorists of truck access.

**Mitigation Measure T-4:** The contractor shall establish safety and precautionary procedures for truckers as set forth in the health and safety plan.

**Mitigation Measure T-5:** The contractor shall require all truckers to test drive the haul route prior to hauling.

**Mitigation Measure T-6:** The contractor shall require truckers to cover haul containers to avoid leaving debris on the roadway during transport, inspect the haul route, and clean up at the end of the day if debris is found.

**Mitigation Measure T-7:** The contract for the proposed work shall prohibit truckers from hauling soil or waste on Bailey Road during the peak commute hours. Hauling shall be prohibited between 7:00 a.m. and 8:00 a.m. and between 4:45 p.m. and 5:45 p.m.

Although the Water Board lacks the specific authority to enforce the preceding mitigation measures, the project applicant has agreed to implement all of the mitigation measures listed above, and they will be incorporated into an SCR Order as enforceable requirements.