

cooperate with the paleontological monitoring and salvage activities. Paleontological resources should also be discussed at the pre-bid meeting.

Based on currently available information, the specific mitigation measures contemplated for possible incorporation into this project's Paleontological Mitigation Plan if it becomes necessary are included in Section 2.4, Construction Impacts (Paleontology).

2.2.5 Hazardous Waste or Materials

Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

The main federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 and the Resource Conservation and Recovery Act of 1976. The purpose of the Comprehensive Environmental Response, Compensation and Liability Act, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include the following:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated mainly under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

Affected Environment

The following reports were prepared for the proposed project:

- An Initial Site Assessment (ISA) – June 2009
- Asbestos and Lead-containing Paint Survey Report – February 2010
- Preliminary Site Investigation Report – June 2010
- Addendum to the Initial Site Assessment – June 2010
- Site Investigation Report – Geophysical Survey and Potholing – April 2011
- Underground Storage Tank Removal Report – May 2012

The Initial Site Assessment evaluated 40 properties and several routine construction issues within the existing highway corridor that could have the potential to affect the project. These properties are typically sites with known or suspected soil and/or groundwater contamination due to leaks from underground fuel storage tanks. Of the 40 properties, 16 properties were classified as high and medium risk for potential impacts. The remaining properties were considered a low risk to the project and were not studied any further.

An addendum to the Initial Site Assessment was prepared in June 2010 to reevaluate the risk to the project by the adjacent medium- and high-risk properties based on revisions to planned construction activities and further refinement of the areas of construction. This evaluation reduced four properties from a high/medium risk to a low risk.

A Preliminary Site Investigation was prepared in June 2010. The purpose and scope further analyzed areas within the highway right-of-way near the remaining 12 properties classified as high and medium risk for potential impacts. Soil and groundwater were sampled near these 12 locations for gasoline, diesel, and motor oil in areas to be excavated during construction (see Table 2.28 and Figure 2-20). This testing determined

that the contaminant levels were lower than expected at 11 properties. As a result they were reclassified from a high/medium risk to a low risk.

The remaining property (number 12) was a location within the Caltrans right-of-way where an abandoned underground storage tank was found. Caltrans obtained an underground storage tank removal permit from the County of Santa Barbara Fire Prevention Division. In May 2012, the 1,000-gallon oil underground storage tank was removed with oversight by the County of Santa Barbara Fire Prevention Division and the Carpinteria-Summerland Fire Protection District. The County of Santa Barbara Fire Prevention Division issued a No Further Action-required letter in June 2012.

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Figure 2-20 Preliminary Site Investigation—Potential Contamination Locations

Table 2.28 Risk Potential for Contamination

Map Id No.	Location/Address	ISA Risk of Potential Contamination	Potential Chemicals of Concern	Preliminary Site Investigation Activities and Results	PSI Risk of Potential Contamination After Testing
1	Former Shell Service Station 1000 Coast Village Road, Montecito	High	* Former service station with reported petroleum hydrocarbon releases to soil and groundwater.	Collected soil samples upgradient of facility (boring NB1); groundwater was not encountered. Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level and CAM 17 metal concentrations within typical background concentration ranges.	Low
2	Chevron Station 1085 Coast Village Road, Montecito	High	Active service station with reported petroleum hydrocarbon releases to soil and groundwater.	Collected soil samples downgradient of facility (boring NB5); groundwater was not encountered. Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level and CAM 17 metal concentrations within typical background concentration ranges.	Low
3	Carpinteria Fire Station No. 2 2375 Lillie Avenue, Montecito	Medium	Potential for petroleum hydrocarbon release from past (UST) operation.	Collected soil and grab-groundwater samples adjacent to property (boring NB10). Soil samples were non-detect for petroleum hydrocarbons and VOCs; CAM 17 metal concentrations within typical background concentration ranges. Grab-groundwater sample was non-detect for petroleum hydrocarbons and VOCs; CAM 17 metal concentrations above FPD Investigation Levels. Groundwater encountered during construction may require treatment to reduce sediment content and metal concentrations prior to discharge.	Low
4	Gallup & Stribling 3450 Via Real, Carpinteria	Medium	Former fueling facility with reported petroleum hydrocarbon releases to soil from facility operations.	Collected soil and grab-groundwater samples adjacent to property (boring NB11). Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level and CAM 17 metal concentrations within typical background concentration ranges. Grab-groundwater sample was non-detect for petroleum hydrocarbons and VOCs; CAM 17 metal concentrations above FPD Investigation Levels. Groundwater encountered during construction may require treatment to reduce sediment content and metal concentrations prior to discharge.	Low
5	S.B. Harley-Davidson 3501-3508 Via Real, Carpinteria	Medium	Automotive repair facility with potential petroleum hydrocarbon release from facility operations.	Collected soil and grab-groundwater samples adjacent to properties (boring NB12). Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level and CAM 17 metal concentrations within typical background	Low

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Map Id No.	Location/Address	ISA Risk of Potential Contamination	Potential Chemicals of Concern	Preliminary Site Investigation Activities and Results	PSI Risk of Potential Contamination After Testing
				<p>concentration ranges.</p> <p>Grab-groundwater sample contained toluene below FPD Investigation Level and was non-detect for VOCs; CAM 17 metal concentrations above FPD Investigation Levels.</p> <p>Groundwater encountered during construction may require treatment to reduce sediment content and metal concentrations prior to discharge.</p>	
6	Corvette Shop 3651 Via Real, Carpinteria	Medium	Apparent former gas station and automotive repair/service facility with potential petroleum hydrocarbons.	Same as above	Low
7	McCormix Corporation 3663 Via Real, Carpinteria	Medium	Active service station with reported petroleum hydrocarbon releases to soil and groundwater.	Same as above	Low
8	Sandyland Nursery 3890 Via Real, Carpinteria	Medium	Historical gasoline and diesel USTs; generator of pesticide rinse water and unspecified oil containing waste. Potential for petroleum hydrocarbon and pesticide release from facility operations.	<p>Collected soil and grab-groundwater samples adjacent to property (boring NB17).</p> <p>Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level, VOCs were non-detect, and CAM 17 metal concentrations within typical background concentration ranges.</p> <p>Grab-groundwater sample was non-detect for petroleum hydrocarbons and VOCs; CAM 17 metal concentrations above FPD Investigation Levels.</p> <p>Groundwater encountered during construction may require treatment to reduce sediment content and metal concentrations prior to discharge.</p>	Low
9	Ocean Breeze Int'l 3910 Via Real, Carpinteria	Medium	Potential for petroleum hydrocarbon release from historical operation of gasoline and diesel USTs.	<p>Collected soil and grab-groundwater samples adjacent to property (boring NB18).</p> <p>Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level, VOCs were non-detect, and CAM 17 metal concentrations within typical background concentration ranges.</p> <p>Grab-groundwater sample was non-detect for petroleum hydrocarbons and VOCs; CAM 17 metal concentrations above FPD Investigation Levels.</p> <p>Groundwater encountered during construction may require treatment to reduce sediment content and metal concentrations prior to discharge.</p>	Low
10	Chevron Station 9-3005 4290 Via Real, Carpinteria	High	Active service station with reported petroleum hydrocarbon releases to soil and groundwater.	<p>Collected soil and grab-groundwater samples adjacent to property (boring NB19).</p> <p>Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level, VOCs were non-detect, and CAM 17 metal concentrations within</p>	Low

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Map Id No.	Location/Address	ISA Risk of Potential Contamination	Potential Chemicals of Concern	Preliminary Site Investigation Activities and Results	PSI Risk of Potential Contamination After Testing
				<p>typical background concentration ranges.</p> <p>Grab-groundwater sample contained MTBE below FPD Investigation Level and was non-detect for VOCs; CAM 17 metal concentrations above FPD Investigation Levels.</p> <p>Groundwater encountered during construction may require treatment to reduce sediment content and metal and MTBE concentrations prior to discharge.</p>	
11	<p>Union Oil (aka Tosco, Conoco, Unocal, 7-11, etc.) Service Station</p> <p>4401 Via Real, Carpinteria</p>	High	<p>Active service station with reported releases of TPHg, VOCs, and fuel oxygenates to soil and groundwater.</p>	<p>Collected soil and grab-groundwater samples adjacent to property (borings NB21 and SB21).</p> <p>Soil samples contained petroleum hydrocarbons at concentrations below the FPD Investigation Level, VOCs were non-detect, and CAM 17 metal concentrations within typical background concentration ranges.</p> <p>Grab-groundwater sample(s) contained MTBE (at NB-21) equal to FPD Investigation Level and were non-detect for VOCs; CAM 17 metal concentrations above FPD Investigation Levels.</p> <p>Groundwater encountered during construction may require treatment to reduce sediment content and metal and MTBE concentrations prior to discharge.</p>	Low
12	<p>Iron Oil Tank and Historic Service Station "Oil and Gas" ***</p> <p>Southwest corner of State Highway (Lillie Avenue) and Beighle (Valencia Road)</p>	Formerly High	<p>**Historical service station with potential for USTs or petroleum hydrocarbon releases from UST operations.</p> <p>Note: Tank was removed in May 2012; this site is no longer a risk to the project.</p>	<p>Performed geophysical survey which indicated the potential presence of an approximately 2,000-gallon UST greater than three feet below ground surface.</p> <p>Collected soil samples within Caltrans ROW at location of former facility (boring NB27); groundwater was not encountered.</p> <p>Soil sample contained petroleum hydrocarbons at concentrations above the FPD Investigation Level and CAM 17 metal concentrations within typical background concentration ranges.</p>	Formerly Medium changed to None after the tank was removed in May 2012

Notes: ESA – Environmental Study Area
LUST – Leaking UST
HIST UST – Historical UST
TPH – total petroleum hydrocarbons
FPD Investigation Levels – Fire Protection Division - LUFT and SMU Guidance Document

UST – Underground Storage Tank
ADL – Aerially Deposited Lead
VOCs – volatile organic compounds
HOV – High-occupancy vehicle

ROW – Right-of-way
NA – Not Applicable
MTBE – methy tert-butyl ether
TPHg – total petroleum hydrocarbons as gasoline

*Collect soil and groundwater samples to evaluate options for soil reuse or disposal, and management of water generated from de-watering activities due to potential petroleum hydrocarbon, VOC, and metals impacts.

** Conduct a geophysical survey to evaluate the presence of potential USTs and subsurface features resulting from operations at the historical service station within the SR-101 ROW.

An Asbestos and Lead-containing Paint Survey was performed to determine if asbestos-containing materials or lead-containing paint would be encountered during construction of the project. A Geophysical Survey and Potholing Site Investigation Report were performed to see whether oil wells exist within the areas to be excavated for the project. Additional construction issues associated with working in the highway corridor were also analyzed, including thermoplastic traffic striping and reuse or disposal of soil contaminated with lead from auto emissions.

Environmental Consequences

Historically, the Summerland area was the site for oil exploration and oil production. Many known and possibly many unknown wells exist in the Summerland vicinity of the project area. The Geophysical Survey and Potholing Site Investigation included a search for oil wells. None were found. As a result, the investigation determined that no known oil wells conflict with planned project improvements.

The Preliminary Site Investigation sampling showed that areas of known and suspected contamination from 11 of the 12 sites either do not extend into the highway right-of-way or are not likely to be encountered during the construction project in concentrations that warrant concern. The Preliminary Site Investigation concluded that no additional sampling was warranted at these locations and that 11 of the 12 high-medium-risk sites could be dismissed as a low risk to the project (see Table 2.28 and Figure 2-19). The twelfth site was an abandoned underground storage tank. The site was eliminated as a risk when the underground tank was removed in May 2012.

Aerially Deposited Lead

Previous sampling in the project area has determined that lead is present in concentrations that typically require the top 1 to 2 feet of soil to be disposed of as a hazardous waste if soil is excavated for the project. This is the accumulation of lead from vehicle exhaust, released when leaded gasoline was still in use. The project is being developed with this consideration. Once specific excavation limits are established during the design phase, soil sampling will be performed to characterize the soil to be excavated.

Asbestos-containing Materials

The Asbestos and Lead-containing Paint Survey documented that asbestos-containing materials were found on the following structures: Cabrillo Boulevard undercrossing, Evans Avenue undercrossing, South Padaro Lane undercrossing, and the Santa Monica Creek Bridge. These same materials are assumed to be present on the Arroyo

Parida Creek Bridge. Chrysotile asbestos was detected in the concrete drainpipe inserts on the Cabrillo Boulevard undercrossing.

Several other structures also contain asbestos sheet packing used in barrier rail systems. These structures include the Evans Avenue undercrossing, South Padaro Lane undercrossing, Arroyo Parida Creek Bridge, and Santa Monica Creek Bridge. The Asbestos and Lead-containing Paint Survey recommends that a licensed registered contractor with the California Occupational Safety and Health Administration for asbestos-related work perform the removal of such materials. The contractor would have to comply with the rules and regulations of the Santa Barbara County Air Pollution Control District and file a notification as required by the National Elimination System for Hazardous Air Pollutants before demolishing any of these structures.

Avoidance, Minimization, and/or Mitigation Measures

Once specific excavation limits are established during the design phase of the project, soil sampling would determine lead concentrations from automobile emissions to characterize the soil to be excavated for this project. Typically, excavated lead-contaminated soil must be hauled to a Class I disposal facility to be disposed of as a California hazardous waste, which results in increased roadway excavation costs. The Department of Toxic Substances Control issued a variance from state hazardous waste control law that allows Caltrans to reuse this lead-contaminated soil within the state highway corridor in accordance with the conditions of the variance. The aerially deposited lead contaminated soil may be used in the construction of new on-ramps and off-ramps or for the widening of fill sections.

In June 2009, the Department of Toxic Substances Control adopted a Negative Declaration under the California Environmental Quality Act documenting that the proposed actions and use of the variance for the reuse of aerially deposited lead contained soils within the state right-of-way would not present a significant threat to human health or the environment. Public notice was provided and public meetings were held. The U.S. 101 corridor was identified in the Negative Declaration as an area where the variance could be used.

Consistent with Policy HAZ-S-1 from the Summerland Community Plan, if any abandoned oil wells are discovered, abandonment-removal procedures from the State Department of Conservation and the Division of Oil and Gas must be followed.

Thermoplastic stripe is routinely removed as part of highway reconstruction. Caltrans would include special provisions in the construction contract that require these materials be removed in accordance with all applicable laws and regulations.

Before demolishing any asbestos-containing structures, the contractor would comply with all applicable Santa Barbara County Air Pollution Control District regulations. Any asbestos removal would be done by following all applicable laws and regulations. In addition, as stated in the National Elimination System for Hazardous Air Pollutants, a notification would be filed.

2.2.6 Air Quality

Regulatory Setting

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards. Standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂). See Table 2.29.

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—first, at the regional level and second at the project level. The proposed project must conform at both levels to be approved.

Regional-level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide, nitrogen dioxide, ozone, and particulate matter (see Table 2.29). California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the Regional Transportation Plan, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as the Santa Barbara County