

### **3.2.5 Hazardous Waste/Materials**

#### **3.2.5.1 Regulatory Setting**

Hazardous materials, including hazardous substances and wastes are regulated by many state and federal laws. Statutes govern the generation, treatment, storage, and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) 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 (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

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

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health

Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

### **3.2.5.2 Affected Environment**

Initial Site Assessment (Supplemental Report of Initial Site Assessment REV1) (March 2011) [update to the Initial Site Assessment (September 2007)], Phase II Environmental Site Assessment (July 2014), Limited Asbestos Containing Material and Lead Based Paint Survey Report (November 2014) was completed for the project. Since the original ISA was prepared in 2007, the alternatives have been developed and the improvements have been extended to the north and south.

#### ***Physical Setting***

##### **Geology**

The study area is generally in the Orange County portion of the Central Block within the Los Angeles Basin. This portion of Orange County is part of the Peninsular Range Geomorphic Province of California. The Central Block is part of a large syncline that includes up to 32,000+ ft of Late Cretaceous to Pleistocene and Recent sediments. The basement complex below the sedimentary deposits is made of Mesozoic crystalline rock types. The sedimentary deposits consist of marine and nonmarine clastic strata with some volcanic flows and breccia of the Mid-Miocene. Along the Newport-Inglewood Fault Zone (NIFZ), the southern boundary of the Central Block has a sub-sea depth of 14,000 ft of sedimentation. Within the basin, folding and faulting are present. Many of the known oil fields in the basin are associated with folds and faults along the edge of the basin.

Structurally, most of the Orange County coastal plain is underlain by the broad, northwest-plunging synclinal Los Angeles Basin, which contains up to 4,200 ft of relatively unconsolidated Pleistocene marine and nonmarine sediments (Greenwood 1980) and up to 170 ft of unconsolidated nonmarine sediments (Fuller, 1980). The mapped units along the I-405 corridor are mostly younger alluvium associated with the lowlands of the San Gabriel River and Santa Ana River, some alluvium, and other floodplain deposits. These deposits consist of loose sand, silt, and clay.

The I-405 alignment from the SR-73 interchange to the Santa Ana River skirts to the north of an older elevated alluvium terrace. This terrace to the south consists of dense silt, sand, and gravel,

with some erosional rubble. The older alluvium terrace could be shallow below thin younger alluvium deposits below the I-405 alignment.

In the central to northwestern portion of the I-405 alignment, the soils consist of young alluvial floodplain deposits derived from flooding of the ancient Santa Ana River during Late Pleistocene and Recent times. Below the surficial sediments, the Palos Verdes Sand, unnamed Pleistocene Deposits, and the uppermost portion of the San Pedro Formation are present. These three geological units and formation are Pleistocene water-bearing units above the Silverado water-bearing unit.

### **Hydrology**

The Orange County Basin is located in north and central Orange County within the lower Santa Ana River watershed (DWR 2007). The Orange County Basin is bounded by the Coyote and Chino hills to the north, the Santa Ana Mountains to the northeast, the San Joaquin Hills to the south, and the Pacific Ocean and the NIFZ to the southwest. The Orange County Basin is separated from the Central Basin along Coyote Creek and the Orange County line, although there is no physical barrier between the two basins. The NIFZ acts as a complete barrier to flow from the ocean along most of its length in Orange County, except at ancient river crossing gaps, most notably the Alamitos Gap along the Los Angeles County line and the Talbert Gap in Huntington Beach and Costa Mesa. At these two locations, permeable river deposits cross the fault barrier, providing the opportunity for seawater to flow into the Orange County Basin.

The study area is within the Main subbasin area of the Orange County Basin. This subbasin is one of three within the Orange County Basin. Water from the other two subbasins flows into the main subbasin – southwards from the Yorba Linda subbasin and westerly from the Irvine subbasin.

The hydrogeology of the Orange County Basin is characterized by a deep structural alluvial basin containing a thick accumulation of inter-bedded sand, silt, and clay. This is expected for the Main subbasin as it lies between the San Gabriel River to the north and the Santa Ana River to the south. The upper aquifer system of the main subbasin averages approximately 200 ft in thickness and consists of alluvial sediments that include the Talbert aquifer and recent alluvium. Generally, this aquifer is not used as a water supply source, but the deeper aquifers in the Basin are used for water supply.

To protect the fresh groundwater in the basin from seawater intrusion, OCWD and Los Angeles County Department of Public Works (LACDPW) inject purchased and recycled water into the Talbert (38 wells) and Alamitos barriers (43 wells).

The shallow groundwater along the study corridor is approximately 15 ft below the adjacent ground in the area. This water is mostly a perched condition in the shallow alluvium of the area, but it may

be semiconfined in isolated areas. The sandy soil gets replenished by infiltration of rain and irrigation waters. The sand is known to follow the surface topography grading down the topography to the coast. The water of the perched to semiconfined zone is not potable for drinking without purification, but it has been withdrawn using small-capacity pumps and used for irrigation and industrial use. This unconfined sand is prevented from percolating to the lower freshwater zones by silt or clay barriers.

The groundwater flow is variable and dependent on local conditions along the corridor; however, for the most part, the water is expected to flow regionally towards the ocean or nearby drainages. The groundwater level in the study area ranged from 50 ft to 80 ft mean sea level (msl) in 2002, and rose to 30 ft to 50 ft msl in 2005. Based on the historically highest groundwater level map, historically highest groundwater levels vary from 5 to 30 ft below ground surface (bgs) along the I-405 alignment.

### **Surrounding Land Uses**

Properties adjoining the study area consist of a mix of residential, commercial, and light industrial properties. The study area runs through a populated urban setting where the primary use surrounding the freeway is residential, with commercial use located along main roads and major intersections. There are limited pockets of industrial activity that for the most part would be classified as light industrial or “garden” industrial.

### ***Hazardous Materials Setting***

The ISA was conducted to determine apparent and potential sources of contamination within the study area for the project that, by their association or proximity to the project site, could represent a Recognized Environmental Concern (REC). It was not the purpose of the ISA to determine the degree or extent of contamination, if any, but rather the potential for contamination or environmental concern. No sampling of soils or groundwater was performed as part of the assessment. The ISA was conducted in general accordance with American Society for Testing and Materials (ASTM) E-1527-05 and Caltrans District 12 ISA guidelines.

The work effort of the ISA included a review of regulatory search information prepared by Environmental Data Resources, Inc. (EDR). The search radii equaled or exceeded the criteria specified in ASTM E-1527-05. A regulatory records search of this nature is based on information published by state and federal regulatory agencies, and is used to evaluate if the project site or nearby properties are listed as having a past or present record of actual or potential environmental impact.

The following database searches, research, and reconnaissance were conducted as part of the ISA:

- Search of regulatory records regarding possible hazardous material handling, spills, storage, or production at the project site or in its vicinity.

- Review of available information to describe the general geology and hydrogeology at the project site and adjacent areas.
- Review of historic aerial photographs and topographic maps.
- Reconnaissance of the project site and the immediate surrounding area.
- Development of conclusions and findings.
- Preparation of a report describing the assessment and presentation of the results and findings.
- A statement of interpretive limitations.

As a result of the ISA, the RECs discussed below were found at the project site and immediate adjacent areas.

### **Acquisition Properties**

The Supplemental ISA prepared in 2011 stated that twelve (12) potential ROW acquisition properties are considered to be RECs, including 9 partial acquisition and up to 3 full acquisition properties which are shown below. However, since the project has been further developed, the project will result in only 4 REC partial acquisitions (those that are shown with asterisks below and in Table 3.2.5-1) and no REC full acquisitions.

- Nine REC properties were proposed for partial ROW acquisition based on 2011 ISA. The locations of these properties are shown in Figure 3.2.5-1, and details of these properties are presented in Table 3.2.5-1 and listed below:
  1. Arco #6116 (BP West Coast Products, LLC), 17520 Brookhurst Street, Fountain Valley
  2. Thrifty Oil Co. #085, 17475 Brookhurst Street, Fountain Valley
  3. Mobil #18 G3W, 15001 Goldenwest Street, Huntington Beach\*
  4. Shell Oil, 15501 Beach Boulevard, Westminster
  5. Oil Mobile Station, 14022 Springdale Street, Westminster
  6. Chevron #9-5401, 5992 Westminster Avenue, Westminster\*
  7. Shell Oil, 5981 Westminster Avenue, Westminster\*
  8. Thrifty Oil, 6311 Westminster Avenue, Westminster\*
  9. Boomers, 16800 Magnolia Street, Fountain Valley (4 of 5 parcels)
- Three potential ROW acquisition properties, which are occupied by buildings, were proposed for full ROW acquisition under all Alternatives; however, no REC was discovered for these properties as part of the database review. Also, as the project developed further, these properties are no longer subject to acquisition. The locations of these properties are shown in Figure 3.2.5-1. Details of these properties are also presented in Table 3.2.5-1 and listed below:

1. Sports Authority retail store, 9065 Warner Avenue, Fountain Valley
2. Fountain Valley Skating Center, 9105 Recreation Circle, Fountain Valley
3. Days Inn Motel, 9125 Recreation Circle, Fountain Valley

### **Non-Acquisition Properties**

Nineteen (19) Leaking Underground Storage Tanks (LUST) sites have a potential to impact groundwater conditions at the freeway ROW and are RECs. Nine (9) out of the 19 LUST sites are located adjacent to proposed street improvements.

Two dry-cleaning facilities and one Spills, Leaks, Investigations, and Cleanup (SLIC) property, which are adjacent to the proposed street improvements, have a potential to impact groundwater conditions. One dry-cleaning facility (Sher Lane Cleaners) has a potential to impact groundwater conditions within the freeway ROW at I-405/Beach Boulevard, where new bridges and widening of an existing bridge, which is an REC, are planned.

Two Department of Defense (DoD) facilities, NAVWPNSTA Seal Beach and Los Alamitos Joint Forces Training Base, are not listed in the EDR database. Review of available RWQCB and Department of Toxic Substances Control (DTSC) online files show that the RWQCB and DTSC have been overseeing environmental investigations and cleanups at DoD facilities for several years for numerous substance releases. Both of these facilities have a potential to impact groundwater conditions at the freeway ROW and are RECs.

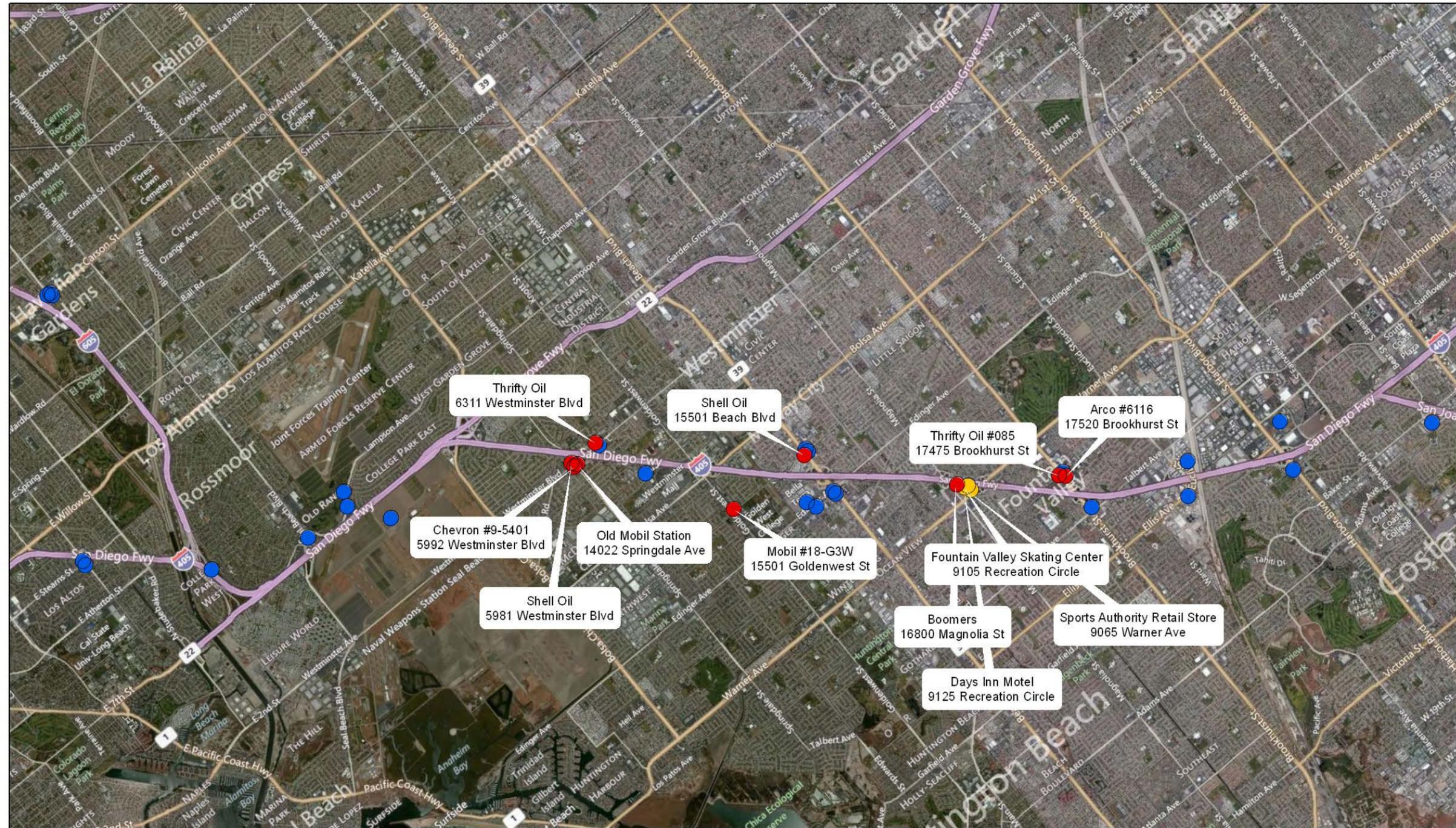
The locations of non-ROW acquisition REC properties are shown in Figure 3.2.5-1, and details of these properties are summarized in Table 3.2.5-2.

### **Other Site Concerns**

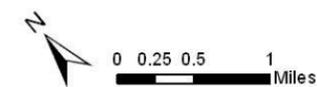
A spill of 220 gallons of diesel fuel that occurred during a traffic accident in 1987 at northbound I-405, south of I-605, is listed in the Emergency Response Notification System (ERNS) database. There are no records of site cleanup, and no additional records are available. The exact location of the spill was not available. It should be assumed that the soil in the area of release is impacted by total petroleum hydrocarbons (TPH), which might be an REC.

The site bridges were initially constructed between the 1960s and 1978. Up to 18 bridges are planned to be replaced and up to 4 widened. There is a potential that the bridges contain asbestos-containing materials (ACM) and/or lead-based paint (LBP), which were custom building materials at that time and might be RECs.

There are unpaved areas on both sides of the freeway that are locations where aerially deposited lead (ADL) may be present in the near surface soil. It should be assumed that near surface soil in the unpaved ROW is impacted by ADL, which might be an REC.



Source: Bing Maps 2011



- Full Acquisition REC Property
- Non-acquisition REC Property
- Partial ROW REC Property

Figure 3.2.5-1: REC Location Map

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Table 3.2.5-1: Database Summary Review Table of Potential ROW Acquisition REC Properties for all Alternatives (\*Alternative 3 only)

Property Name and Address	Acquisition Area (Sq/Ft)	Property Use/Type of Business	Database	Approximate Closest Distance from the Freeway (Ft)	Adjacent to the Site / Street Improvements	Media Affected	Contaminant	Site Status
Arco #6116 (BP West Coast Products LLC 06116) 17520 Brookhurst Street Fountain Valley, CA 92708	8.3	Gas Station	LUST	900	Yes	Other groundwater (uses other than drinking water), soil	Gasoline, waste oil / motor / hydraulic / lubricating	Case is open. Groundwater and soil contamination. Remediation as of January 1, 1994. 23 wells monitored - semiannually. Full or partial acquisition of this property will require a site-specific investigation. A potential impact to the site soil and groundwater. A REC to the site. <b>Potential partial ROW acquisition.</b>
Thrifty Oil #085 17475 Brookhurst Street Fountain Valley, CA 92708	3.6	Gas Station	LUST	900	Yes	Other groundwater (uses other than drinking water), soil	Gasoline	Case is open. Groundwater and soil contamination. Remediation as of September 29, 1988. 12 wells monitored quarterly, 7 semiannually. The property is adjacent to the street improvements. Full or partial acquisition of this property will require a site-specific investigation. A potential impact to the site soil and groundwater. A REC to the site. <b>Potential partial ROW acquisition.</b>
Sports Authority 9065 Warner Avenue Fountain Valley, CA 92708	182688.7	Commercial	N/A	45	Yes	TBD	TBD	<b>No full ROW acquisition is required under all Build Alternatives.</b>
Fountain Valley Skating Center 9105 Recreation Circle Fountain Valley, CA 92708	58468.1	Commercial	N/A	45	Yes	TBD	TBD	<b>No full ROW acquisition is required under all Build Alternatives.</b>
Days Inn Motel 9125 Recreation Circle Fountain Valley, CA 92708	37782.4	Commercial	N/A	40	Yes	TBD	TBD	<b>No full ROW acquisition is required under all Build Alternatives.</b>
Boomers 16800 Magnolia Street Fountain Valley, CA 92708	39759.9 48.3	Commercial	N/A	40	Yes	TBD	TBD	TBD <b>No full ROW acquisition is required under all Build Alternatives. Potential partial ROW acquisition (under all Build Alternatives; 4 of 5 parcels).</b>
*Mobil #18-G3W 15001 Goldenwest Street Huntington Beach, CA 92647	156.5	Gas Station	HAZNET, LUST	200	Yes	Aquifer used for drinking water SUP	Gasoline	Case is open. Groundwater contamination. Remediation as of April 7, 2004. 24 wells monitored quarterly. Potential impact to the site groundwater is a REC to the site. <b>Potential partial ROW acquisition.</b>
Shell Oil 15501 Beach Boulevard Westminster, CA 92683	22.2	Gas Station	LUST, CA FID USTT, HIST CORTESE	1100	Yes	Other groundwater (uses other than drinking water)	Gasoline	Case is open. Groundwater contamination. Remediation as of February 14, 2003. 19 wells monitored quarterly. Groundwater flows northeast. A potential impact to the site groundwater is a REC to the site. <b>Potential partial ROW acquisition.</b>
Old Mobil Station 14022 Springdale Avenue Westminster, CA 92683	5.3	Gas Station	LUST	50	Yes	Aquifer used for drinking water supply	Gasoline	Case is open - Site Assessment as of May 1, 2004. 11 wells monitored quarterly. Well being sampled during remedial action for progress assessment. Groundwater flows northwest. A potential impact to the site groundwater is a REC to the site. <b>Potential partial ROW acquisition.</b>
*Chevron #9-5401 5992 Westminster Avenue Westminster, CA 92683	884.3	Gas Station	LUST, CA FID USTT, SWEEPS UST, HIST CORTESE	50	Yes	Other groundwater (uses other than drinking water)	Gasoline	Case is open. Groundwater contamination. Remediation as of August 24, 2004. 19 wells monitored quarterly. A potential impact to the site groundwater is a REC to the site. <b>Potential partial ROW acquisition.</b>
*Shell Oil 5981 Westminster Avenue Westminster, CA 92683	625.4	Gas Station	LUST	50	Yes	Other groundwater (uses other than drinking water)	Waste oil / motor / hydraulic / lubricating	Case is open, Groundwater contamination. Remediation as of January 18, 2001. 15 wells monitored quarterly. A potential impact to the site groundwater is a REC to the site. <b>Potential partial ROW acquisition.</b>
*Thrifty Oil 6311 Westminster Avenue Westminster, CA 92683	473.8	Gas Station	LUST, CA FID USTT, HIST CORTESE	50	Yes	Other groundwater (uses other than drinking water)	Chlorinated hydrocarbons, gasoline	Case is open. Groundwater contamination. Remediation as of July 31, 1995. 15 wells monitored quarterly. A potential impact to the site groundwater is a REC to the site. <b>Potential partial ROW acquisition.</b>

Property Name and Address	Acquisition Area (Sq/Ft)	Property Use/Type of Business	Database	Approximate Closest Distance from the Freeway (Ft)	Adjacent to the Site / Street Improvements	Media Affected	Contaminant	Site Status
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Source: Group Delta Consultants, 2011.

**Table 3.2.5-2 Database Summary Review Table of the Non-ROW Acquisition REC Properties**

Property Name and Address	Property Use/ Type of Business	Database	Approximate Closest Distance from the Freeway (Ft)	Adjacent To The Site/ Street Improvements	Media Affected	Contaminant	Site Status
Newport Mesa Unified School 2985a Bear Street Costa Mesa, CA 92626	School	LUST	400	No	Aquifer used for drinking water supply	Gasoline, waste oil / motor / hydraulic / lubricating	Case is open. Groundwater contamination. Remediation as of October 31, 2008. 19 wells monitored quarterly, 7 semiannually. A potential impact to the site groundwater is a REC to the site.
OCSD Auto Shop 10844 Ellis Avenue Fountain Valley, CA 92708	County Office Maintenance Shop	LUST	700	No	Other groundwater (uses other than drinking water), soil	Diesel, gasoline	Case is open. Soil and groundwater contamination. Remediation as of December 12, 2006. 10 wells monitored - semiannually. A potential impact to the site groundwater is a REC to the site.
Mobil #18-HDR 3195 Harbor Boulevard Costa Mesa, CA 92626	Gas Station	LUST	350	Yes	Other groundwater (uses other than drinking water), soil	Gasoline, waste oil / motor / hydraulic / lubricating	Case is open. Soil and groundwater contamination. Remediation as of November 4, 1987. 20 wells monitored quarterly, 6 semiannually. Full or partial acquisition of this property will require a site-specific investigation. A potential impact to the site soil and groundwater is a REC to the site.
Los Angeles Times-South Tanks 1375 Sunflower Avenue Costa Mesa, CA 92626	Commercial Business	LUST	300	No	Other groundwater (uses other than drinking water), soil	Gasoline	Case is open. Soil and groundwater contamination. Verification monitoring as of February 28, 2002. 13 wells monitored annually. A potential impact to the site groundwater is a REC to the site.
Kodak Professional Laboratory 18250 Euclid Street Fountain Valley, CA 92708	Commercial Business	SLIC	400	Yes	Other groundwater (uses other than drinking water), soil	Other chlorinated hydrocarbons	Case is open. Soil and groundwater contamination. Site assessment as of August 10, 2009. No monitoring reports posted yet. Adjacent to the street improvement. Full or partial acquisition of this property will require a site-specific investigation. A potential impact to the site soil and groundwater is a REC to the site.
Texaco Service Station 17966 Brookhurst Street Fountain Valley, CA 92708	Gas Station	RCRA-SQG, FINDS, HAZNET, LUST	500	Yes	Other groundwater (uses other than drinking water), soil	Gasoline	Case is open. Site assessment as of June 30, 2004. 12 wells monitored - semiannually. Groundwater flows to the south away from I-405. Adjacent to the street improvements. Full or partial acquisition of this property will require a site-specific investigation. A potential impact to the site soil and groundwater is a REC to the site.
Exxon #7-3738 17474 Brookhurst Street Fountain Valley, CA 92708	Gas Station	LUST	900	Yes	Other groundwater (uses other than drinking water), soil	Gasoline	Case is open. Groundwater and soil contamination. Verification monitoring as of June 23, 2005. 11 wells monitored quarterly, 8 annually. Adjacent to the street improvements. Full or partial acquisition of this property will require a site-specific investigation. A potential impact to the site soil and groundwater. A REC to the site.
Huntington Center Car Wash 16061 Beach Boulevard Huntington Beach, CA 92647	Oil Change Station	LUST	750	Yes	Aquifer used for drinking water supply	Gasoline	Case is open. Groundwater contamination. Remediation as of June 10, 2003. 6 wells monitored quarterly 6, 15 semiannually, 4 annually. Full or partial acquisition of this property will require a site-specific investigation. A potential impact to the site groundwater is a REC to the site.

Table 3.2.5-2 Database Summary Review Table of the Non-ROW Acquisition REC Properties

Property Name and Address	Property Use/ Type of Business	Database	Approximate Closest Distance from the Freeway (Ft)	Adjacent To The Site/ Street Improvements	Media Affected	Contaminant	Site Status
Sher Lane Retail Center Dry Cleaner 7672-7746 Edinger Avenue Huntington Beach, CA 92647	Dry Cleaners	SLIC	760	No	Other groundwater (uses other than drinking water), soil, soil vapor	Perchloroethylene (PCE), trichloroethylene (TCE)	Case is open. Soil and groundwater contamination. Site assessment as of December 10, 2005. Two dry-cleaner facilities were located at this site. February 15, 2004, 7 push borings were advanced, soil and groundwater samples were collected. Groundwater was detected at 7 to 13 ft bgs. Groundwater samples: PCE concentrations ranged from 2.3 to 144 microgram/liter (µg/L) and TCE concentrations ranged from 4.4 to 923 µg/L. March 2, 2005, three 2-inch-diameter groundwater monitoring wells were installed. Benzene and toluene were detected in soil samples collected at 10 ft bgs from all 3 borings. Groundwater samples contained PCE ranging from Non-Detect to 824 µg/L and TCE from Non-Detect to 566 µg/L. Groundwater is sampled quarterly. A potential impact to the site groundwater is a REC to the site.
Mobil #18-D9R 16001 Beach Boulevard Huntington Beach, CA 92647	Gas Station	LUST	700	Yes	Aquifer used for drinking water supply	Gasoline, waste oil / motor / hydraulic / lubricating	Case is open. Groundwater contamination. Remediation as of May 1, 1992. 18 wells monitored quarterly, 14 semiannually, 4 annually. A potential impact to the site groundwater is a REC to the site.
JC Penny 7777 Edinger Avenue Huntington Beach, CA 92647	Retail Store	LUST	1290	No	Aquifer used for drinking water supply	Gasoline	Case is open. Groundwater contamination. Site assessment as of March 26, 2009. Well has not shown reliable consistency Yet to warrant reduction in sampling frequency. 9 wells monitored quarterly. Well within 2,000 ft of production well potential risks to human or ecological health. A potential impact to the site groundwater is a REC to the site.
Chevron #9-5492 15482 Beach Boulevard Westminster, CA 92683	Gas Station	LUST	1300	Yes	Other groundwater (uses other than drinking water)	Gasoline	Case is open. Groundwater contamination. Remediation as of August 24, 2004. 19 wells monitored quarterly. Groundwater flows southwest towards I-405. A potential impact to the site groundwater is a REC to the site.
Mobil #18-G2W 15502 Beach Boulevard Westminster, CA 92683	Gas Station	LUST, HIST, CORTESE	1200	Yes	Other groundwater (uses other than drinking water)	Gasoline	Case is open. Groundwater contamination. Remediation as of January 15, 2003. 20 wells monitored quarterly. 11 semiannually, potential impact to the site groundwater is a REC to the site.
USA Petroleum Corp 14600 Edwards Street Westminster, CA 92683	Gas Station	HAZNET, LUST	50	Yes	Other groundwater (uses other than drinking water)	Gasoline	Case open. Groundwater contamination. Remediation as of June 9, 2000. 11 wells monitored quarterly. A potential impact to the site groundwater is a REC to the site.
Unocal Corp #5226 6322 Westminster Avenue Westminster, CA 92683	Gas Station	HAZNET, LUST, CA FID USTT, SWEEPS UST, HIST CORTESE	50	Yes	Other groundwater (uses other than drinking water)	Gasoline	Case is open, Groundwater contamination. Verification monitoring as of July 1, 2004. 16 wells monitored semiannually. A potential impact to the site groundwater is a REC to the site.

Table 3.2.5-2 Database Summary Review Table of the Non-ROW Acquisition REC Properties

Property Name and Address	Property Use/ Type of Business	Database	Approximate Closest Distance from the Freeway (Ft)	Adjacent To The Site/ Street Improvements	Media Affected	Contaminant	Site Status
Naval Weapons Station Seal Beach 800 Seal Beach Boulevard Seal Beach, CA 90740	Military Site	Military Cleanup Site	2000-5000	No	Aquifer used for drinking water supply, other groundwater (uses other than drinking water), soil	Chlorinated hydrocarbons, TCE, diesel	Case is open. Soil and groundwater contamination. Active as of May 1, 1986. NAVWPNSTA Seal Beach is a weapons and ammunition storage, disbursing, and reconditioning base for the United States Navy. 56 sites were investigated for possible contamination. Contaminants include acids, alkalines, explosives, waste oils, polychlorinated biphenyls (PCBs), fuels, solvents, paint thinners, asbestos, mercury, volatile organic compounds (VOCs), heavy metals, oil drilling fluids, and paint wastes. Suspected areas of contamination include wastewater settling and evaporation ponds, explosives burning areas, station landfills, sandblast grit disposal area, pesticide storage trailer, Nasa Island, diesel fuel spill area, primer salvage yard areas, mercury spill areas, disposal pit, Oil Island, foam testing fire training area, solvent disposal areas, and former waste fuel storage area. Numerous hazardous waste operations and remediation sites listed under Envirostor Database contaminating both groundwater and soil. The coordinates of the hazardous waste sites indicate that they are located at least 0.5-mile south of the site. Several LUST cases were available, and they were all located more than 1-mile south of the site alignment. Based on the long history use of the DoD facilities, it should be assumed that the residual groundwater contamination would represent a REC.
Los Alamitos Joint Forces Training Base, Los Alamitos, Installation Restoration Program Armed Forces Reserve Center Lexington Street Los Alamitos, CA 90720	Military Site	Military Cleanup Site	1500-3000	No	Soil, aquifer used for drinking water supply	Arsenic, aviation, benzene, diesel, dioxin/furans, fuel oxygenates, gasoline, heating oil/fuel oil, lead, other chlorinated hydrocarbons, other metal, PCBs, polycyclic aromatic hydrocarbons (PAHs), tetrachloroethylene, toluene, TCE, waste oil/ motor/ hydraulic/ lubricating, xylene	Case is open. Soil and groundwater contamination. Reopen case as of February 1, 2007. The property is located more than 0.25-mile north of the site improvements. Due to its distance from the site, the soil contamination is not an issue. Based on the long history use of the DoD facilities, it should be assumed that the residual groundwater contamination would represent a REC to the site.
College Park Mobile 4000 Lampson Avenue Seal Beach, CA 90740	Gas Station	LUST	500	No	Aquifer used for drinking water supply	Gasoline	Case is open. Site assessment as of July 10, 2003. 2 wells monitored quarterly. The LUST is located north of the site improvements. Groundwater within the site improvement limits may be impacted by this contamination. A potential impact to the site groundwater is a REC to the site.
Arco #3038 12800 Seal Beach Boulevard Seal Beach, CA 90740	Gas Station	LUST	600	No	Aquifer used for drinking water supply	Gasoline	Case was open as of April 24, 2009, for groundwater monitoring. The area of influence of soil contamination is within the property limits and does not encroach in the adjacent streets. The soil contamination was cleaned. Due to its distance from the site, the soil contamination is not an issue. A potential impact to the site groundwater is an REC to the site. Case is now closed - County of Orange Health Care Agency issued a remedial action completion certification on February 28, 2014.
Northbound I-405 South of I-605 Diesel Spill Freeway Lane and Possibly Shoulder Northbound I-405 South of I-605	Caltrans Shoulder	ERNS, CHMIRS	0	Yes	Soil	Gasoline	Soil contamination. There are no records of site cleanup. No additional records were available. It should be assumed that the soil in the area is impacted by this release. A potential REC to the site.

Table 3.2.5-2 Database Summary Review Table of the Non-ROW Acquisition REC Properties

Property Name and Address	Property Use/ Type of Business	Database	Approximate Closest Distance from the Freeway (Ft)	Adjacent To The Site/ Street Improvements	Media Affected	Contaminant	Site Status
Tosco - 76 Station #3768 6370 Stearns Street E Long Beach, CA 90815	Gas Station	LUST	290	No	Aquifer used for drinking water supply	Gasoline	Case is open. Remediation is in progress as of April 14, 2008. 26 wells are monitored semiannually. Groundwater impacted above background - up to 32,000 µg/L of methyl tributyl ethylene (MTBE) detected onsite. A potential impact to the site groundwater is a REC to the site.
Palo Verde Cleaners 2221 Palo Verde Avenue Long Beach, CA 90815	Dry Cleaners	RCRA-SQG, FINDS, HAZNET, SLIC, Drycleaners	300	No	Soil, groundwater	PET, VOCs	Case is open. Soil and groundwater contamination. Verification monitoring is in progress as of June 30, 2000. No further action for soil since 2001. Due to declining PCE in monitored water, a groundwater low-risk closure was requested in 2009, still not approved. A potential impact to the site groundwater is a REC to the site.
California Target (Matthews Service Station ) 11804 Carson Street E Hawaiian Gardens, CA 90716	Oil Change Station	LUST, HIST CORTESE	1360	No	Aquifer used for drinking water supply	Gasoline	Case is open. Groundwater was impacted, extent of contamination has not been determined - additional groundwater assessment is necessary. Cleanup goal - elevated levels of Hydrocarbon Concentrations are present in groundwater. A potential impact to the site groundwater is a REC to the site.
Tosco - 76 Station #5708 11807 Carson Street E Hawaiian Gardens, CA 90716	Gas Station	LUST	1360	No	Aquifer used for drinking water supply	Gasoline	Case open. Groundwater impacted. Cleanup goal - elevated TPH-G, benzene, and MTBE. Quarterly monitoring needed. A potential impact to the site groundwater is a REC to the site.
Shell #204-4155-1106 11761 Carson Street E Lakewood, CA 90715	Gas Station	LUST, HIST CORTESE	1375	No	Aquifer used for drinking water supply	Gasoline	Case is open. Groundwater contamination. 11 wells are monitored semiannually starting in June 2009. A potential impact to the site groundwater is a REC to the site.

Source: Group Delta Consultants, 2011.

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A standard white striping was observed on the freeway shoulder and yellow striping on the HOV lanes and ramps during the site visit. Based on the history of previous use of LBP for striping of freeways, the freeway striping may contain Lead and Chromium, which might be a REC. Freeway widening may require removal of the existing shoulder striping.

A pile of approximately 10 cubic yards of unidentified soil was observed on the southeast side of the Newland Street undercrossing, which might be a REC.

Two 30-gallon open trash bins and two 5-gallon buckets with lids that appeared to be dumped were observed on the I-405 northbound shoulder, just south of the I-605 interchange, which might be a REC. Based on the labels on the buckets, both 5-gallon buckets contained paint and appeared to be full. No spill was observed on the ground.

### **3.2.5.3 Environmental Consequences**

#### ***Permanent Impacts***

##### **No Build Alternative**

The No Build Alternative would not change the existing physical environment; therefore, no permanent impacts related to hazardous waste materials would occur. As with the build alternatives, routine maintenance activities would continue and would be required to follow applicable regulations with respect to the handling and disposal of potentially hazardous materials.

##### **Build Alternatives**

Routine maintenance activities during operation of the proposed project would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials; therefore, operation of the proposed project would not introduce new hazardous waste or materials.

#### ***Temporary Impacts***

##### **No Build Alternative**

The No Build Alternative would not involve ground or structure disturbance; therefore, no temporary impacts related to hazardous waste materials would occur.

##### **Build Alternatives**

All of the build alternatives would require similar ROW acquisition areas that are considered may be RECs, and the non-acquisition REC properties present the same potential impacts to all of the build alternatives. The build alternatives would involve disturbance of existing soils and

structures; therefore, hazardous soil and groundwater contaminants and structural materials may be encountered during project construction. Standard provisions and requirements that would apply during project construction for treatment and handling of these materials are noted, where applicable. The implementation of standard provisions and requirements would minimize any potential direct or indirect adverse temporary impacts.

Responsibility for management and funding of contaminant remediation and disposal activities when contamination is encountered in the Caltrans ROW during special and jointly funded projects depends upon the nature of the contamination. Contamination, referred to as hazardous material, is categorized as HM-1 or HM-2:

- HM-1 is hazardous material (including, but not limited to, hazardous waste) that requires removal and disposal pursuant to state or federal law, whether disturbed by the project or not.
- HM-2 is hazardous material (including, but not limited to, hazardous waste) that requires removal and disposal pursuant to state or federal law, only if disturbed by the project.

HM-1 requires active management, without regard to the project; therefore, any costs associated with remediation of HM-1 are not considered project costs and will be the responsibility of Caltrans. HM-2 requires active management only if disturbed by the project; therefore, any costs arising from management of HM-2 will be considered project costs. The proposed project is a jointly funded project; therefore, any management costs associated with HM-2 will be shared in the same proportion as other project costs.

**Acquisition Properties.** The nine REC properties are subject to partial acquisition under all Alternatives based on the 2011 ISA. However, since the Draft EIR/EIS was circulated, a design option has been proposed and partial ROW impacts to Boomers (4 of 5 parcels) would still be required. Also, as a result of this new design option, ROW impacts to four other properties subject to partial acquisition were eliminated. These properties are listed as follows:

- Arco #6116 (BP West Coast Products, LLC), 17520 Brookhurst Street, Fountain Valley
- Thrifty Oil Co. #085, 17475 Brookhurst Street, Fountain Valley
- Shell Oil, 15501 Beach Boulevard, Westminster
- Oil Mobile Station, 14022 Springdale Street, Westminster

A Phase II Environmental Site Assessment was performed for the rest of the REC properties subject to partial acquisition. These properties are listed as follows:

- 15001 Goldenwest Street, Huntington Beach (Mobil #G3W)

- 5992 Westminster Avenue, Westminster (Chevron)
- 5981 Westminster Avenue, Westminster (Shell Oil)

• 6311 Westminster Avenue, Westminster (Thrifty Oil) The results of this investigation are incorporated into the Phase II Environmental Site Assessment Report dated October 24, 2014. As a result of this investigation, the following conclusions are provided:

The widening of city surface streets in support of the project will require partial ROW acquisitions of four gas stations adjacent to the currently existing sidewalks/ROW. These four gas station properties are currently, or have been, under remediation due to LUSTs. Constituents of concern for these properties include TPH-g, TPH-d, and VOCs.

Soil and groundwater samples were collected for the following partial acquisition properties:

- Mobil #18 G3W, 15001 Goldenwest Street, Huntington Beach
- Shell Oil, 5981 Westminster Boulevard, Westminster
- Thrifty Oil, 6311 Westminster Boulevard, Westminster
- Chevron #9-5401, 5992 Westminster Boulevard, Westminster

TPH-d was detected in the soil collected at the Chevron Station at 5992 Westminster Boulevard at depths of 5, 10, and 15 feet and TPH-g was detected at 10 feet bgs. In addition, four VOC compounds were also detected in the sample collected from 10 feet bgs at the Chevron Station Site. Due to the low detected concentrations, it is unlikely that contaminated soil will be encountered during project construction at this location that will require special management or implementation of additional health and safety procedures. However, this contaminated soil may not be appropriate for reuse on the Project.

TPH-g, TPH-d, and VOCs were not detected in soil samples collected for the remaining three properties indicating soil above the groundwater table underlying the acquisition areas has not been impacted by the LUSTs. Because contaminants of concern were not detected in soil samples collected from these partial acquisition properties and excavation during project construction will not exceed five ft bgs, it is unlikely that soil encountered during project construction at these locations will require special management or implementation of additional health and safety procedures.

One or more of the constituents of concern associated with LUSTs were detected in groundwater collected from each property. Based upon a review of the history of these three properties, the contaminants detected in groundwater are likely present as a result of the documented LUSTs.

The Orange County Health Care Agency (OCHCA) Local Oversight Program (LOP) is the lead agency responsible for management of the ongoing monitoring and cleanup associated with these sites. LOP develops unique site specific cleanup goals/screening levels and closure criteria for each of its LUST sites based upon a Low Threat Closure policy that considers site conditions and various factors. Because of this policy, a direct comparison to appropriate screening levels for the TPH concentrations detected was not possible.

Based on the review of existing records for the gas stations, the LOP determined that the following gas stations meet the requirements for low-threat closure:

- Mobil #18 G3W, 15001 Goldenwest Street, Huntington Beach
- Thrifty Oil, 6311 Westminster Boulevard, Westminster; and
- Chevron #9-5401, 5992 Westminster Boulevard, Westminster

This determination indicates that no further cleanup will be required by the LOP for these sites. Dates of the anticipated case closures are not available.

LOP rejected the request for case closure for Shell Oil (5981 Westminster Boulevard, Westminster) as it there is insufficient evidence showing that the plume is stable or decreasing in areal extent. LOP is currently requiring further investigation at the site by the Responsible Party (RP). If the plume is shown to be stable or decreasing in areal extent, the RP may request case closure.

As indicated above, OCHCA determined there is no need for further clean up for the three gas stations subject to partial acquisition and may issue closure letters for these sites. The partial acquisitions consist of a small sliver of each property and will be acquired by OCTA. If there is any associated cost for future clean up, this cost will be insignificant compared to the cost of entire project.

The results of this investigation were presented to OCHCA seeking their opinion as to how the acquisition of these properties affect the future owner in terms of environmental liability, responsibility, and risk pertaining to the cases at these sites. The OCHCA's response was that the Responsible Party (RP) designation is governed by the California Code of Regulations, Chapter 16, Title 23, which states any owner of a property where an unauthorized release of a hazardous substance from an LUST has occurred can be designated as the RP.

**Non-Acquisition Properties.** Nineteen (19) LUST sites have a potential to impact groundwater conditions at the freeway ROW and are RECs. Nine (9) of the 19 LUST sites are located

adjacent to proposed street improvements. In addition, one ERNS site (9525 Warner Avenue in Fountain Valley), where soil contamination by gasoline was discovered in the soil around a fuel tank, is also adjacent to the proposed site street improvements. There are no records of site cleanup. There are no records that the soil contamination from any of these releases has plumed into city streets. If construction is planned that will encounter the groundwater or if construction dewatering is required, groundwater should be tested for TPH for gasoline and diesel, and volatile organic compounds (VOCs) prior to completion of the Final EIR/EIS to evaluate proper methods to manage and dispose of the groundwater that might be removed during construction.

**Other Site Concerns.** Due to the unknown location of the 220 gallons of diesel fuel spilled during a traffic accident that occurred in 1987 at northbound I-405, south of I-605, the upper 2 ft of soil excavated along the I-405 northbound shoulder from the I-605/I-405 connector to approximately 1,000 ft south of the I-605/I-405 connector should be set aside and tested for TPH (gasoline and diesel) before being disposed of or reused at the site.

Additional investigations of near surface soil in the unpaved ROW, which is assumed to be impacted by ADL, would be necessary to further define the conditions in these areas and to plan for management of soil to be excavated during any future construction.

A Phase II Environmental Site Assessment was performed for the areas at each bridge that would require the removal of groundwater during construction that could be impacted with releases the nearby 19 LUST sites, 2 dry cleaning facilities, 1 SLIC site, and two DoD sites. The results of this investigation are incorporated into the Phase II Environmental Site Assessment Report dated October 24, 2014. AS a result of this investigation, the following conclusions were provided:

The disposition of the groundwater underlying the bridge locations must be considered for work activities that involve contact with the groundwater, including construction dewatering, for purposes of worker health and safety and groundwater management. Based upon laboratory analytical results, groundwater beneath 13 of the 15 bridge support areas may be contaminated with low levels of TPH in the diesel range and four VOCs including benzene, p-isopropyltoluene, MTBE, toluene, and p/m-xylene. The Table 3.2.5-3 below lists the bridges with underlying groundwater that may be impacted by TPH-d or VOCs.

**Table 3.2.5-3: List of Impacted Bridges**

<b>Boring Number</b>	<b>Bridge Location</b>	<b>Bridge Number</b>	<b>Post Mile</b>
DP-13-001	Santa Ana River Bridge/Euclid St. UC	55 0258	12.41
DP-13-003	Brookhurst St. OC	55 0402	13.78
DP-13-004	Slater Ave. OC	55 0261	14.13
DP-13-005	Edinger Ave. OC	55 0266	16.28
DP-13-006	McFadden Ave. OC	55 0268	16.98
DP-13-007	Bolsa Ave OC	55 0276	20.56
DP-13-008	Goldenwest St. OC	55 0271	17.94
DP-13-009	Edwards St. OC	55 0273	18.60
DP-13-010	Westminster Blvd. OC	55 0274	19.16
DP-13-011	Springdale St. OC	55 0275	19.38
DP-13-012	Bolsa Chica Rd. OC	55 0276	20.56
DP-13-014	Navy OH (Navy Railroad)	55 0272	18.36
DP-14-015	Harbor Blvd. UC	55 0257	11.45

OC-Overcrossing, OH-Overhead

In consideration of worker health and safety, the contaminant concentrations detected during the investigation would likely not necessitate implementation of additional health and safety procedures if groundwater is encountered, but groundwater should be addressed in the Site-Specific Health and Safety Plan for the project.

In consideration of groundwater management, based on the preliminary project design, groundwater is most likely to be encountered during construction of the bridge or wall piles and excavation of the pile caps.

Based upon a review of the Project Structural Preliminary Geotechnical Reports, driven concrete or driven H piles are suggested for construction of the 13 bridges. This pile construction methodology generates little or no groundwater. Therefore, the need to handle or manage groundwater during pile driving activities is unlikely.

Cast in Drilled Hole (CIDH) piles are suggested for construction of a crush wall at Bolsa OH. It is anticipated that the pile construction will be performed in wet, therefore no dewatering is needed. TPH and VOCs were not detected in groundwater collected from this bridge location.

Based upon a review of the Project Structural Preliminary Geotechnical Reports, the anticipated bottom of the pile cap excavations are above the historically highest encountered groundwater level at 12 out of 13 bridge locations. Therefore, the need to handle or manage groundwater during to pile cap excavation activities is unlikely for the majority of the bridges. The bottom of the pile cap excavation at Santa Ana River Bridge/Euclid Street UC is anticipated to be below

the historically highest encountered groundwater level; however no dewatering is anticipated during the construction. If encountered, groundwater can be pumped out and disposed off-site.

In general, any excess groundwater encountered during construction may be disposed of off-site at a licensed facility, or released under a discharge permit.

Offsite disposal of extracted groundwater at a licensed facility is an alternative for limited construction dewatering operations. The concentrations of VOCs and TPH-d detected in groundwater would permit the water to be transported to and disposed of at an appropriate facility as non-hazardous wastewater.

Discharge of groundwater to the storm drain system or surface water requires coverage under the Santa Ana Regional Water Quality Control Board's (SARWQCB) General De Minimus Permit or General Groundwater Cleanup Permit for Discharges to Surface Waters. Because TPH-d and VOC contamination may be present in extracted groundwater, the SARWQCB may require treatment of the groundwater prior to discharge. The data ascertained during this investigation may be useful in procuring such a discharge permit from SARWQCB. Additional information is needed to estimate costs for groundwater discharge including dewatering locations, outfall locations, daily discharge rates, discharge durations, and the treatment requirements of an SARWQCB permit.

The ACM and LBP investigations have already been performed for the bridges that to be replaced or modified. The results of these investigations are incorporated into the "Limited Asbestos and Lead Based Paint Survey Report" dated November 2014. Based on the findings during this investigation, some of the bridges contain ACM & LBP that handling of these materials will be addressed during the design phase by preparation of an appropriate Special Provisions.

The Yellow Paint and Thermoplastic Traffic Stripping Investigation was also conducted. The results of this investigation are incorporated into the "Yellow Paint and Thermoplastic Traffic Stripping Investigation Report" dated December 19, 2014. This investigation was included as a commitment in the Draft EIR/EIS to be completed prior to the Final EIR/EIS. Since this investigation has been completed, this commitment has been removed from the Final EIR/EIS. Based on this investigation the traffic stripping in some area contain Lead and Chromium that handling of them will be addressed during the design phase by preparation of an appropriate Special Provisions.

Based on these conclusions and in addition to any coordination with regulatory agencies for approvals, permits, or site closures, additional investigation or monitoring efforts would be

required. The procedures for hazardous materials investigation for the project are presented in Section 3.2.5.4. All of the build alternatives are anticipated not to have temporary adverse hazardous waste impact.

#### **3.2.5.4 Avoidance, Minimization, and/or Mitigation Measures**

**HAZ-1:** Prior to completion of the Final Design, sampling for ADL shall be conducted by OCTA within unpaved locations adjacent to the existing roadway ROW within the study area if such locations have not been tested.

**HAZ-2:** Prior to construction, if still present, two 30-gallon open trash bins and two 5 gallon buckets that were dumped in the I-405 northbound shoulder just south of the I-605 interchange shall be removed and properly disposed of by the contractor.

**HAZ-3:** During the construction phase, the upper 2 ft of soil excavated along the I-405 northbound shoulder from the I-605/I-405 connector to approximately 1,000 ft south of the I-605/I-405 connector shall be set aside and tested for TPH (gasoline and diesel) by the contractor before being disposed of or reused at the site.

**HAZ-4:** If signs of potential impacts (e.g., odors, discolored soil, and any hazardous waste) are observed during construction activity, construction shall cease and the California Department of Transportation's Unknown Procedures for Construction shall be followed. If groundwater is encountered during construction activities, or if construction dewatering is necessary, then sampling and analysis of groundwater shall be conducted to identify the appropriate management and disposal of the groundwater.