G. Hazards and Hazardous Materials

Environmental Setting

Definitions of Hazardous Materials and Wastes

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous. Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility.

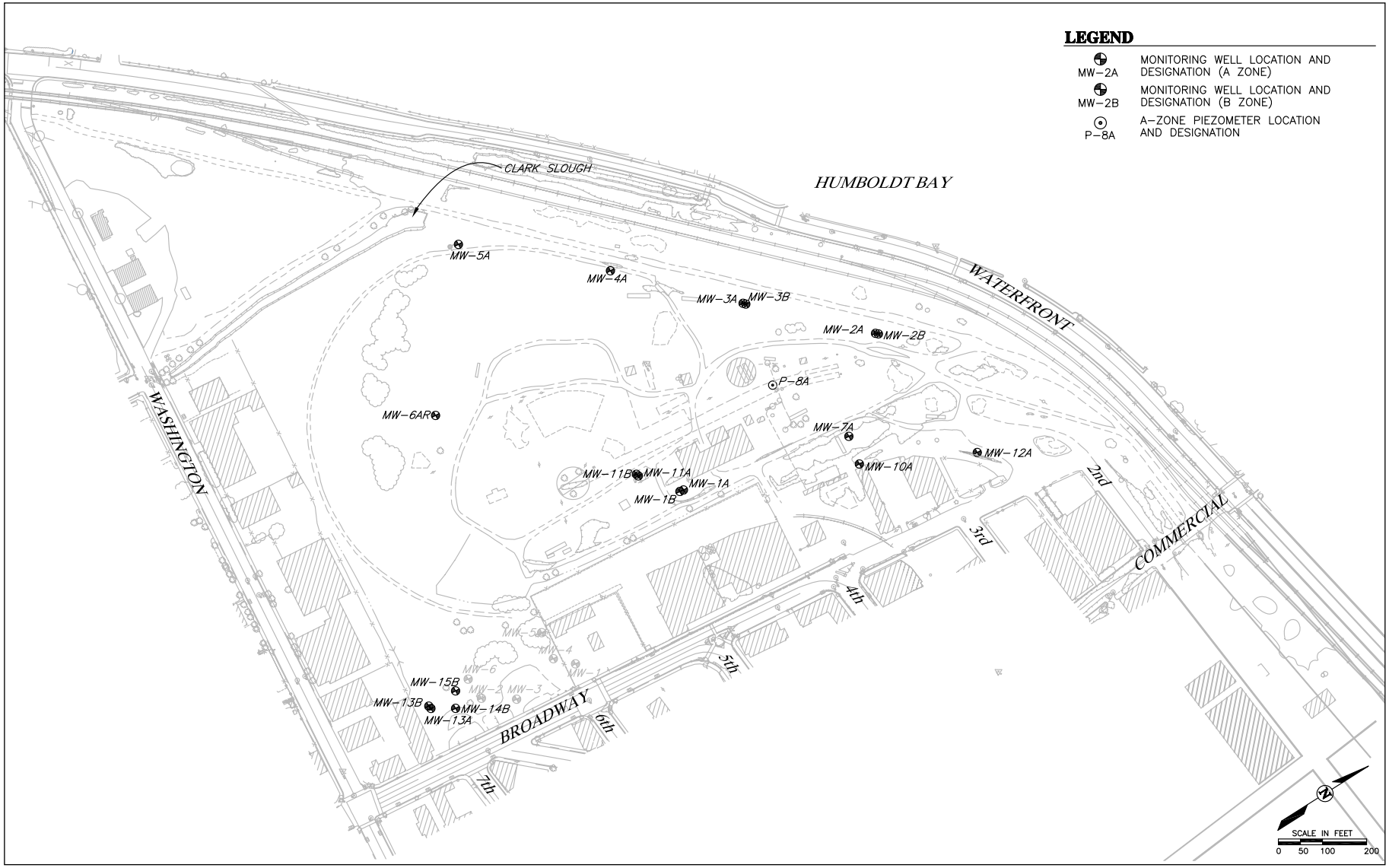
The California Code of Regulations (CCR) defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10).

Hazardous wastes are defined in the same manner. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. Hazardous materials and hazardous wastes are classified according to four properties: toxicity, ignitability, corrosivity, and reactivity (CCR, Title 22, Chapter 11, Article 3).

Previous Use of the Site

Previous site investigations have reported the following historic uses and activities at the site. Historic operations on the site consisted of a former railroad yard including railroad car maintenance and repair, and fueling of locomotives (APNs 003-041-007, 033-031-008, and 003-021-009); former petroleum bulk fuel plants including the Former Mobil Oil bulk fuel plant (APN 003-031-003), the Former General Petroleum bulk plant (APN 003-041-006), and the Former Atlantic Richfield Bulk Fuel Plant (APN 031-041-005); a vehicle fueling station known as the Former Fuel Cardlock Facility (APN 003-051-001); a warehouse and machine shop (APNs 003-031-013 and 003-031-0012); and a transportation yard (APN 003-031-007). The former locations of specific site operations and on-site structures are shown on Figure IV.G-1.

Chemicals of significant use at the former railroad yard included Bunker C oil, diesel fuel, and gasoline. Bunker C oil was the primary fuel used for locomotives at the site from the late 1800s to 1954. After 1954, diesel fuel was used for locomotives. During site operations, Bunker C fuel was stored onsite in a 650,000-gallon Aboveground Storage Tank (AST). In 1954, the Bunker C AST was modified to make a secondary containment structure for two 12,700-gallon diesel ASTs. Fuel storage at the site was discontinued in 1984 as site operations decreased and a tank truck was used to fuel locomotives. Three Underground Storage Tanks (USTs) were formerly



SOURCE: Environmental Resources Management

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Figure IV.G-1
Groundwater Monitoring Well Locations

used at the site to store gasoline for fueling company trucks and automobiles. The USTs were removed from the site in 1988 and ranged in size from 600 to 2,500 gallons. The former locations of fuel storage tanks at the site are shown on Figure IV.G-1.

Locomotive maintenance and repair was conducted at the location of the former roundhouse. A review of historic aerial photographs from 1946 and 1962 identified two areas south of the roundhouse that were possibly used as oil disposal pits (Geomatrix, June 1997). In 1976, an underground oil collection system was constructed at the site to collect oil and diesel fuel from the active operational area. The system was in operation until 1986. The locations of the possible oil disposal pits and oil collection system are shown on Figure IV.G-1.

The Former Fuel Cardlock Facility parcel remained undeveloped tidal marsh until approximately 1941, when it began to be filled with harbor dredge spoils. Two 1,000-gallon USTs were installed in 1954 and a 10,000-gallon AST was installed in 1960. An additional AST was installed in 1987. Gasoline and diesel were stored in the fuel tanks. The facility closed in 1992 when all of the cardlock facilities, including the two 1,000 gallon USTs, the two ASTs, and associated piping were removed (Winzler and Kelly, 1998). The site received closure status in April 2005 from the RWQCB.

The Former Atlantic Richfield Bulk Fuel Plant parcel was leased to the Atlantic Richfield Oil Company prior to 1931. Atlantic Richfield used the site as a bulk fuel storage plant until sometime after 1974. At least two ASTs, a pump house and filling station, office building, and warehouse were constructed prior to 1931. A third AST was installed in 1939, and two additional ASTs were installed by 1957. Environmental investigations to date indicate that gasoline, diesel, solvents, and Bunker C oil were likely stored onsite. To date, all ASTs have been removed from the parcel. The site is currently monitored under the regulatory oversight of the RWQCB (Case No. 1NHU624).

The Former General Petroleum Bulk Fuel Plant parcel was developed around 1929, and was operated by General Petroleum until approximately 1955. The site included several ASTs, pumps, piping, filling station, warehouses, and an oil truck storage building. The onsite structures were removed between 1955 and 1957. Environmental Investigations to date indicate that gasoline, diesel, solvents, and Bunker C oil were likely stored onsite. Four groundwater monitoring wells are located at the site and a monitoring program is currently ongoing.

APN 003-031-013 was originally developed in approximately 1957 with a warehouse. Hazardous substances such as hydraulic fluid and waste oil were stored onsite. The site also included an AST (Blue Rock Environmental Inc., 2005).

APN 003-031-012 was originally developed in approximately 1957 with a wood-framed building. The property has historically been used for a natural gas distributing facility and a hydraulic repair shop (Blue Rock Environmental Inc., 2005).

APN 003-031-003 was originally developed by 1954 with two metal and wood-frame buildings and four ASTs. Mobil Oil Corp. operated the ASTs, which were removed in approximately 1966.

The site was used as a truck maintenance facility and petroleum storage/warehouse until the early 2000s.

Current Conditions

Two metal-framed warehouses and a smaller wood-frame office are present on the Former Fuel Cardlock Facility (APN 003-051-001). The warehouses and office are currently not in use. However, the remainder of the parcel is periodically used for lumber storage and parking. A wood framed building is present on APN 003-031-012 and is currently vacant. A metal-framed shop is present on APN 003-031-013 and is currently occupied by a machine and hydraulic repair shop. A large metal-framed building is present on APN 003-031-003 and is currently occupied by a dog kennel.

The remainder of the site is currently vacant and inactive. Only the foundations of some former structures are still present. Vegetative cover is present throughout the former operational area and is locally thick in some areas of the site. The tracks that once occupied the site have been removed. The only track that is still present is the current North Coast Railroad Authority (NCRA) line that passes along the northern boundary of the property. Dirt roads are present across the site, including some that follow the path of the former Balloon Track. Railcars and locomotives continue to occupy the existing NCRA tracks.

Numerous site investigation activities have been conducted to assess the nature and extent of contamination present at the project site. Extensive field programs including soil sampling, groundwater sampling, stormwater sampling, soil borings, trenching, field testing, site inspections, and laboratory analysis have been conducted. This section summarizes the nature and extent of contamination identified at the project site.

Soil Contamination

The shallow soils beneath the project site have been affected by long-chain petroleum hydrocarbons such as diesel, motor oil, and bunker C fuel oil, which were stored and used on the project site. Metals analyses conducted on soil samples collected throughout the project site show the presence of arsenic, copper, and lead. Laboratory analysis of soil samples included diesel (TPHD), gasoline (TPHG), motor oil (TPHMO), Polynuclear Aromatic Hydrocarbons (PNAs), Benzene, Toluene, Ethylbenzene, and total Xylenes (BTEX), metals, and Halogenated Volatile Organic Compounds (HVOCs). TPHG, TPHD and BTEX are present at both the former Atlantic Richfield Bulk Plant and the former General Petroleum Bulk Plant sites.

Field programs consisting of surface sampling, soil borings, trenching, field screening, and laboratory analysis were performed to investigate the extent of contamination in subsurface soils throughout the project site. Trenching activities included visual observations and a petroleum hydrocarbon field-screening program using Thin Layer Chromatography (TLC) testing followed by laboratory analysis. Soil samples submitted for laboratory analysis consisted primarily of samples indicating a positive result from TLC screening.

Petroleum Hydrocarbons

Former Rail Yard. Long-chain petroleum hydrocarbons (TPHD, TPHMO, and Bunker C fuel oil) were found in soil samples collected throughout a large area within the project site.

Trenching activities conducted at the project site identified residual petroleum in the soil in the former operations area. The largest area of stained soil was located south of the roundhouse in the area believed to be a former oil disposal pit. Soil was observed stained in this area to a depth of 8 feet below ground surface (bgs). Separate phase petroleum was observed on water in trenches with residual petroleum in soil.

PNAs were analyzed in 67 soil samples collected from locations throughout the project site at depths ranging from the ground surface to14 feet bgs. PNAs were detected at low concentrations in approximately half of the samples.

Laboratory analysis for BTEX was conducted on 157 soil samples collected at the project site, from depths ranging from 0.75 to 16 feet bgs. BTEX constituents were detected in only eight samples; all collected near the former locomotive refueling platforms and Bunker C oil storage tank.

Former Atlantic Richfield Bulk Plant. Subsurface investigations at the Former Atlantic Richfield Company Bulk Plant site (APN 003-041-005) have identified TPHG, TPHD, TPHMO, and BTEX in site soils at depths ranging from 2 to 12 feet bgs. Most of the contaminated soil has been identified on the northern portion of the site in the vicinity of the former fuel pumps and ASTs, on the eastern portion of the site near the former fueling station, and on the southern portion of the site near the former AST (Delta Environmental Consultants Inc., 2004).

Former General Petroleum Bulk Plant. Subsurface investigations at the Former General Petroleum site (APN 003-041-006) have identified TPHG, TPHD, and TPHMO in site soils with the bulk of the contaminant mass just above the estuarine clay beneath the site (approximately 10 feet bgs) in the vicinity of the former filling station and fuel pumps. During an investigation conducted in June 2005, maximum TPHG concentrations of 5,500 mg/kg, and maximum TPHD concentrations of 660 mg/kg were found in soil samples collected from a trench location. No BTEX components were found in any soil samples analyzed. No other petroleum hydrocarbon analysis was conducted (Geomatrix, September 2006).

Former Fuel Cardlock Facility. Short-chain and long-chain petroleum hydrocarbons (TPHG, TPHD, and TPHMO) were found in soil samples collected in the vicinity of the former USTs and AST at the Former Fuel Cardlock Facility. A remedial action was conducted in November 1998, which consisted of removing approximately 157 cubic yards of contaminated soil, and backfilling with soil and oxygen releasing compounds. Confirmation soil samples indicated that TPHG, TPHD, and TPHMO were still present in the vicinity of the former USTs and AST. Additional remediation was conducted, including the removal of approximately 280 cubic yards of contaminated soil for offsite disposal in 2004. The site was closed by the Regional Water Quality Control Board (RWQCB) on April 21, 2005.

Metals

Metals analyses of soil samples identified all 17 of the California Code of Regulations Title 22 metals in site soil at the former railroad yard. A total of 56 soil samples were analyzed for 17 CCR Title 22 metals. Additional soil samples were collected and analyzed for lead, copper, chromium, and hexavalent chromium. Soil samples collected for metals analyses were obtained at depths ranging from ground surface to 5.5 feet bgs. Approximately 700 cubic yards of soil with elevated metals was excavated and disposed of offsite.

Volatile Organic Compounds (VOCs)

VOCs were analyzed on 39 soil samples collected from across the project site. Three VOCs were detected in the soil: Tetrachloroethylene (PCE), Chloroform, and Methylenechloride.

Other Substances

Recent sediment samples have identified dioxins, furans, and PCBs in onsite ditches and in Clark Slough. The sources of these substances have not been identified.

Soil Contamination Summary

Site investigations completed to date have indicated that short and long-chain petroleum hydrocarbons, copper, lead and arsenic are the primary constituents of concern in soil at the site. The areas in which the highest concentrations were found are located south of the roundhouse in the possible former oil disposal pit, the area near the former car repair shed and former locomotive service platforms, a location in the northeast portion of the site, the Former Fuel Cardlock Facility, the Former General Petroleum site, and the Former Atlantic Richfield Company Bulk Plant site. The areas located south and southeast of the former roundhouse and near the former USTs at the Former Fuel Cardlock Facility have been excavated. Residual petroleum hydrocarbons in the area of the Former Fuel Cardlock Facility appear to be degrading, based on post-remediation monitoring. The degraded petroleum hydrocarbons and metals present at the site are typically not very mobile in the environment. PNAs are relatively immobile and insoluble, and do not appear to be spread significantly laterally. The results of sampling for HVOCs indicate that HVOCs are not a significant site concern.

Groundwater Contamination

There are three stratographic layers underlying the project site, including two water-bearing zones separated by an aquitard.[1] The uppermost layer consists of fill material that was imported to build up the project site and convert it from tide marsh to usable property. This fill material has a perched zone aquifer, identified as the “A” zone. The “A” zone aquifer extends to a depth of approximately 8 feet below ground surface and is not tidally influenced. The second layer is bay mud material, a fine-grained material that acts as an aquitard between the first and third layers. The third layer is coarse-grained material that contains the B zone aquifer, which is tidally influenced by Humboldt Bay.

[1] An aquitard is a confining bed of soils or rock that inhibits or retards the flow of water to another water bearing unit.

Groundwater monitoring at the project site has occurred intermittently since 1992 and regularly since 1995. Groundwater monitoring wells are located throughout the former rail yard property, on the former General Petroleum Bulk Plant property, and at the former Atlantic Richfield Bulk Plant property. The former rail yard property and the former General Petroleum Bulk Plant property are monitored concurrently in accordance with RWQCB Monitoring and Reporting Program (MRP) No. R1-2002-0082, and consists of 19 wells, including 12 "A" Zone monitoring wells and seven "B" Zone monitoring wells. Monitoring well locations are shown on Figure IV.G-1. Groundwater sample laboratory analyses have included TPHD, TPHG, PNAs, BTEX, Semi-Volatile Organic Compounds (SVOCs), VOCs, and metals (arsenic, cadmium, total chromium, copper, lead, nickel, and zinc). Under the current MRP, however, site wells associated with the former rail yard are monitored for TPHD, TPHMO, Bunker C fuel oil, and dissolved arsenic. Site wells associated with the former General Petroleum Bulk Plant site are monitored for TPHG, TPHD, TPHMO, Bunker C fuel oil, and BTEX. The former Atlantic Richfield Bulk Plant property is monitored as required by the RWQCB, and consists of six "B" Zone monitoring wells. Groundwater sample laboratory analyses at the former Atlantic Richfield site have included TPHD, TPHG, BTEX, and dissolved lead. The distribution of constituents detected in groundwater throughout the site is discussed below.

"A" Zone Groundwater

Former Rail Yard. Historic water quality data indicates that long-chain petroleum hydrocarbons have been found in groundwater collected from the "A" zone. TPHD is the petroleum hydrocarbon that has most often been detected in groundwater collected from the "A" Zone. The highest petroleum hydrocarbon concentrations have been found in wells MW-2A, MW-7A, P-8A, and MW-10A, all of which are located in the northeast portion of the former railroad yard. The highest TPHD and Bunker C fuel oil concentrations were detected in well P-8A, at concentrations of 16,000 ug/L, and 17,000 ug/L, respectively during the February 2006 groundwater monitoring event.

BTEX components have not been detected in rail yard site monitoring wells at any time during historic site monitoring.

Phenol has been detected in "A" Zone groundwater under the former rail yard at concentrations up to 4 ug/L Copper, lead and arsenic have been periodically detected in "A" Zone monitoring wells at the former railroad yard. Lead was detected in one groundwater sample collected from well MW-2A at a level of 180 ug/L in September 1992, but was not detected in a duplicate sample. Isolated HVOCs were detected at low concentrations during the first sampling event in wells MW-2A and MW-7A (1992). 1,1-Dichloroethane was detected in well MW-2A at a concentration of 0.54 ug/L and vinyl chloride was detected in well MW-7A at a concentration of 1.5 ug/L. No other VOCs have been detected in "A" Zone groundwater samples.

Former General Petroleum Bulk Plant. TPHD, TPHG, and BTEX constituents have been identified in "A" zone groundwater in the area of the Former General Petroleum site. The August 2006 groundwater sampling event identified TPHD, TPHG, benzene, toluene, ethyl-benzene, and

total xylenes in groundwater collected from well MW-13A at concentrations of 530, 1,800, 28, 8.3, 4.8, and 11 ug/L, respectively.

Former Fuel Cardlock Facility. TPHG, TPHD, and BTEX constituents have been identified in "A" zone groundwater beneath the Former Fuel Cardlock Facility. Analytical results of groundwater samples collected in March 2005 detected TPHD and TPHG in former monitoring well MW-1 at concentrations of 150 ug/L and 670 ug/L, respectively. The RWQCB concurred with the recommendation that the site be closed in a letter dated April 21, 2005.

"B" Zone Groundwater

Former Rail Yard. The impact to B Zone groundwater has been minimal. TPHD has been found in wells MW-1B, MW-2B, and MW-3B, with the highest concentration being found in well MW-1B (160 ug/L) during the May 1993 sampling event.

Phenol is the only SVOC detected in "B" Zone groundwater at concentrations up to 96 ug/L.

The HVOC Trichloroethylene (TCE) was detected on one occasion during the first sampling event in monitoring well MW-3B (1992). TCE was detected in well MW-3B at a concentration of 1.5 ug/L. No other HVOCs have been detected in "B" Zone groundwater samples.

No metals have been detected in "B" Zone wells at significantly elevated levels.

Former General Petroleum Bulk Plant. TPHG and TPHD have been found at the Former General Petroleum site in "B" Zone wells at maximum concentrations of 700 ug/L, and 4,670 ug/L, respectively. BTEX has also been detected in "B" Zone wells, including Benzene at a maximum concentration of 7.7 ug/L.

Former Atlantic Richfield Bulk Plant. TPHG, TPHD, TPHMO, and benzene have been identified in "B" zone groundwater in the area of the Former Atlantic Richfield Company Bulk Plant site. The "B" zone groundwater within this area is monitored by former Atlantic Richfield site monitoring wells MW-1 through MW-6, which were installed during the first quarter of 2005. Through October 2007:

- TPHG has been detected in two wells (wells MW-4 and MW-5) at concentrations ranging from less than the detection limit (<50 ug/L), to 830 ug/L.
- TPHD has been detected in all six monitoring wells at concentrations ranging from less than the detection limit (<50 ug/L), to 2,500 ug/L.
- TPHMO has been detected in all six monitoring wells at concentrations ranging from less than the detection limit (170 ug/L), to 830 ug/L.
- Benzene has been detected in four monitoring wells (Wells MW-1, MW-3, MW-4 and MW-5) at concentrations ranging from less than the detection limit (0.35 ug/L), to 330 ug/L.

Dissolved lead has been detected in wells MW-1, MW-3, MW-4 and MW-5 at concentrations ranging from less than the detection limit (<0.5 ug/L), to 2.3 ug/L. Sampling for dissolved lead was discontinued in October 2006.

Stormwater Contamination

Stormwater runoff sampling has been ongoing at the site since December 2001. Current monitoring is conducted at six locations shown in Figure IV.G-2 (locations A through F). Sampling points A, B, and F are located on the eastern portion of the site. Sampling point D is located on the western portion of the site. Discussions of stormwater for the eastern and western areas are presented in the remainder of this section.

Eastern Area

Due to the relatively flat site topography, precipitation that falls on the eastern portion of the site generally ponds and slowly infiltrates into the subsurface. It also collects in ditches and, in the southeastern area of the site, in a low lying depression. During extended or heavy rainfall, the potential exists for water levels in the ditches, ponded and low lying area to rise and flow to other ditches and areas, and to a pipe along the southern boundary that drains offsite to Clark Slough.

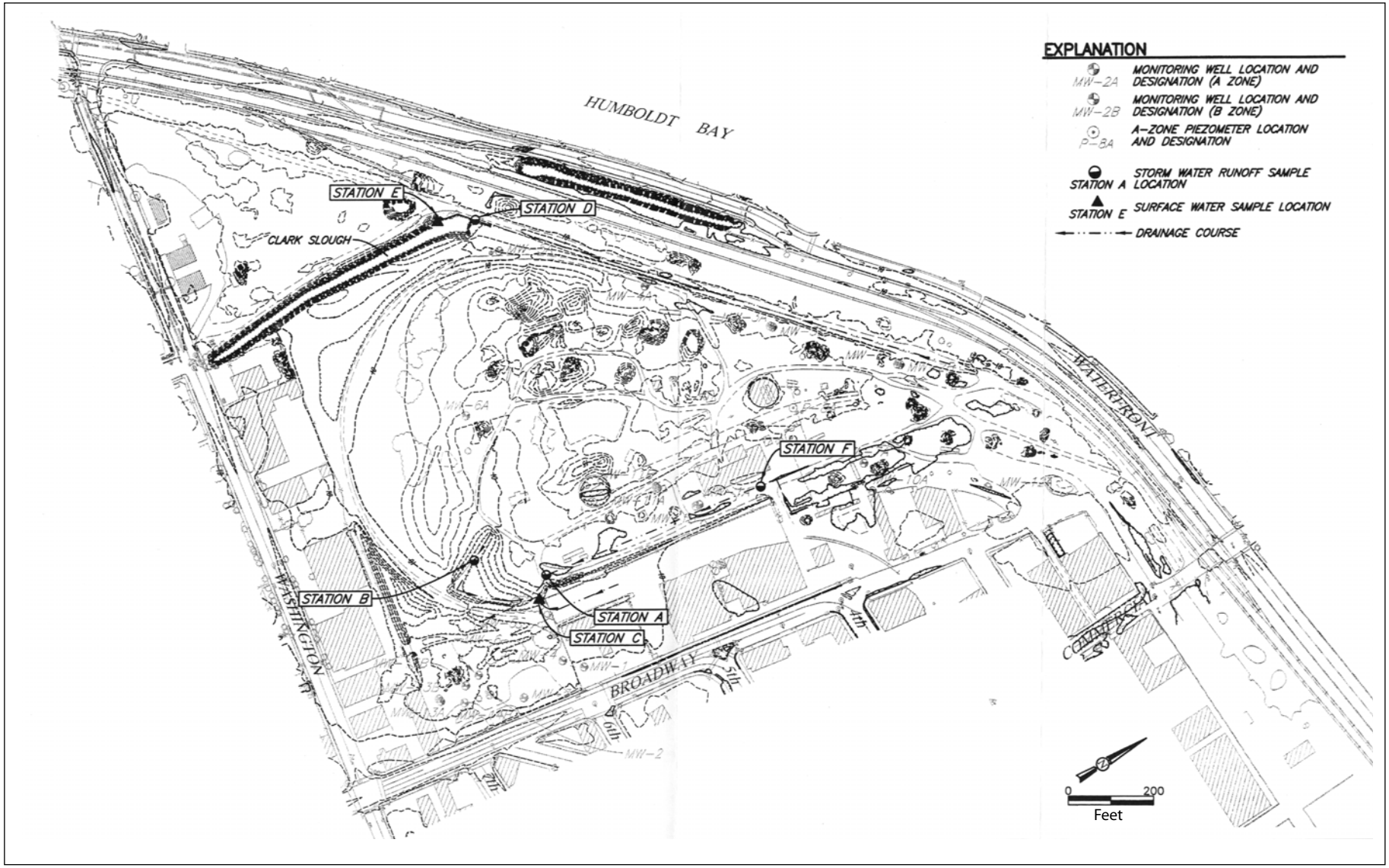
Petroleum hydrocarbons and metals have occasionally been detected in surface water samples collected from sampling points A, B and F in the eastern drainage area of the site. The petroleum hydrocarbons may be entering the site from adjacent properties. Copper, lead and other metals have also been detected.

Western Area

Stormwater that collects in a ditch on the western portion of the property drains generally to the south, where there is a connection with Clark Slough. Arsenic, barium, copper, lead, and zinc have all been detected in stormwater samples collected from Station D. Water at Station D may flow from the ditch to Clark Slough or, when the water level rises as a result of high tide, from Clark Slough towards the ditch. Total metals copper and dissolved copper concentrations have been detected at Station D, including a total metals copper concentration of 160 ug/L, and a dissolved metals copper concentration of 35 ug/L detected during the November 2006 stormwater sampling event. TPHD has been detected on six of 23 occasions (through April 2007) at concentrations ranging from 51 ug/L to 120 ug/L. A Taste and Odor threshold of 100 ug/L has been established as a water quality objective for TPHD in California. The Taste and Odor threshold was exceeded on two occasions, with the most recent occurring in December 2003.

Site Contamination Summary

Shallow soils beneath the project site are affected primarily by long-chain petroleum hydrocarbons, such as diesel fuel and Bunker C oil. However, only isolated areas have high TPHD concentrations. Soil samples also show the presence of several metals, including arsenic, copper, and lead.



SOURCE: SHN Consulting Engineers & Geologist, Inc.

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Figure IV.G-2
Storm Water Monitoring Locations

TPHD is the primary petroleum hydrocarbon found in groundwater in the uppermost "A" zone. Arsenic, copper, and lead are the primary metals found in "A" zone groundwater. However, the impact to groundwater by these hydrocarbons and metals has been minimal.

Impact to groundwater in the lower "B" zone has been minimal, indicating that the bay mud that separates the "A" zone from the "B" zone has been an effective barrier protecting water quality in the B zone.

Interim Remediation

Interim site remediation has been conducted including:

- The excavation of soil impacted with lead and copper at concentration above the TTLC. Approximately 700 cubic yards of lead- and copper-impacted soil were excavated.
- The removal of approximately 980 gallons of potentially hazardous waste material.
- The removal of approximately 3,500 gallons of oily wastewater.
- The removal of four USTs from APN 003-041-007.
- The removal of two USTs and two ASTs from APN 003-051-001.
- The removal of all ASTs from APN 031-041-005.
- The removal of all ASTs from APN 003-041-008.

Health Risk Assessment

A site-specific Health Risk Assessment (HRA) was prepared for the former railroad yard in June 1997 (Geomatrix, 1997). The HRA was completed in accordance with the HRA workplan submitted to the Regional Water Quality Control Board, North Coast Region (RWQCB), to California Environmental Protection Agency (Cal-EPA), and to the Office of Environmental Health Hazard Assessment. The HRA evaluated potential human health risks associated with exposure to chemicals in soil at the former railroad yard. The HRA did not include an evaluation of groundwater because concentrations of measured chemicals were very low and were equal to, or below MCLs which are Preliminary Remediation Goals (PRGs) acceptable for tap water. (Geomatrix, 1996.) The groundwater at the site is not a current source of drinking water.

Geomatrix completed an addendum to the HRA in April 2000, which incorporated additional sample data collected at the site since the original HRA was completed (Geomatrix, 2000). The addendum included exposure assumptions and toxicity criteria that reflect April 2000 U.S. Environmental Protection Agency (US EPA) and Cal-EPA risk assessment guidance. In 2006, an HRA was completed specific to risks associated with diesel emissions during construction of the wetlands and during normal operations of the proposed project.

The HRA contains a description of the project site setting covering geology, hydrogeology, topography, and surrounding land use. A summary of historic site operations at the former railroad yard and a chronology of site characterization activities also were provided in the HRA.

The HRA reported a summary of analytical results for soil and groundwater samples collected during previous site investigations.

Chemicals of Potential Concern (COPCs)

COPCs were identified for the HRA evaluation based on all analytical data from the Geomatrix site investigations. Total Petroleum Hydrocarbons such as TPHD, TPHG, or TPH Oil and Grease (O&G) represent mixtures of constituents that, because of their potentially highly variable composition, do not have descriptive health criteria. Therefore, the toxicity of these mixtures is best described by the aggregate toxicity of key constituents of potential toxicological concern in the mixture, which include PNAs, and BTEX.

All detected PNAs and metals were identified as COPCs for quantitative evaluation in the HRA. The VOCs, including BTEX and PCE, were detected at such a low frequency (three percent) that the report concluded they do not result in a significant exposure. Therefore, these compounds were not identified as COPCs.

The HRA addendum performed by Geomatrix identified five new chemicals, based on additional soil sampling, since the original HRA was completed, and considered three chemicals as site COPCs. The PNAs acenaphthene, flourene, and 2-methylnaphthalene were identified as site COPCs due to the fact that other detected PNAs had previously been identified as COPCs. The new COPCs were included in the exposure assessment and evaluated for risk characterization.

Finally, the 2006 HRA focused on diesel emissions of trucks and construction equipment as a COPC. The diesel emissions were considered for the two scenarios of construction of the wetlands and operation of the proposed project.

Exposure Assessment

The exposure assessment for the HRA involved the estimation of the magnitude, frequency, and duration of human exposure. The principle elements of the exposure assessment included:

- Evaluation of the fate and transport processes for the COPCs at the site;
- Identification of potential exposure pathways;
- Identification of potential exposure scenarios;
- Calculation of representative chemical concentrations; and
- Estimation of potential chemical uptake.

In the 2000 HRA, a Conceptual Site Model was developed based on the identified soil conditions, on potential current and future land use, and on physical and chemical characteristics of the COPCs. The HRA then evaluated the environmental fate of the COPCs based on the transport and transformation processes.

Exposure pathways by which a receptor may contact a chemical in the environment under existing conditions were evaluated in the HRA. Exposure scenarios were developed for potential occurrences that included:

- current youth trespasser;
- future onsite construction worker;
- future onsite landscape installer;
- future onsite maintenance worker;
- future general office worker; and
- offsite receptors.

Exposure point concentrations were used to evaluate chemical uptake by exposed individuals. Standard exposure equations and input parameters were used to calculate the annual average daily dose and lifetime daily dose for each of the COPCs and for the identified exposure pathways.

Toxicity Assessment

A toxicity assessment was completed to determine if a chemical can cause an increase in a particular adverse health effect and the quantification of dose and incident in the exposed population. The adverse effect relies on available toxicological information and its relevance to human exposure under site conditions. The toxicity criteria developed from the assessment were used to evaluate noncarcinogenic and carcinogenic effects.

Risk Characterization

Results of the exposure and toxicity assessments were integrated into quantitative or qualitative estimates of potential health risks. Noncarcinogenic health risks, carcinogenic health risks, and exposure to lead were characterized. An uncertainty analysis was presented in the risk characterization based on the assumptions used in areas with limited data. These areas would generally arise from lack of knowledge of project site conditions, toxicity of the specific chemical, dose-response of the COPCs, and the extent to which an individual might be exposed to the chemicals. Assumptions were selected in a manner that purposefully biases the process toward health conservatism (i.e., over-predicting the risks).

Conclusions for Existing Conditions

The site-specific HRAs described above, describe existing conditions at the project site and conclude the following:

- The health risks associated with COPCs in soil at the existing project site should not pose an unacceptable health risk to onsite receptors
- Health risks associated with COPCs in soil at the existing project site should not pose an unacceptable health risk to offsite receptors

- Exposure to lead in soil at the existing project site should not pose an unacceptable health risk to onsite or offsite receptors.
- Concentrations of chemicals in the groundwater at the existing project site, which is not a drinking water source, are low and are below published drinking water standards.

Results of the first HRA conducted for the site (Geomatrix, 1997) indicated that exposure to chemicals of potential concern in the soil at the existing project site would not pose an unacceptable health risk to onsite or offsite receptors.

The 2000 HRA addendum incorporated analytical data collected since the original HRA was completed, and it updated several exposure parameters and toxicity criteria to reflect more recent US EPA and Cal-EPA guidance. The HRA addendum stated that the presence of chemicals in the soil at the existing site should not pose an unacceptable noncarcinogenic or carcinogenic health risk to the identified onsite or offsite receptors. (Geomatrix, 2000.)

Diesel Emissions

Comments on the Notice of Preparation raised concerns about diesel emissions associated with the project. Consequently, the 2006 HRA looked at the potential health risks associated with diesel emissions for two aspects of the proposed project, namely wetlands construction and operation of the project at buildout. Diesel emissions associated with the wetlands construction would occur during the estimated 30 working day construction period (six weeks total assuming 5 days per week) when heavy equipment would be used. The study concluded that diesel emissions levels would reach only 2 percent of the significance threshold values used by the North Coast Unified Air Quality Management District (NCUAQMD).

The NCUAQMD does not have any established significance thresholds for non-stationary actions such as delivery trucks which characterizes the potential exposure of diesel emissions for project operations. However, the HRA considered idling trucks at loading docks as stationary sources of emissions and compared them to the NCUAQMD Cancer Risk and Hazard Index thresholds. The findings of the HRA concluded that the operations of the proposed project would produce diesel emissions well below the action levels determined by NCUAQMD, and would not pose a health risk to likely receptors.

Diesel emissions associated with the proposed project are also discussed in Section IV.C Air Quality.

Environmental Analysis

Significance Criteria

For the purposes of this EIR, implementation of the proposed project would have a significant effect related to hazards and hazardous materials if, based on Appendix G of the CEQA Guidelines, it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

2. 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;

3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

4. Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;

5. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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;

6. 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;

7. Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands.

Regulatory Framework

The following standards and regulations govern hazards and hazardous materials and are used to measure impacts.

Federal Regulations

The following are the federal laws and guidelines governing, in part, hazards and hazardous materials:

- Pollution Prevention Act (42 USC 13101 et seq./40 CFR)
- Clean Water Act (33 USC 1251 et seq./40 CFR)
- Clean Air Act (42 USC 7401 et seq./40 CFR)

- Occupational Health and Safety Act (29 USC 651 et seq./29 CFR)
- Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136 et seq./40 CFR)
- Comprehensive Environmental Response Compensation and Liability Act (42 USC 9601 et seq./29 CFR, 40 CFR)
- Superfund Amendments and Reauthorization Act Title III (42 USC 9601 et seq./29 CFR)
- Resource Conservation and Recovery Act (42 USC 6901 et seq./40 CFR)
- Safe Drinking Water Act (42 USC 300f et seq./40 CFR)
- Toxic Substances Control Act (15 USC 2601 et seq./40 CFR)

At the federal level, the principal agency regulating the generation, transport, and disposal of hazardous waste is the United States Environmental Projection Agency (US EPA), under the authority of Resource Conservation and Recovery Act (RCRA). The RCRA established a federal hazardous waste “cradle-to-grave” regulatory program that is administered by the US EPA. Under the RCRA, the US EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous wastes. The RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle-to-grave" system of regulating hazardous wastes. The HSWA specifically prohibits the use of certain techniques for the disposal of some hazardous wastes. Under the RCRA, individual states may implement their own hazardous waste management programs as long as they are consistent with, and at least as strict as, the RCRA. The US EPA must approve state programs intended to implement the RCRA requirements.

The US EPA also regulates sites that have been deemed to contain hazardous substances under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CERCLA, commonly referred to as Superfund, was enacted on December 11, 1980. The purpose of the CERCLA was to provide regulators the ability to respond to uncontrolled releases of hazardous substances from inactive hazardous waste sites that endanger public health and the environment. The CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at such sites, and established a trust fund to provide for cleanup when no responsible party could be identified. In addition, the CERCLA provided for the revision and republishing of the National Contingency Plan (NCP) that provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also provides for the National Priorities List, a list of national priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action.

The Superfund Amendments and Reauthorization Act (SARA) amended the CERCLA on October 17, 1986. This amendment increased the size of the Hazardous Response Trust Fund, expanded the US EPA's response authority, strengthened enforcement activities at Superfund sites and broadened the application of the law to include federal facilities. In addition, new provisions were added to the law that dealt with emergency planning and community right to know. The SARA also required the US EPA to revise the Hazard Ranking System to ensure that

it accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review for listing on the National Priorities List.

State Regulations

The California Department of Health Services establishes rules governing the use of hazardous wastes. The State Water Resources Control Board and Regional Water Quality Control Boards (RWQCBs) have responsibility to protect water quality and supply.

The following represent state laws and guidelines governing environmental issues:

- Porter Cologne Water Quality Control Act
  (California Water Code Section 13000-14076/23 CCR)
- California Accidental Release Prevention Law
  (California Health and Safety Code Section 25531 et seq./19 CCR)
- California Building Code
  (California Health and Safety Code Section 18901 et seq./24 CCR)
- California Fire Code
  (California Health and Safety Code Section 13000 et seq./19 CCR)
- California Occupational Safety and Health Act
  (California Labor Code Section 6300 6718/ 8 CCR)
- Hazardous Materials Handling and Emergency Response "Waters Bill"
  (California Health and Safety Code Section 25500 et seq./19 CCR)
- Hazardous Waste Control Law (HWCL)
  (California Health and Safety Code Section 25100 et seq. / 22 CCR)
- Carpenter-Presley-Tanner Hazardous Substance Account Act "State Superfund"
  (California Health and Safety Code Section 25300 et seq. / California Revenue and Tax Code Section 43001 et seq.)
- Hazardous Substances Act (California Health and Safety Code Section 108100 et seq.)
- Safe Drinking Water and Toxic Enforcement Act "Proposition 65" (California Health and Safety Code Sections 25180.7, 25189.5, 25192, 25249.5-25249.13 / 8 CCR, 22 CCR)
- California Air Quality Laws
  (California Health and Safety Code Section 39000 et seq./ 17 CCR)
- Aboveground Petroleum Storage Act
  (California Health and Safety Code Section 25270 et seq.)
- Pesticide Contamination Prevention Act
  (California Food and Agriculture Code Section 13141 et seq./3 CCR)
- Underground Storage Tank Law
  (California Health and Safety Code Section 25280 et seq./23 CCR)

The California Department of Toxic Substances Control (DTSC) has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the generation, transport and disposal of hazardous wastes under the authority of the Hazardous Waste Control Law (HWCL). Regulations implementing the HWCL list 791 hazardous chemicals and 20 or 30 more common substances that may be hazardous; establish criteria for identifying, packaging and labeling hazardous substances; prescribe management of hazardous substances; establish permit requirements for hazardous waste treatment, storage, disposal and transportation; and identify hazardous wastes that cannot be deposited in landfills.

Under both the federal RCRA and the HWCL, the generator of a hazardous waste must complete a manifest that accompanies the waste from the point of generation to the ultimate treatment, storage or disposal location. The manifest describes the waste, its intended destination, and other regulatory information about the waste. Copies must be filed with the DTSC. Generators must also match copies of waste manifests with receipts from the treatment, storage or disposal facility to which it sends waste.

State Emergency Response Plan

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to significant hazardous materials incidents is one part of this plan. The plan is administered by the state Office of Emergency Services, which coordinates the responses of other agencies including the California Environmental Protection Agency (Cal-EPA), California Highway Patrol, California Department of Fish and Game, the RWQCB, local environmental health departments, and local fire departments.

Hazardous Waste and Hazardous Management Regulatory Program

The unified Hazardous Waste and Hazardous Management Regulatory Program (SB 1082, 1993) is a state and local effort to consolidate, coordinate, and make consistent existing programs regulating hazardous waste and hazardous materials management. Cal-EPA adopted regulations for the Unified Program (CCR. Title 27, Division 1, Subdivision 4, Chapter 1) in January 1996. The Unified Program is implemented at the local level by Certified Unified Program Agencies.

Humboldt County Plans and Policies

Assembly Bill 2948 (Tanner, 1986) established procedures for the preparation of a County Hazardous Waste Management Plan (HWMP). The HWMP is intended to serve as the primary planning document for hazardous waste management within a county, and contains goals, policies, and recommended programs for the management, recycling, and disposal of hazardous wastes. The HWMP principally governs the coordination and planning of hazardous waste disposal capacity between the county and state. The California Department of Health Services must give its approval to the plan before the document becomes effective. Humboldt County has developed a Hazardous Waste Management Plan (*Hazardous Materials Area Plan*, Humboldt County Department of Environmental Health & Human Services Division of Environmental Health, 2003).

General Plan and Local Coastal Program

The City of Eureka's adopted General Plan and adopted Local Coastal Program together formalize a long-term vision for the physical evolution of Eureka and they outline the policies, standards, and programs that guide day-to-day decisions concerning Eureka's development in the coastal zone. The Policy Consistency Analysis, found in Section IV.I, *Land Use and Planning*, provides an evaluation of the Marina Center project's conformity with the policies of the adopted General Plan and Land Use Plan portion of the adopted Local Coastal Program.

Coastal Zoning Regulations

The Coastal Zoning regulations which implement the policies of the Land Use Plan portion of the adopted Local Coastal Program are codified in Chapter 156 of the Eureka Municipal Code (EMC), and are also referenced as Article 29, Part 1, Section 10-5.29 et. seq. of the zoning regulations of the City for the coastal zone.

Zoning Regulations

The Zoning Regulations of the City of Eureka are found in Chapter 155 of the EMC and are adopted pursuant to the City Charter to protect the public health, safety, peace, comfort, convenience, prosperity and general welfare.

Project Impacts

Impact G-1: Would the Marina Center project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Encountering contaminated soil, surface water, and groundwater without taking proper precautions during project construction could result in the exposure of construction workers to hazardous materials and consequently result in associated significant adverse human health and environmental impacts.

Remaining and/or previously unidentified contamination may be present on or below ground surface.

The project may result in some contamination remaining in situ. Without proper controls, this could potentially result in a significant impact to the public or to the environment.

In order to address historical contamination issues that might arise after the RWQCB-approved site remediation has been completed, a soil and groundwater management contingency plan would be prepared for the property. The soil and groundwater management contingency plan would be used to properly address any subsurface soil or groundwater contamination that is encountered after the approved site remediation effort is complete.

The potential hazards related to hazardous materials and wastes associated with operational uses are discussed below in Impact G-2.

Mitigation

Mitigation Measure G-1a: The project applicant shall prepare a site-specific remediation plan and health and safety plan that meets the requirements of the Regional Water Quality Control Board (RWQCB) or other overseeing agency and shall comply with all federal and state regulations including Occupational Safety and Health Administration (OSHA) requirements for worker safety. Applicable regulations and methods of compliance shall depend upon the level of contamination discovered.

Mitigation Measure G-1b: Prior to commencement of any construction activities, the applicant or the applicant's consultant shall complete any further characterization and/or remediation, as directed, of any remaining contaminated soil to the satisfaction of the RWQCB or other applicable oversight agency, undertaking appropriate remedial measures as required.

If required, soil may be excavated using a backhoe or excavator. The excavated soil shall be loaded into a dump truck and transported as required to a secured stockpile area where it shall be protected from contact with stormwater. The excavation contractor shall employ dust control measures during excavation and stockpiling activities.

Soil samples shall be collected from each excavation area, as required by the RWQCB, to confirm that remaining soil meets site clean-up goals. Following site excavation, the excavation pits shall be left open pending receipt of satisfactory confirmation soil sampling analytical results. Each excavation pit shall be secured with a fence during the period that it is left open. Once the excavation work is complete, the excavation pits in areas intended for development shall be backfilled with clean, river-run gravel or other clean fill material and compacted. Three samples of the backfill material shall be collected during the backfill process, submitted to the analytical laboratory and tested to ensure that it, also, meets the site clean-up standards. The excavation pits located in areas intended for wetlands restoration shall be restored in accordance with an approved wetland restoration plan.

Soil Stockpile Characterization. Soil samples shall be collected from various locations and depths of the stockpile for characterization. The soil stockpile characterization shall be conducted in accordance with, and at the frequency required by the applicable disposal or recycling facility.

Soil Disposal. Based on the results of the soil characterization, the material shall be properly managed as required by the RWQCB, depending on the concentration of contaminants in the stockpiled material. All excavated material that requires removal shall be removed from the site within 90 days and placed in a permitted disposal facility by a licensed waste hauler.

Mitigation Measure G-1c: During site preparation, construction, or restoration of the wetland, suspected residual contamination could be detected by a hydrocarbon odor or visually (hydrocarbon sheen or discoloration) despite initial remediation efforts. If suspected contamination is encountered, work shall stop and the site supervisor shall be notified. The site supervisor shall then ensure that site workers have adequate training and

proper protective equipment to continue working in the area. Work shall not resume until properly trained and equipped workers are present.

Suspect soil shall be excavated using a backhoe or excavator. The excavated soil shall be loaded into a dump truck and transported to a secured stockpile area that is away from routine traffic and protected from contact with ponding water and stormwater. The excavated soil shall be sampled and analyzed for petroleum hydrocarbons, metals, and volatile organic compounds (VOCs), as appropriate or required by the RWQCB. The analytical results of the soil stockpile sample(s) shall be used to determine the proper handling and disposal method for the soil. In the event that the soil requires off-site disposal, a contractor licensed to transport such material shall transport the contaminated soil to a facility that is licensed to accept such soil. All contaminated soil that requires removal shall be removed from the site within 90 days following excavation.

Following site excavation, the re-filling of excavation pits, soil stockpile characterization and soil disposal shall be the same as for Mitigation Measure G-1a above.

Any suspected contaminated groundwater or surface water that is encountered shall be sampled and analyzed for petroleum hydrocarbons, metals, and VOCs, as appropriate or required by the RWQCB. Identified contaminated water that requires removal shall be pumped into appropriate containers, depending on the volume of water to be removed. If only a small volume is removed, Department of Transportation-approved, 55-gallon steel drums may be appropriate. If a large volume must be removed, a Baker Tank or equivalent shall be used to temporarily store the extracted water. Contaminated water shall be disposed of as required by the RWQCB in light of the level and type of contamination.

Mitigation Measure G-1d: Possible reuse of contaminated soils as subgrade fill material shall require approval from the local environmental oversight agency (Humboldt County Department of Health) and/or the RWQCB.

Mitigation Measure G-1e: The following measures shall be undertaken to the satisfaction of the RWQCB to ensure that human and environmental health is protected:

1. Upon completion of site remediation activities, a post-remediation groundwater-monitoring program shall be implemented as required by the RWQCB;

2. The RWQCB will outline the monitoring schedule, including what constituents will require testing and at what frequency the monitoring will occur; and

3. A groundwater monitoring report of findings shall be prepared for submittal to the RWQCB upon completion of each monitoring event. If required by the RWQCB, additional site remediation shall also occur.

Finding of Significance

The recommended mitigation measures would avoid or minimize the potential of the Marina Center project to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, reducing the impact to a ***less-than-significant*** level.

Impact G-2: Would the Marina Center project 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?

During grading and construction activities it is anticipated that limited quantities of miscellaneous hazardous substances such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, and paints would be brought onto the project site. These hazardous materials would be stored in temporary bulk above-ground storage tanks, 55-gallon drums, or within fueling trucks for various fueling and maintenance purposes. As with any liquid or solid, during handling and transfer from one container to another, the potential for an accidental release exists. Depending on the relative hazard of the material, if a spill were to occur in significant quantity, the accidental release could pose both a hazard to construction employees as well as the environment. Without proper controls, this could result in a significant impact on the environment.

During normal retail/commercial/light industrial/residential operations of the proposed project, once construction activities have been completed, it is anticipated that limited quantities of miscellaneous hazardous substances such as gasoline, diesel fuel, fertilizers, pesticides, solvents, oils, and paints would be brought onto, stored, and potentially sold at the project site. Residential use of the project site also would likely include the use, storage, and handling of limited quantities of hazardous materials associated with automobiles, landscaping, and building maintenance. As with any liquid or solid, during handling, storage or transfer from one container to another, the potential for an accidental release exists. The quantities of hazardous materials used and transported at the project site would be relatively minor and would not amount to more than used in most commercial/residential developments. Furthermore, future occupants and users of the project site including the light industrial users would be required to comply with federal, state, and local regulations associated with the proper transport, use, storage, and disposal of hazardous materials and wastes. Consequently, significant impacts related to the transport, use, or storage of hazardous materials are not anticipated.

The proposed development does have the potential to affect the quality of surface water runoff from the site, because there is a possibility of stormwater contamination from hazardous materials associated with the development, and because the project would result in an increase in impervious surface area on the site. These impacts and relevant mitigation are discussed in Section IV.H, *Hydrology and Water Quality* of this EIR.

Mitigation

Mitigation Measure G-2a: The following measures shall be undertaken to the satisfaction of the RWQCB and the County Department of Environmental Health, HazMat Division. All potentially hazardous or regulated materials that are used at the project site during construction activities shall be appropriately covered, handled, stored, and secured in accordance with local and state laws. No hazardous wastes shall be disposed of at the project site. Absorbent materials shall be maintained at locations where hazardous materials are used or stored, in order to capture spilled materials in the event of an accidental release. An emergency response plan shall be developed and implemented for the project site. All jobsite employees shall be trained to respond to any accidental releases.

Mitigation Measure G-2b: The project applicant shall prepare a Storm Water Pollution Prevention Plan (SWPPP) and implement construction site best management practices in accordance with the guidelines for erosion control and pollution prevention during construction that can be found in the *California Stormwater Best Management Practices Handbooks*. The guidelines recommend techniques for erosion and sediment control, non-storm water management, and waste management and materials pollution control. The project applicant shall implement site-appropriate measures from these guidelines. SWPPP implementation is described in more detail in Section IV.H, *Hydrology and Water Quality* of this EIR.

Finding of Significance

The recommended mitigation measures would avoid or minimize the potential of the Marina Center project to 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, reducing the impact to a ***less-than-significant*** level.

Impact G-3: Would the Marina Center project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The closest school is Jefferson Elementary School at 1000 B Street, Eureka, which is just over one-quarter mile from the project site. The school was closed in June, 2005. Because the school is closed and because potential project impacts concerning hazardous materials would be mitigated to less-than-significant, the project would not result in hazardous materials impacts to a school within one-quarter mine of the project site.

Mitigation

None recommended.

Finding of Significance

The Marina Center project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school and would therefore have ***less-than-significant*** impact in relation to this criterion.

Impact G-4: Would the Marina Center project 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?

The project site has had a history of hazardous materials releases as discussed above, but would not be considered for listing as a hazardous materials site under Government Code section 65962.5 because it is in compliance with Regional Board orders and all USTs have been

removed. Some remediation activities have occurred at the site and any remaining contamination would be mitigated through implementation of Mitigation Measures G-1a through G-1e.

Mitigation

See Mitigation Measures G-1a through G-1e.

Finding of Significance

The recommended mitigation measures would avoid or minimize the potential of the Marina Center project to create a significant hazard to the public or the environment through having been included as a hazardous materials site, reducing the impact to a ***less-than-significant*** level.

Impact G-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the Marina Center project result in a safety hazard for people residing or working in the project area?

The project site is just over 2 miles from the Eureka Municipal Airport which is located on the north spit; the project site is not within the land use plan for the airport. The project site is about 3 miles from the Murray Field Airport and is not within the land use plan for the airport.

Mitigation

None recommended.

Finding of Significance

The Marina Center project is not located within an airport land use plan or within 2 miles of a public airport or public use airport, and therefore would have ***no impact*** in relation to this criterion.

Impact G-6: For a project within the vicinity of a private airstrip, would the Marina Center project result in a safety hazard for people residing or working in the project area?

The project site is not located in the vicinity of a private airstrip.

Mitigation

None recommended.

Finding of Significance

The Marina Center project is not within the vicinity of a private airstrip, and therefore would have ***no impact*** in relation to this criterion.

Impact G-7: Would the Marina Center project impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project would not close any roads or otherwise interfere with an adopted emergency response or evacuation plan.

Mitigation

None recommended.

Finding of Significance

The potential for the Marina Center project to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan would be a ***less-than-significant*** impact.

Impact G-8: Would the Marina Center project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands?

The project site is located in a developed area, well away from any risk of wildland areas. The project therefore would not create wildfire risks.

Mitigation

None recommended.

Finding of Significance

The potential of the Marina Center project to expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized area or where residences are intermixed with wildlands would be a ***less-than-significant*** impact.

Cumulative Impacts

Impact G-9: Would the Marina Center project contribute to significant cumulative hazards impacts in the project site vicinity?

The hazards impacts associated with a project like the one proposed (in which hazardous materials are used only incidentally or in relatively small amounts and under various regulatory requirements) are usually localized and occur on a project-by-project basis, rather than in a cumulatively significant manner. A key component of this project is remediation of the existing brownfield according to RWQCB requirements which are designed to protect the public and environment. Ultimately, successful remediation of the project site will be a beneficial result for

the public and environment. The RWQCB also requires hazardous materials mitigation measures (including a SWPPP) during construction, and other regulatory requirements also reduce the risks of project operation to minimal levels. Other projects listed in Appendix E will be required to similarly mitigate their site-specific impacts. As a result, the cumulative impacts from hazards associated with the proposed project and other foreseeable development are considered to be less-than-significant.

Mitigation

See recommended Mitigation Measures G-1a through G-1e, G-2a, and G-2b.

Finding of Significance

The recommended mitigation measures would reduce the potential hazards impacts of the Marina Center project to ***less-than significant*** levels, and the project would not make a cumulatively considerable contribution to cumulative hazards impacts in the project site vicinity.

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