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Alameda County
Environmental Health

June 20, 2008
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Mr. Paresh C. Khatri
Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577
(510) 777-2478

Dear Mr. Khatri:

Subject: Sensitive Receptor Survey

Reference: Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606
RO #0002569

On behalf of Earthgrains Baking Companies, Inc., PSC Industrial Outsourcing, LP (PSC) is submitting the enclosed *Sensitive Receptor Survey* for the above-referenced facility. PSC subcontracted ETIC Engineering, Inc. (ETIC) to prepare this report for submittal to Alameda County Environmental Health.

Please feel free to call John Carrow (618-281-1450) or myself (618-281-1546) with any questions concerning this document.

Respectfully,
PSC Industrial Outsourcing, LP

Scott Jander
Project Manager

S:\Shared\UST\Sara Lee\Project\Oakland\2008 - Sensitive Receptor Survey\2008_06_20 - SRS (ETIC, 04_22_2008) - Cover Letter - ACEH.doc

cc: Melvin Siegel – Earthgrains Baking Companies, Inc.

PSC INDUSTRIAL OUTSOURCING, LP

210 West Sand Bank Road
Columbia, Illinois 62236
Phone (618) 281-1546



Sensitive Receptor Survey

**Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606
RO #0002569**

April 2008

Prepared For:

**PSC Environmental Services
210 West Sand Bank Road
Columbia, Illinois 62236**

Prepared By:

**ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, California 94523**



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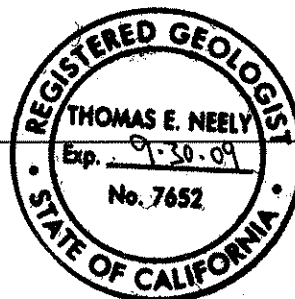
**ETIC Engineering, Inc.
2285 Morello Avenue
Pleasant Hill, California 94523**

**Michael H. Garcia
Project Geologist**

April 22, 2008

Date

**Thomas E. Neely, PG, CHG, REA II
Senior Hydrogeologist**



April 22, 2008

Date

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GENERAL INFORMATION

Site Location

Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Alameda County
Township 2 South, Range 3 West, Section 7 of the Mt. Diablo Baseline and Meridian

Responsible Party

Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Melvin Siegel
Environmental Manager
(510) 436-5350
melvin.siegel@saralee.com

Owner's Representative and Environmental Consultant

PSC Environmental Services
210 West Sand Bank Road
Columbia, Illinois 62236

Scott Jander
Project Manager
(618) 281-1546
sjander@pscnow.com

Regulatory Agency

Alameda County Health Care Services Agency
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Paresh Khatri
Hazardous Materials Specialist
(510) 777-2478
paresh.khatri@acgov.org

1.0 INTRODUCTION

On behalf of PSC Environmental Services (PSC), ETIC Engineering, Inc. (ETIC) has prepared this *Sensitive Receptor Survey* for the Earthgrains Baking Companies, Inc. (Earthgrains) facility located at 955 Kennedy Street, Oakland, California (the Site).

The sensitive receptor survey presents data concerning locations of subsurface utilities, local water usage, and locations of potential sensitive receptors such as water supply wells, surface water, residences, public use areas, utility vaults, and subsurface structures in the vicinity.

2.0 SITE BACKGROUND

2.1 DESCRIPTION OF THE SITE AND VICINITY

The Site occupies approximately five acres of land in Oakland, California (Figure 1). Earthgrains (*formerly* Kilpatrick's Bakeries, Inc.) currently owns and operates a 105,000 square-foot plant consisting of a bakery, product distribution center, and retail outlet store at the Site (Figure 2). An asphalt-paved parking area and driveway border the eastern and western sides of the Site and six truck loading docks are situated in the northwestern portion of the facility. A stand-alone truck wash building is located west of the plant and a truck maintenance garage was formerly located in the northwestern corner of the Site (Figure 3). The Site is bounded by Dennison Street to the north, Frederick Street to the south, Kennedy Street to the east, and King Street to the west. Surrounding properties to the north, south, and west of the Site are industrial and commercial businesses. Interstate 880 is located due east of Kennedy Street.

2.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

The Site is located in the East Bay Plain Subbasin of the Santa Clara Valley Groundwater Basin. The East Bay Plain Subbasin is a northwest trending alluvial plain bounded on the north by San Pablo Bay, on the east by the contact with Franciscan Basement rock, and on the south by the Niles Cone Groundwater Basin. The East Bay Plain Basin extends beneath San Francisco Bay to the west. Numerous creeks including San Pablo Creek, Wildcat Creek, San Leandro Creek, and San Lorenzo Creek flow from the western slope of the Coast Ranges westward across the plain and into the San Francisco Bay. The East Bay Plain Subbasin aquifer system consists of unconsolidated deposits of Quaternary age. Deposits include the early Pleistocene Santa Clara Formation, the late Pleistocene Alameda Formation, the early Holocene Temescal Formation, and Artificial Fill. The cumulative thickness of the unconsolidated deposits is about 1,000 feet (Department of Water Resources [DWR] 2003).

Early Pleistocene Santa Clara Formation

The Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits. The formation ranges from 300 to 600 feet thick (DWR 2003).

Late Pleistocene Alameda Formation

The Alameda Formation includes a sequence of alluvial fan deposits. The formation was deposited primarily in an estuarine environment and ranges from 26 to 245 feet thick (DWR 2003).

Early Holocene Temescal Formation

The Temescal Formation is an alluvial deposit consisting primarily of silt and clay with some gravel layers. The formation ranges from 1 to 50 feet thick (DWR 2003).

Artificial Fill

Artificial fill is found mostly along the bay front and wetlands areas and is derived primarily from dredging as well as quarrying, construction, demolition debris, and municipal waste. The fill ranges in thickness from 1 to 50 feet with the thickest deposits found closer to San Francisco Bay (DWR 2003).

2.3 LOCAL GEOLOGY AND HYDROGEOLOGY

Historical boring logs indicate that the Site is underlain by varying amounts of clay, silt, sand, and gravel. The predominant soil types beneath the Site consist primarily of clay and silty clay. During drilling activities performed at the Site in the 1990s, groundwater was first encountered within a sand and gravel layer located at depths of 18 to 26 feet below-ground-surface (BGS). Reportedly, in some borings, a small amount of perched groundwater was encountered in a thin sandy and silty lens located between 10 and 12 feet BGS. In September 2006, groundwater was first encountered in the soil borings at depths ranging from approximately 9.5 to 24 feet BGS. Groundwater in some of the borings was subsequently measured at approximately 9 to 19 feet BGS. Historical monitoring data indicate that groundwater flows generally toward the southwest with a hydraulic gradient ranging from approximately 0.005 to 0.01 foot-per-linear foot (ft/ft).

2.4 TOPOGRAPHY AND SURFACE WATER

The land surface slopes towards the west and southwest in the vicinity of the Site at approximately 0.5 foot per 100 feet. The elevation of the Site is approximately 15 feet above mean sea level.

Brooklyn Basin, an estuary of San Francisco Bay that lies between Oakland (to the east) and Coast Guard Island (to the west), is located approximately 800 feet west-southwest of the Site. An unnamed creek flows into Brooklyn Basin approximately 1,800 feet northwest of the Site near the intersection of 12th Street and 19th Avenue (Sowers 2000). Sausal Creek flows generally to the south within approximately 2,800 feet east of the Site, and empties into San Francisco Bay approximately 4,400 feet southeast of the Site. Sausal Creek appears to be contained in an underground culvert for approximately the final 1.3 miles of its course.

2.5 UST HISTORY

Earthgrains operated eight underground storage tank (UST) systems at the Site from 1967 to 2005. A UST system includes the storage tank, associated vent and product piping, dispenser, dispensing island, and ancillary equipment. Earthgrains installed one 10,000-gallon gasoline, one 10,000-gallon diesel, and one 350-gallon waste oil UST systems adjacent to the former truck maintenance garage in 1967. Earthgrains installed four 10,000-gallon diesel UST systems in a common excavation along the western boundary of the Site in 1977 (Figures 2 and 3). The four diesel tanks provided a back-up fuel system for the bakery ovens in the plant. Earthgrains removed the seven UST systems for permanent closure from 1989 to 1991 and installed one replacement 10,000-gallon diesel UST system (the eighth UST system) in 1991. The diesel tank was installed in the former excavation of the 10,000-gallon gasoline and diesel tanks (Figures 2 and 3). The new STI-P₃[®] tank was constructed of dual-wall steel and protected with a fiberglass-reinforced plastic (FRP) coating on the secondary tank (John Mathes & Associates, Inc. 1991). Earthgrains removed the 10,000-gallon diesel UST system (Tank #8) for permanent closure in 2005. The Alameda County Department of Environmental Health (ACDEH) closed the first environmental case for the Site in 1996.

2.5.1 Historical Environmental Case for the Site

Removal of Four 10,000-Gallon Diesel UST Systems

Earthgrains removed four 10,000-gallon diesel tanks for permanent closure on October 11, 1989. The approximate location of the former tanks is shown on Figures 2 and 3. The diesel tanks provided a back-up fuel system for the bakery ovens in the plant. During the UST removal activities, diesel-impacted soil was excavated and removed from the common tank excavation for offsite disposal. Following excavation activities, soil samples were collected

from the floor and sidewalls of the common tank excavation and submitted for laboratory analyses. Laboratory analytical data indicate that total petroleum hydrocarbons quantified as diesel (TPH-d) and benzene, toluene, ethylbenzene, and total xylenes (BTEX) were not detected in the confirmation soil samples (John Mathes & Associates, Inc. 1990). One water sample collected from the northern portion of the common tank excavation at a depth of approximately 18 feet BGS contained TPH-d at 49 milligrams-per-liter, but did not contain detectable concentrations of BTEX (John Mathes & Associates, Inc. 1990). Earthgrains submitted UST closure documentation to the ACDEH in December 1989.

Removal of 10,000-Gallon Gasoline and Diesel UST Systems

Earthgrains removed one 10,000-gallon gasoline and one 10,000-gallon diesel UST systems for permanent closure on December 12, 1990. The gasoline and diesel tanks shared a common excavation south of the former truck maintenance garage (Figures 2 and 3). During the closure activities, petroleum-hydrocarbon impacted soil was excavated and removed for offsite disposal. Soil samples were collected from the common excavation and submitted for laboratory analyses. Laboratory analytical data indicate that total petroleum hydrocarbons quantified as gasoline (TPH-g), TPH-d, and BTEX were not detected in the confirmation soil samples. One groundwater sample collected from the common tank excavation at a depth of approximately 17 to 18 feet BGS contained toluene at 0.7 micrograms-per-liter ($\mu\text{g/L}$), ethylbenzene at 2.6 $\mu\text{g/L}$, and total xylenes at 2.3 $\mu\text{g/L}$. TPH-g, TPH-d, and benzene were not detected in the groundwater sample (John Mathes & Associates, Inc. 1991). Following excavation and sampling, a 6-inch diameter well of unknown construction (designated NSMW-1) was installed (Burlington Environmental, Inc. 1993). At this time, one new 10,000-gallon diesel tank was installed in the excavation, replacing the two previous 10,000-gallon tanks. The new 10,000-gallon STI-P3® tank was installed between December 1990 and January 1991 (John Mathes & Associates, Inc. 1991).

Removal of 350-Gallon Waste Oil UST System

Earthgrains removed one 350-gallon waste oil UST system for permanent closure on January 28, 1991. The waste oil tank was located south of the former truck maintenance garage near King Street (Figures 2 and 3). Approximately 25 cubic yards of impacted soil were excavated and removed for offsite disposal. One soil sample was collected from the excavation at 8 feet BGS and submitted for laboratory analyses. Laboratory analytical data indicate that TPH-g, TPH-d, total oil and grease, BTEX, polychlorinated biphenyls, creosote, volatile organic compounds, and semi-volatile organic compounds were not detected in the confirmation soil sample (John Mathes & Associates, Inc. 1991).

Soil and Groundwater Investigations

In August 1992, Burlington Environmental, Inc. (Burlington) installed groundwater monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 to assess the extent of petroleum hydrocarbons in the shallow soil and groundwater beneath the Site (Figure 3).

Groundwater monitoring wells MW-1 and MW-2 were installed downgradient of the four former diesel tanks, along the western property line. Monitoring well MW-3 was installed downgradient of the former gasoline and diesel tanks near the former truck maintenance garage. Monitoring well MW-4 was located downgradient of the former waste oil tank near the western property line. Monitoring well MW-5 was situated upgradient of the former gasoline and diesel tanks in the northern portion of the Site.

From September 1992 to December 1994, groundwater samples were collected from the five wells on nearly a quarterly basis. TPH-d was detected sporadically at concentrations up to 460 µg/L in MW-1, 720 µg/L in MW-2, 100 µg/L in MW-4, and 100 µg/L in MW-5.

Total petroleum hydrocarbons quantified as motor oil (TPH-mo) was detected sporadically at concentrations up to 470 µg/L in MW-1, 710 µg/L in MW-2, 290 µg/L in MW-3, 690 µg/L in MW-4, and 1,800 µg/L in MW-5.

TPH-g was detected occasionally at concentrations up to 54 µg/L in MW-5.

One groundwater sample collected from MW-1 contained toluene at 0.35 µg/L. One groundwater sample collected from MW-5 contained benzene at 0.39 µg/L, toluene at 0.39 µg/L, and total xylenes at 0.56 µg/L. The BTEX compounds were not detected in the other samples. By the December 1994 sampling event, petroleum hydrocarbons were no longer detected in the groundwater samples.

Groundwater samples collected from MW-4 and MW-5 also contained trichloroethene (TCE) up to 39 µg/L, cis-1,2-dichloroethene (cis-1,2-DCE) up to 65 µg/L, vinyl chloride up to 1.2 µg/L, carbon disulfide up to 6.4 µg/L, chloroform up to 1.3 µg/L, and carbon tetrachloride up to 1.6 µg/L.

In a report dated January 19, 1995, Burlington noted that ACDEH agreed that the source of TCE and cis-1,2-DCE was offsite (Burlington Environmental, Inc. 1995).

Tier 1 Risk Assessment and Case Closure

In July 1995, PSC submitted a Tier 1 Risk Assessment to address TCE and cis-1,2-DCE contamination in groundwater and to support closure of the environmental case (Philip Environmental Services Corporation 1995b).

By correspondence dated March 4, 1996, ACDEH closed the environmental case for the Site and requested that the monitoring wells be decommissioned. The wells were decommissioned in April 1996, as documented in the "Notification of Well Abandonment," dated April 4, 1996 (Philip Environmental Services Corporation 1996).

2.5.2 Current Environmental Case for the Site

Diesel Pump Island Modification

The original pump island associated with the 10,000-gallon diesel UST system was installed northeast of the tank location. Earthgrains removed the diesel pump island and installed a new pump island, island canopy, and approximately 110 feet of dual-wall FRP product piping south of the truck wash building in 1995 (Figures 2 and 3). Earthgrains upgraded the diesel dispensing system during March 2003 in order to comply with under-dispenser containment requirements. PSC submitted a Pump Island Modification and Testing Report dated May 21, 2003 to the Oakland Fire Department summarizing the pump island modifications and secondary-containment testing performed on the dispensing system.

Two soil borings (Probe Hole-1 and Probe Hole-2) were drilled adjacent to the pump island on April 9, 2003 to assess potential petroleum-hydrocarbon impact from the diesel dispenser and the underground motor oil product piping. Soil sample Probe Hole-1 was collected adjacent to the diesel product piping at a depth of approximately 4.5 feet BGS and sample Probe Hole-2 was collected adjacent to the new motor oil underground product piping at a depth of approximately 3.5 feet BGS. At the direction of the Oakland Fire Department, PSC collected one soil sample from each soil boring for laboratory analyses (Philip Environmental Services Corporation 2005).

Soil samples were collected inside six-inch long brass sample cylinders and submitted to Severn Trent Laboratories, Inc. (STL) for analyses. The BTEX compounds were not detected in the sample collected from Probe Hole-1. Total extractable petroleum hydrocarbons (TEPH) quantified as diesel were detected at 3,300 milligrams-per-kilogram (mg/kg) in the sample collected from Probe Hole-1. TEPH quantified as motor oil was not detected in the sample collected from Probe Hole-2 (Philip Environmental Services Corporation 2005). The analytical data for the soil samples are presented in Table 1.

Removal of 10,000-Gallon Diesel UST System

The City of Oakland Fire Prevention Bureau issued Tank Permit Number T05-0002 on January 19, 2005, authorizing removal of the 10,000-gallon diesel UST system for permanent closure. Earthgrains contracted West Star Environmental, Inc. (West Star) to perform the removal

activities and PSC to perform the closure assessment work. PSC subcontracted Castle Analytical Laboratory (Castle) to perform the analytical testing services.

On March 8, 2005, West Star excavated and removed the diesel product piping. Following removal of the diesel product piping, PSC collected one soil sample every 20 feet along the piping trench floor at a depth of approximately 4 feet below pavement surface. The trench soil samples were collected inside six-inch long brass sample cylinders using a backhoe bucket. Following collection, the brass cylinder ends were covered with Teflon tape and polyethylene caps. Soil samples were submitted to Castle for laboratory analyses. The BTEX compounds, fuel oxygenates [di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), methyl tertiary butyl ether (MTBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA)], and fuel additives [ethylene dibromide (EDB) and ethylene dichloride (EDC)] were not detected in the trench soil samples. Sample Trench-5 contained TPH-g at 48 mg/kg and TPH-d at 1,700 mg/kg. However, Castle noted that the hydrocarbons detected in the gasoline range appeared to be diesel. TPH-g and TPH-d were not detected in the other trench samples.

On March 9, 2005, West Star excavated and removed the diesel tank. Soil samples (Excavation-1 and Excavation-2) were collected from the northern and southern endwalls of the tank excavation at the soil-groundwater interface. Soil samples were collected inside clean six-inch long brass sample cylinders using a backhoe bucket. The samples were analyzed by Castle. TPH-g, TPH-d, BTEX, and the five fuel oxygenates were not detected in either soil sample.

One groundwater sample (Excavation Water) was collected from the excavation. The sample was analyzed by Castle. The groundwater sample contained TPH-g at 130 µg/L, TPH-d at 6,100 µg/L, and MTBE at 2.7 µg/L. However, the laboratory noted that the hydrocarbons detected in the gasoline range appeared to be diesel. The BTEX compounds, DIPE, ETBE, TAME, TBA, EDB, and EDC were not detected in the groundwater sample.

On April 15, 2005, PSC submitted the *Underground Storage Tank Unauthorized Release (Leak) / Contamination Site Report* to the Oakland Fire Department.

Soil and Groundwater Quality Investigation

In September 2006, ETIC performed a soil and groundwater quality investigation at the Site (ETIC 2006d). ETIC directed the field activities associated with drilling 40 soil borings (E1 through E40) and collecting 131 soil samples and 38 groundwater samples from the borings for laboratory analyses. Historical soil sampling locations are shown on Figures 2 and 3.

Diesel was the primary chemical detected in soil and groundwater samples collected during this investigation. TPH-d was detected in the soil samples at concentrations up to 8,300 mg/kg. For soil, the highest concentrations of TPH-d were detected in the samples collected in the

vicinity of the former diesel pump island and southern portion of the former diesel product piping trench. In general, the highest concentrations of TPH-d were detected in soil at depths of less than 16 feet. Elevated levels of TPH-d were also detected in the soil samples collected from borings E1 and E2 drilled near the former truck maintenance garage at depths of 11.5 and 12 feet, respectively. The depths of the elevated concentrations in soil in borings E1 and E2 coincided with the depth to groundwater and diesel impact detected in groundwater.

Four soil samples were also analyzed for physical parameters.

TPH-d was detected in the groundwater samples at concentrations up to 3,500,000 µg/L. The highest concentrations of TPH-d in groundwater were detected in the samples collected in the vicinity of the former diesel pump island and southern portion of the former diesel product piping trench. Elevated levels of TPH-d were also detected in the groundwater samples collected from borings E1 and E2.

Remedial Investigation

On March 28 and 29, 2007, ETIC performed a remedial investigation at the Site (ETIC 2007b). ETIC directed the field activities associated with drilling 12 soil borings (E41 through E52) and collecting 61 soil samples and 11 grab groundwater samples from the borings for laboratory analyses. Sampling locations are shown on Figures 2 and 3.

TPH-d was detected in the soil samples collected during this investigation at concentrations up to 1,800 mg/kg. In general, the highest concentrations of TPH-d were detected in soil at depths between approximately 8.5 and 15.5 feet BGS.

TPH-d was detected in the groundwater samples at concentrations up to 22,000 µg/L (boring E47). The highest concentrations of TPH-d were detected in the samples collected in the excavation for the four former 10,000-gallon diesel tanks, downgradient of the former diesel pump island. Elevated levels of TPH-d were also detected in the sample collected from boring E42 near the former truck maintenance garage.

3.0 CONDUIT EVALUATION

Subsurface utilities in the vicinity of the Site were identified using maps provided by the East Bay Municipal Utility District (EBMUD) and the City of Oakland. The maps are included in Appendix A. Figure 3 shows the approximate locations of identified subsurface utilities. Subsurface utilities in the site vicinity include municipal water, storm water and sanitary sewer, and natural gas (electrical service to the Site is provided through above ground power lines).

A utility map provided by the EBMUD shows an eight-inch diameter, cast mortar municipal water main line located approximately 22 feet south of the Site, beneath and parallel to Frederick Street. It intersects with two main lines to the west of the Site that are beneath and parallel to King Street. A six-inch diameter, cast iron main line is located approximately 20 feet west of the Site and intersects another six-inch diameter, cast iron main line located approximately 58 feet north of the Site, under Dennison Street. The second main line under King Street is an eight-inch diameter, cast mortar pipeline located approximately 60 feet west of the Site and intersects a 12-inch diameter main line of unknown material located approximately 22 feet north of the Site, under Dennison Street.

A utility map provided by the City of Oakland Building Services Department shows storm water and sanitary sewer pipelines in the site vicinity. An 18-inch diameter, concrete storm water sewer line is beneath and parallel to King Street, approximately 25 feet west of the Site. From the southern end of the sewer line, lateral lines extend northwest to catch basin UV12 and east to catch basin UV13, located at the southwestern corner of the Site. The storm water sewer line along King Street intersects a second storm water sewer line beneath and parallel to Dennison Street, approximately 60 feet northwest of the property. Four 12-inch diameter lateral lines connect the main line to catch basins UV1, UV2, and two offsite catch basins located in the parking lot of 2020 Dennison Street. A 15-inch diameter sanitary sewer pipeline is beneath and parallel to Frederick Street, approximately 40 feet south of the Site. It intersects with a second 15-inch diameter sanitary line beneath the approximate centerline of King Street, approximately 55 feet southwest of the Site. The sanitary sewer line beneath King Street intersects with a third sanitary sewer line located beneath the approximate centerline of Dennison Street, approximately 55 feet northwest of the Site. The sanitary sewer line extending east of King Street (beneath Dennison Street) is noted as being “plugged and abandoned”. A fourth six-inch diameter, sanitary sewer line located approximately 290 feet east of King Street, extending north and south beneath the Site, has also been noted as “closed and abandoned”. A sanitary sewer lateral pipeline extends southwestward from the building and cleanout UV6 through the oil/water separator system and former truck wash building and to the main line under King Street.

Utility service providers Pacific Gas and Electric Company (PG&E) and American Telephone & Telegraph (AT&T) were not available for interviews on February 19, March 18, and April 4, 2008 and did not provide the requested information about locations of their utilities. However, overhead electrical lines, possible power drops, and possible telephone lines are evident on poles along King Street. Natural gas lines shown on Figure 3 were drawn from Underground Service Alert utility location paint markings observed during site reconnaissance.

Depths to municipal water mains were not indicated on the EBMUD utility map and telephone calls (made on February 19, March 18, and April 4, 2008) requesting that information were not answered. Depths to public works utilities were also not indicated on maps and representatives from the City of Oakland Building Services Department were not available for interview on February 19, March 18, and April 4, 2008. Groundwater has been encountered in borings and wells at the Site at depths less than 10 feet BGS. Certain utilities (such as storm water and

sanitary sewer pipelines) may be situated at depths corresponding to the presence of groundwater.

4.0 SENSITIVE RECEPTOR SURVEY

The sensitive receptor survey (SRS) includes a review of the public water supply in Oakland, a survey of wells, identification of surface water, and a survey of residential buildings, public use areas, utility vaults, and other potential sensitive receptors in the vicinity.

4.1 CITY OF OAKLAND PUBLIC WATER SUPPLY

The Site is located within the incorporated areas of Oakland, and EBMUD is the municipal water provider in the area. EBMUD uses a combination of treated surface water (90 percent) from the Mokelumne River watershed and local rainfall (10 percent) from the East Bay watershed to supply water to its customers (EBMUD, 2006). Pipelines transport Sierra Nevada snowmelt from the Pardee Reservoir in the Sierra foothills to EBMUD water treatment facilities in Walnut Creek, Lafayette, and Orinda. Local water from the San Pablo Reservoir is piped to the Sobrante and San Pablo treatment facilities, and water from the Upper San Leandro Reservoir is piped to the Upper San Leandro treatment facility.

The East Bay Municipal Utility District Annual Water Quality Report, 2006, is provided in Appendix B. Water supply wells in the vicinity of the Site are addressed in Section 4.2.

4.2 WELL SURVEY

A survey of wells within 2,000 feet of the Site was performed in August 2006 and March 2008. The County of Alameda Public Works Agency (PWA) and Environmental Data Resources (EDR) were contacted to identify public water supply wells in the site vicinity. Where possible, well locations were confirmed during the site reconnaissance performed on March 26, 2008. Results of the well survey are shown on Figure 4 and presented in Table 1 (environmental monitoring, extraction, and destroyed wells were not included). The Alameda County PWA Water Resources Wells Location History Search is included in Appendix C. The EDR Water Well Report is included in Appendix D.

The Alameda County PWA provided records for two water supply wells (PRW1 and PRW2) located within 2,000 feet of the source area at the Site. Well PRW1 was installed at 1091 Calcot Street in Oakland, approximately 700 feet north-northeast and upgradient of the Site. Records indicate that the well was drilled in January 2006 to a depth of 345 feet BGS, and the present status is abandoned. Well PRW2 was installed at 2619 East 12th Street in Oakland, approximately 1,400 feet east-northeast and upgradient of the Site. Records indicate that the well was drilled to a depth of 166 feet BGS, and the present status is abandoned. Well PRW3 was installed slightly outside of the search radius, at 1100 29th Avenue in Oakland, approximately 2,000 feet east-southeast and upgradient of the Site. It is an industrial well drilled to a depth of 873 feet BGS, and the present status is unknown. Well PRW4 is located

approximately 2,400 feet southeast and cross-gradient of the Site. Well PRW5 is located approximately 2,500 feet southwest and downgradient and cross-gradient of the Site. Well PRW4 is an irrigation well approximately 160 feet deep located at 2900 Glascock Street in Oakland, and well PRW5 is of unknown use and located at 2199 Clement Avenue in Alameda. The present statuses of wells PRW4 and PRW5 are unknown. EDR records did not indicate any water supply wells located within the search radius.

4.3 SURFACE WATER

The EDR report and historical topographic maps dated 1915, 1948, 1949, 1959, 1968, 1973, and 1980 were evaluated for the presence of surface water bodies and potential wetlands located within 2,000 feet of the Site. For the purpose of evaluating sensitive receptors, potable water contained within aqueducts is considered to be a surface water body. Surface water bodies and wetlands identified in the site vicinity are listed in Table 2, and EDR figures and historical topographic maps included in Appendix E.

The closest surface water body to the Site is Brooklyn Basin, within the Oakland Estuary, located approximately 800 feet west-southwest and downgradient of the Site. An unnamed creek flows into Brooklyn Basin approximately 1,800 feet northwest of the Site. Located outside of the search radius is Sausal Creek, flowing within approximately 2,800 feet east and upgradient of the Site. Wetlands were identified on the EDR figures within 2,000 feet of the Site. They generally correspond to the margins of the estuary.

4.4 RESIDENTIAL BUILDINGS

On March 26, 2008, four residential buildings were identified within 330 feet (approximately 100 meters) of the Site. These residential buildings are shown on Figure 5.

RB1 (2020 Dennison Street) is a 17-unit, two-story apartment building located approximately 270 feet northwest and cross-gradient of the Site. RB2 (837 Kennedy Street) is a three-unit, two-story apartment building located approximately 140 feet south and cross-gradient of the Site. RB3 and RB4 (825 and 821 Kennedy Street, respectively) are two-story single family residences located approximately 180 feet south and cross-gradient and 220 feet south and cross-gradient of the Site, respectively.

4.5 PUBLIC USE AREAS

Public use areas located within 2,000 feet of the Site were noted during the site reconnaissance. Public use areas include non-residential buildings, such as schools, hospitals, churches, day care facilities, and public open spaces such as parks. Public use areas identified within the search radius are shown on Figures 4 and 5 and listed in Table 3.

One public use area was identified within 2,000 feet of the Site. Beacon Middle School (PUA1) is located at 2000 Dennison Street, approximately 320 feet northwest and cross-gradient of the Site.

4.6 UTILITY VAULTS

Twenty-three subgrade utility vaults (UV) were identified during the March 2008 site reconnaissance. Fifteen of the 23 vaults (UV1 through UV15) are located on or near the western portion of the Site. Eight of the vaults are located in the eastern portion of the Site. The locations of vaults UV1 through UV6 are described in relation to the bearing from the former 10,000-gallon gasoline and 10,000-gallon diesel UST excavation at the north end of the Site. The locations of vaults UV7 through UV15 are described in relation to the bearing from the former 10,000-gallon diesel UST excavation at the western side of the Site. Utility vaults UV1 through UV15 are shown on Figures 2 and 3 and are listed in Table 4. Eight additional vaults located further from the source areas are shown on Figure 2.

Stormwater catch basins UV1 and UV2 are located on the south side of Dennison Street. Trench drain UV3 is located in the loading dock area. UV4 is an EBMUD water meter vault located in the sidewalk west of the Site. UV5 is an onsite stormwater catch basin. UV6 is a sanitary sewer cleanout south and downgradient of the source area. UV7 is an oil/water separator catch basin located within the truck wash building. Onsite stormwater catch basins UV8, UV9, UV10, UV11, and UV14 are located west of the bakery building. UV12 and UV13 are offsite stormwater catch basins located at the southern end of King Street. A PG&E utility vault, UV15, is located along the Frederick Street sidewalk south of the Site.

Eight additional utility vaults can be seen on Figure 2, which shows the entire area of the Site. Three onsite stormwater catch basins are located within the parking lot east of the bakery building. Two catch basins are located offsite; one at the corner of Kennedy Street and Frederick Street, and the second is on Dennison Street near the northeast corner of the bakery building. A PG&E vault exists onsite near the northeast corner of the building, and an unlabeled vault exists on the south side of Dennison Street, approximately 150 feet west of Kennedy Street. A second unlabeled vault is located on the Frederick Street sidewalk, south of the Site.

The depths of utility vaults were investigated where possible during the site visit. Stormwater catch basins UV1 and UV2 are five- and six-feet deep, respectively, and are potentially deep enough for entry by a service technician. Vaults UV8 through UV14 are three to four feet deep. The depths of UV3 through UV7 and UV15 could not be investigated due to site restrictions or accessibility issues.

4.7 OTHER POTENTIAL SENSITIVE RECEPTORS

No buildings with basements or subgrade structures were identified during site reconnaissance activities on March 26, 2008.

5.0 SUMMARY

ETIC performed a sensitive receptor survey for the Site through a review of the public water supply in Oakland, a well survey, identification of surface water, and a survey of residential buildings, public use areas, utility vaults, and other potential sensitive receptors in the site vicinity. The following summarizes the results of the SRS:

- Groundwater has been encountered in borings and wells at the Site at depths less than 10 feet BGS. Certain utilities (such as storm water and sanitary sewer pipelines) may be situated at depths corresponding to the presence of groundwater;
- Municipal water is supplied by EBMUD. EBMUD uses a combination of local rainfall and treated surface water from the Sierra foothills to supply potable water to its customers;
- The well survey identified two water supply wells located within 2,000 feet of the source area at the Site. The closest is an abandoned well (PRW1) located approximately 700 feet north-northeast and upgradient of the Site. The present status of the well is currently abandoned;
- The closest surface water body, Brooklyn Basin, is located within the Oakland Estuary approximately 800 feet west-southwest and downgradient of the Site;
- Four residential buildings and one public use area were identified within approximately 330 feet (approximately 100 meters) of the Site. The closest residential building to the source area at the Site (RB1) is a 17-unit apartment complex located approximately 270 feet northwest and cross-gradient the Site. The public use area (PUA1) is a middle school located approximately 320 feet northwest and cross-gradient of the Site;
- Ten stormwater catch basins, a trench drain, a sanitary sewer clean out, an EBMUD municipal water meter, an oil/water separator, and a PG&E utility vault are present on and in the vicinity of the western portion of the Site. Eight utility vaults are located on or near the eastern portion of the Site;
- No subgrade structures were identified onsite or in the site vicinity.

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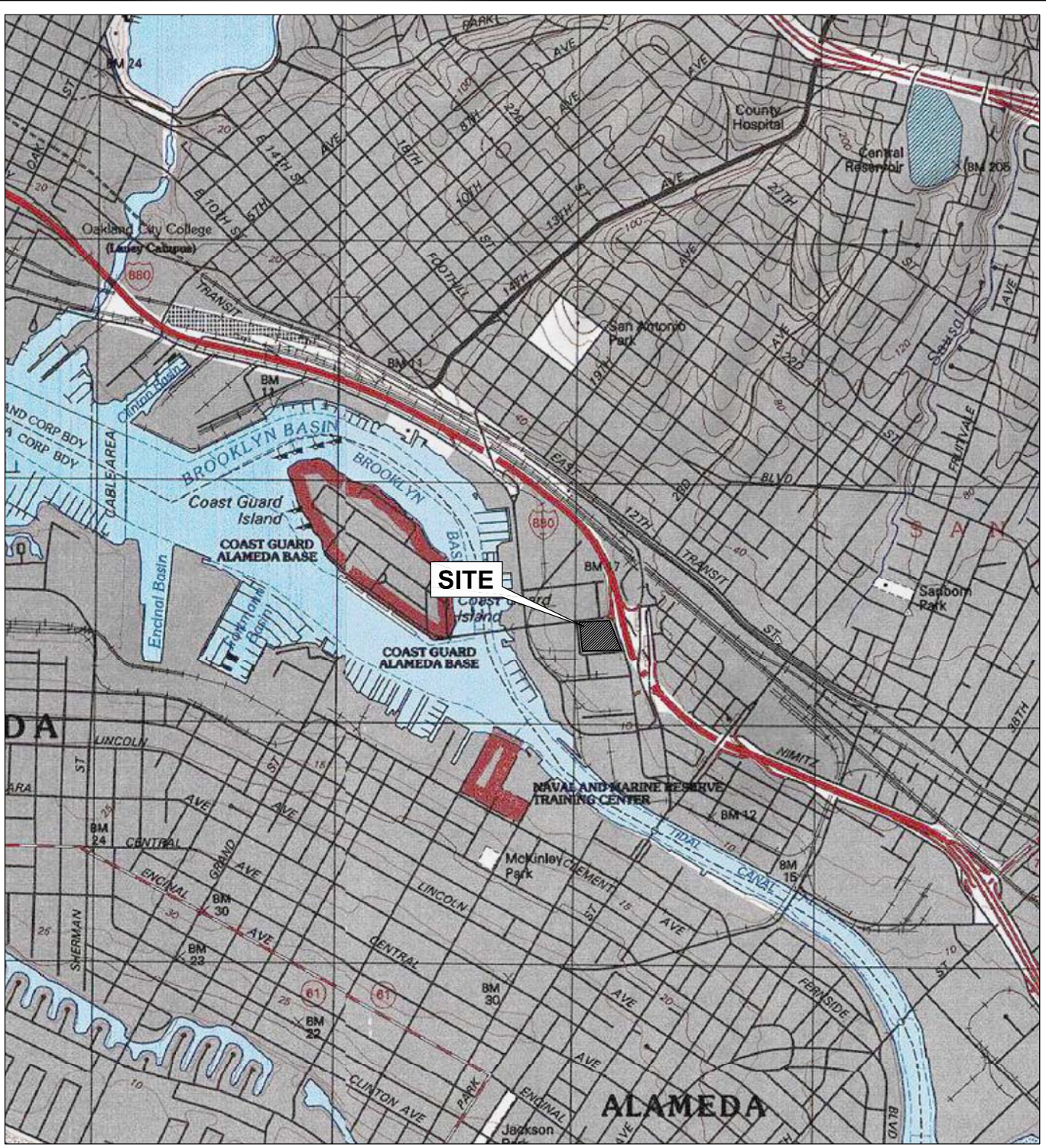
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Figures



SOURCE: USGS Topographic Map

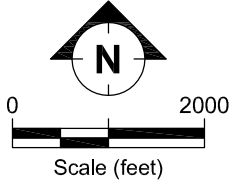
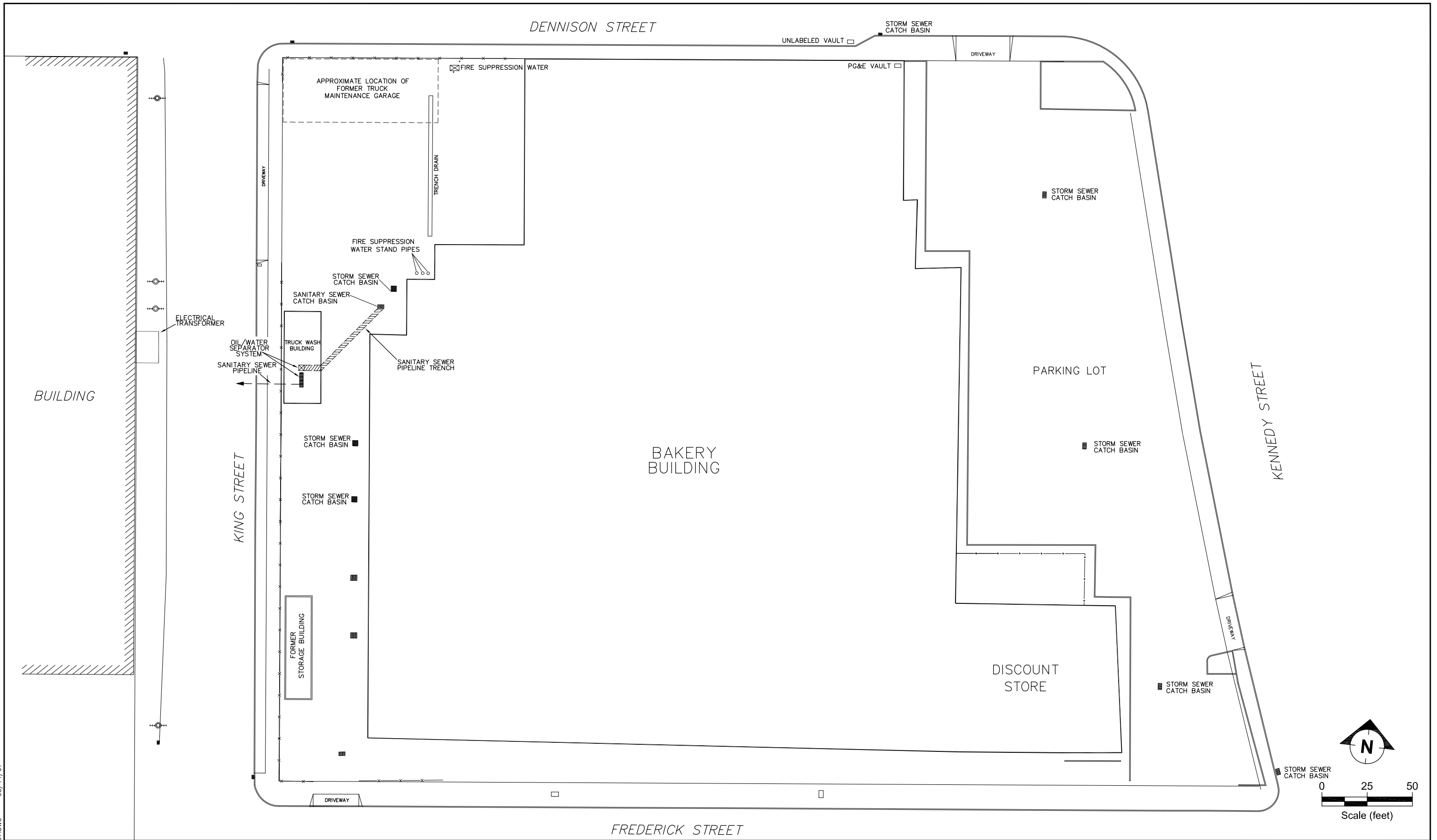


FIGURE:
1

SITE LOCATION AND TOPOGRAPHIC MAP
 EARTHGRAINS BAKING COMPANIES, INC.
 955 KENNEDY STREET
 OAKLAND, CALIFORNIA 94606





FILENAME: \VICINITY0807.DWG 08/14/07



SITE VICINITY MAP
 EARTHGRAINS BAKING COMPANIES, INC.
 955 KENNEDY STREET
 OAKLAND, CALIFORNIA 94606

FIGURE:

2

2020 DENNISON STREET

DENNISON STREET

BUILDING

KING STREET

BAKERY BUILDING

FORMER STORAGE BUILDING

FREDERICK STREET

LEGEND

- Destroyed Well
- Soil Sampling Location (September 2006)
- Groundwater Sampling Location (September 2006)
- Soil and Groundwater Sampling Location (September 2006)
- Soil Sampling Location (March 2007)
- Soil and Groundwater Sampling Location (March 2007)
- Storm water sewer lines
- Sanitary sewer lines
- Municipal water lines
- Natural gas lines
- Fire hydrant
- Catch basin
- Subgrade utility vault
- Sanitary sewer cleanout

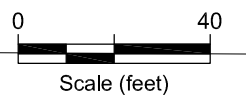
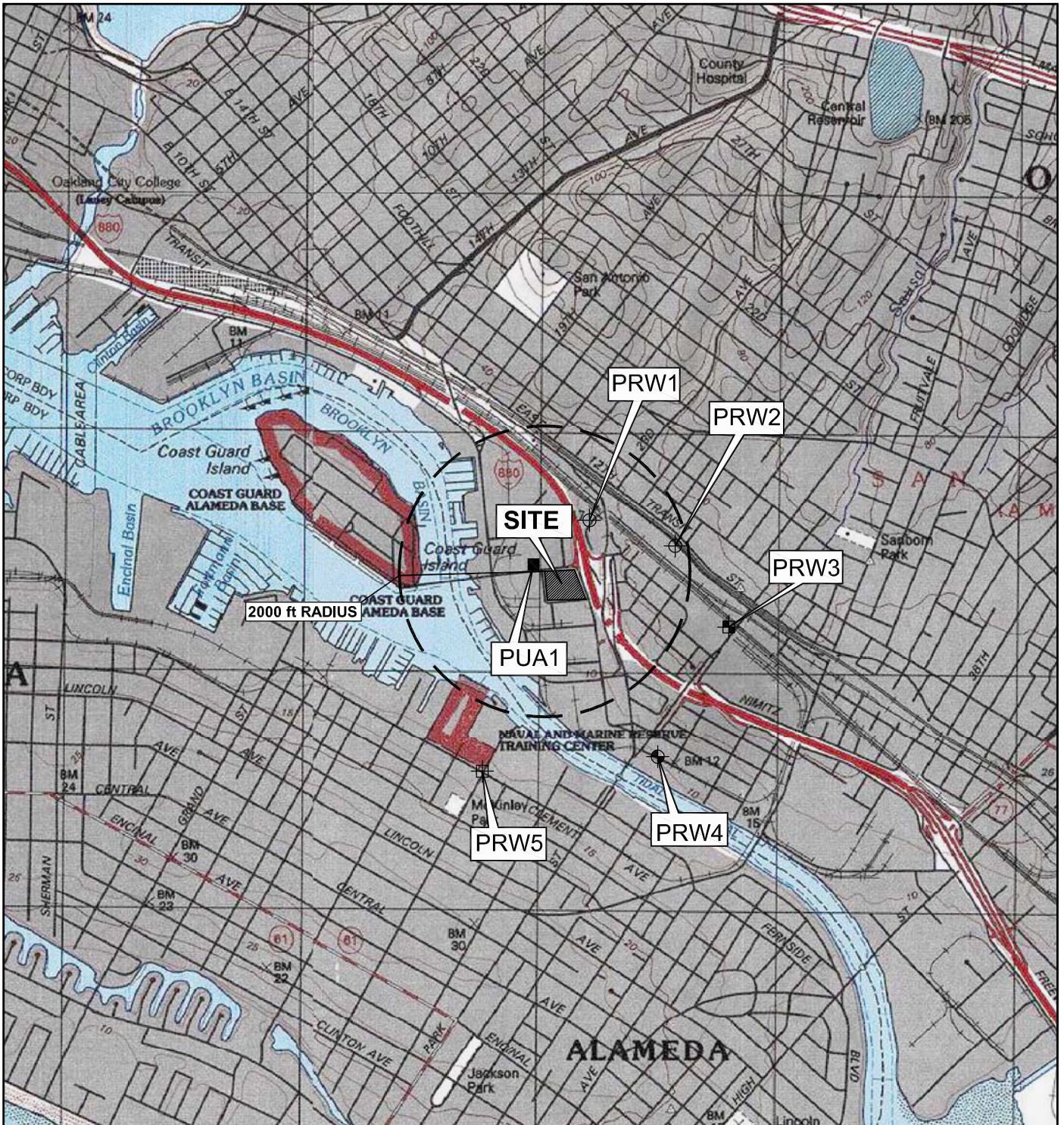


FIGURE:

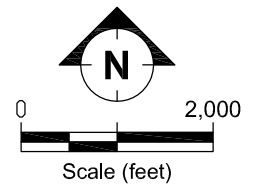
3

SITE MAP SHOWING SUBSURFACE UTILITIES AND VAULTS
 EARTHGRAINS BAKING COMPANIES, INC.
 955 KENNEDY STREET
 OAKLAND, CALIFORNIA 94606

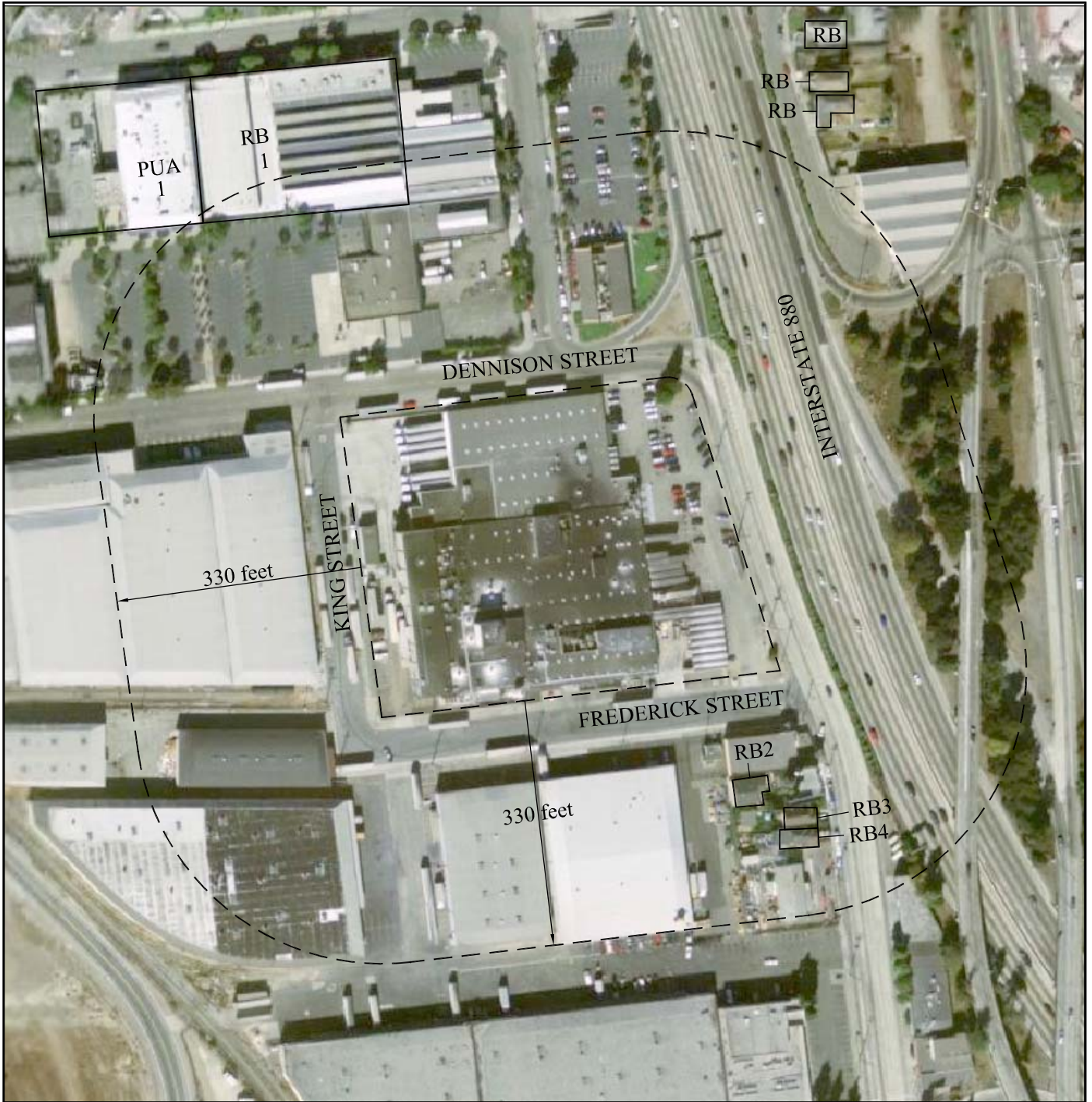


LEGEND:

- | | | | | |
|---|---|--------------------------------------|-----|--------------------|
| 1 | ⊕ | IRRIGATION WELL - STATUS UNKNOWN | PUA | Public Use Area |
| 1 | ⊕ | INDUSTRIAL WELL - STATUS UNKNOWN | ■ | PUA1 Middle School |
| 1 | ⊕ | WELL OF UNKNOWN USE - STATUS UNKNOWN | | |
| 2 | ⊕ | WELL OF UNKNOWN USE - ABANDONED | | |

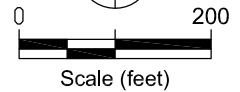


(Map Source: USGS Topographic Map)



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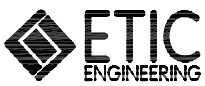
RB	Residential Building	RB1	17-unit apartment complex	PUA1	Middle school
PUA	Public Use Area	RB2	Three-unit apartment complex		
		RB3, 4	Two-story residential buildings		



(Source: Google Earth)

Note: Search radius is 330 feet from site boundary.

FILENAME: SRS1006.DWG 04/30/07



RESIDENTIAL BUILDINGS AND PUBLIC USE AREAS
 EARTHGRAINS BAKING COMPANIES, INC.
 955 KENNEDY STREET
 OAKLAND, CALIFORNIA 94606

FIGURE:

5

Tables

Table 1
Well Survey
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Alameda County Well Key	Well Identification (Figure 4)	Well Location	Bearing From the Site	Well Use	Status	Depth of Surface Sanitary Seal (feet)
3475	PRW1	1091 Calcot Street, Oakland	700 ft. NNE, upgradient	unknown	abandoned	unknown
3489	PRW2	2619 East 12th Street, Oakland	1,400 ft. ENE, upgradient	unknown	abandoned	unknown
3491	PRW3	1100 29th Avenue, Oakland	2,000 ft. ESE, upgradient	industrial	unknown	unknown
3536	PRW4	2900 Glascock Street, Oakland	2,400 ft. SE, cross-gradient	irrigation	unknown	unknown
3506	PRW5	2199 Clement Avenue, Alameda	2,500 ft. SW, downgradient and cross-gradient	unknown	unknown	unknown

Note:

ft. = Feet.

NNE = North-northeast.

ENE = East-northeast.

ESE =East-southeast.

SE = Southeast.

SW = Southwest.

Environmental monitoring and extraction and destroyed wells are not included.

Source: Alameda County Public Works Agency Water Resources (PWA), March 2008.

Environmental Data Resources (EDR), February 2006.

Table 2
Surface Water
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Name	Type	Bearing From the Site	Use(s)
Brooklyn Basin/Oakland Estuary	estuary	800 ft. WSW, downgradient	marine vessel navigation
unnamed creek	creek	1,800 ft. NW, cross-gradient	surface drainage
Sausal Creek	creek	2,800 ft. E, upgradient	surface drainage

Note:

ft. = Feet.

WSW = West-southwest.

NW = Northwest.

SSW = South-Southwest.

E = East.

Source: Environmental Data Resources (EDR), February 2006.

Table 3
Public Use Areas
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Map Identification (Figure 5)	Name	Address	Type	Bearing From the Site
PUA1	Beacon Middle School	2000 Dennison Street, Oakland	school	320 ft. NW, cross-gradient

Note:

ft. = Feet.

NW = Northwest.

Table 4
Utility Vaults
Earthgrains Baking Companies, Inc.
955 Kennedy Street
Oakland, California 94606

Map Identification (Figure 3)	Type	Onsite or Offsite	Location
UV1	Stormwater catch basin	Offsite	South side of Dennison Street, near King Street
UV2	Stormwater catch basin	Offsite	South side of Dennison Street, near King Street
UV3	Trench drain	Onsite	Loading dock
UV4	EBMUD municipal water meter	Offsite	East sidewalk along King Street
UV5	Stormwater catch basin	Onsite	West side of bakery building
UV6	Sanitary sewer clean-out	Onsite	West side of bakery building
UV7	Oil/water separator catch basin	Onsite	Inside truck wash building
UV8	Stormwater catch basin	Onsite	West side of bakery building
UV9	Stormwater catch basin	Onsite	West side of bakery building
UV10	Stormwater catch basin	Onsite	West side of bakery building
UV11	Stormwater catch basin	Onsite	West side of bakery building
UV12	Stormwater catch basin	Offsite	West side of King Street, near Frederick Street
UV13	Stormwater catch basin	Offsite	East side of King Street, near Frederick Street
UV14	Stormwater catch basin	Onsite	Southwest corner of bakery building
UV15	PG&E Utility vault	Offsite	North sidewalk along Frederick Street

Notes:

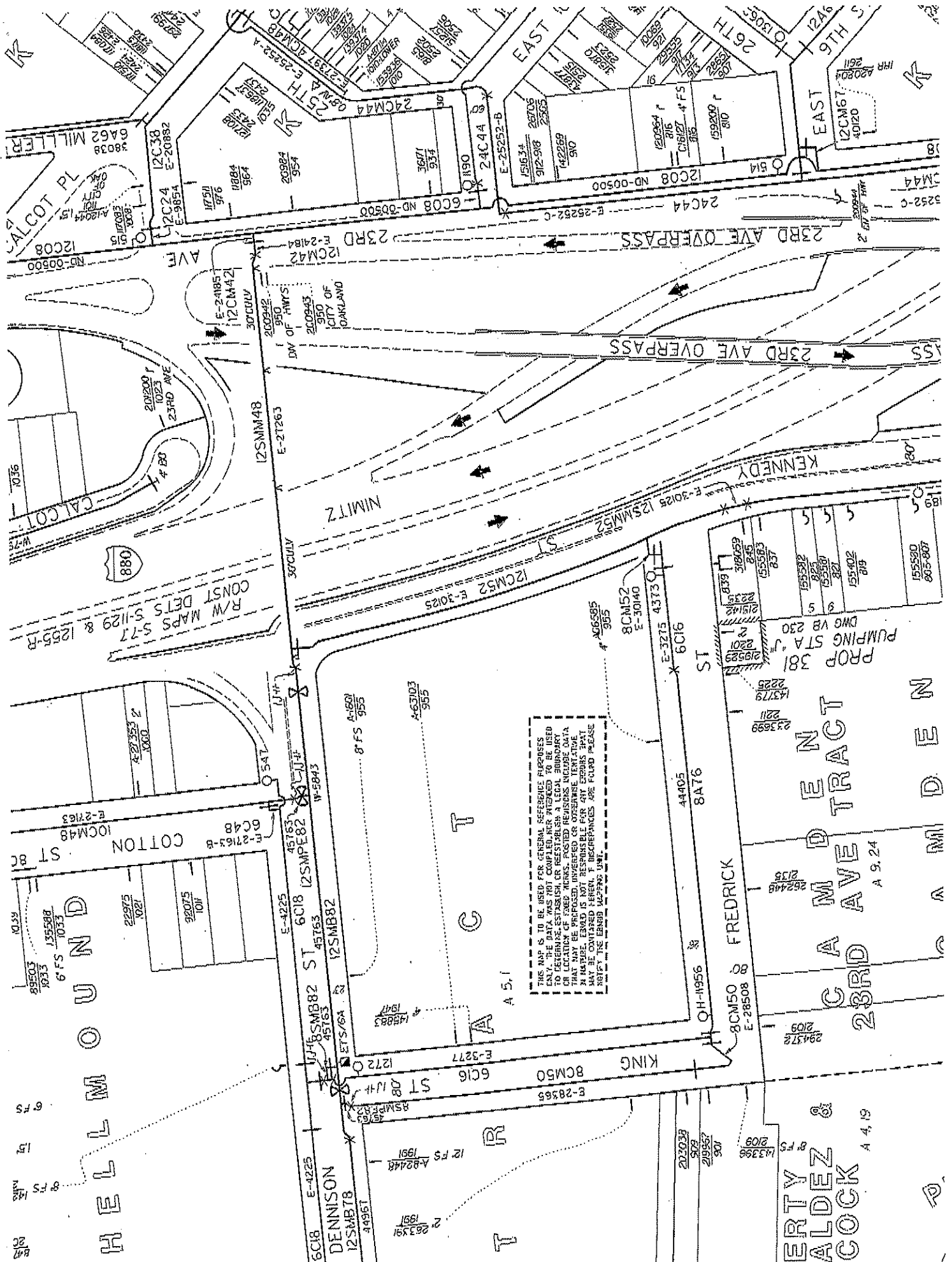
UV = Utility vault.

EBMUD = East Bay Municipal Utility District.

PG&E = Pacific Gas and Electric Company.

The list includes vaults identified in the vicinity of the former underground storage tank systems in the western portion of the Site.

Appendix A
Utility Maps



THIS MAP IS TO BE USED FOR GENERAL REFERENCE PURPOSES ONLY. THE ENGINEER HAS CONDUCTED VISUAL GENERAL VERIFICATION OF THE LOCATION OF THE UTILITIES SHOWN AND HAS FOUND THEM TO BE IN SUBSTANTIAL ACCORD WITH THE RECORD DRAWINGS TO WHICH THIS MAP IS REFERENCED. THE ENGINEER HAS NOT CONDUCTED A FIELD SURVEY TO VERIFY THE LOCATION OF THE UTILITIES SHOWN. THE ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE MADE BY ANY OTHER PARTY. THE ENGINEER IS NOT RESPONSIBLE FOR ANY DAMAGES OR INJURIES THAT MAY BE CAUSED BY THE UTILITIES SHOWN. THE ENGINEER IS NOT RESPONSIBLE FOR ANY DAMAGES OR INJURIES THAT MAY BE CAUSED BY THE UTILITIES SHOWN.

ERTY & ALCOCK
A 4.19

AMIDEN TRACT
A 9.24

FREDRICK

KING

RT

COTTON

DENNISON

HELMOUND

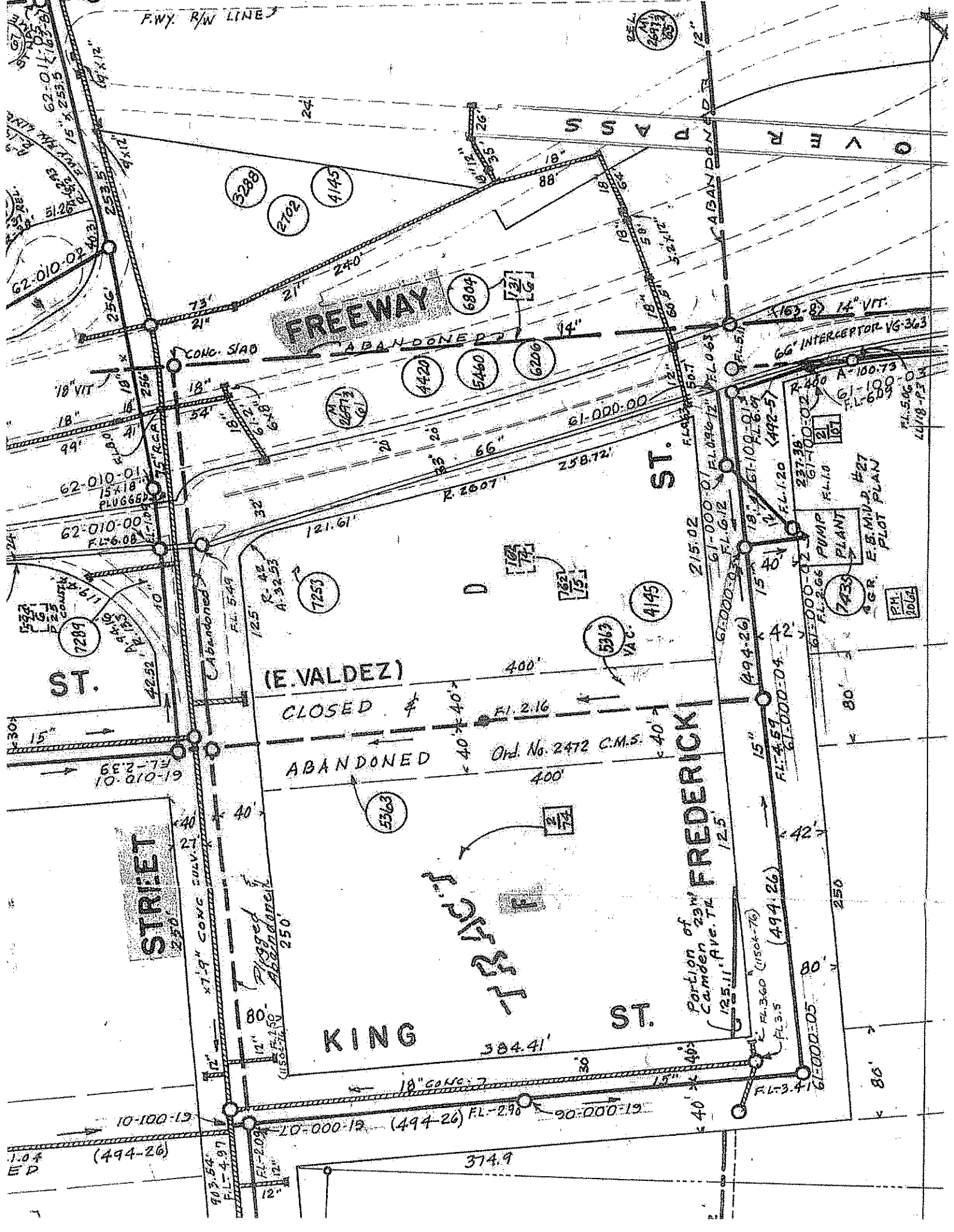
23RD AVE OVERPASS

23RD AVE OVERPASS

KENNEDY

EAST

ALCOT PL



F.WY. R/W LINE

FREWAY
ABANDONED

S U S A N D R E V A L D E Z

ST.

ST.

(E. VALDEZ)

CLOSED &
ABANDONED

Portion of 29th FREDERICK
Camden Ave. TL
(125.11' Ave. TL

KING

ST.

STREET

DUGGED
ABANDONED

PUMP PLANT
#27
E.M.I.D. PLAN
PLOT

66" INTERCEPTOR VG-363

1.0' ED (494-26)

374.9

80'

250

80'

80'

80'

80'

80'

80'

80'

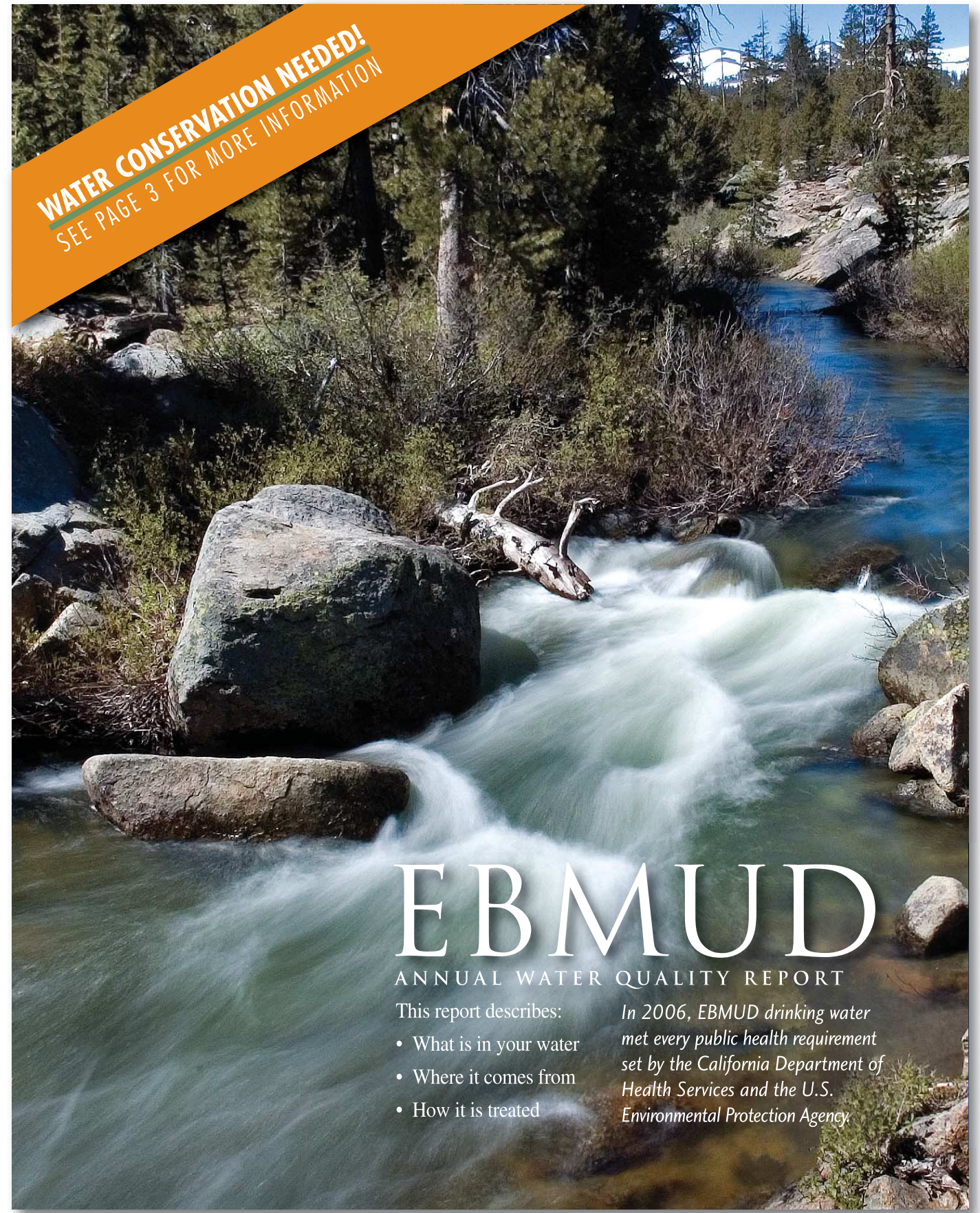
80'

80'

80'

Appendix B

East Bay Municipal Utility District Annual Water Quality Report, 2006



WATER CONSERVATION NEEDED!
SEE PAGE 3 FOR MORE INFORMATION

ENGLISH
This report contains important information about your drinking water. Translate it, or speak with someone who understands it. To request a copy of this report in Spanish or Chinese, please call (510) 287-0138.

SPANISH
Este informe contiene importante información sobre el agua potable que usted consume. Tradúzcalo, hable con alguien que lo comprenda, o solicite un ejemplar de este informe en español llamando al (510) 287-0138.

CHINESE
這份報告包含有您飲用水的重要資訊。請翻譯該內容，或與了解內容的人討論，或者請致電 (510) 287-0138 索取中文報告。

JAPANESE
この報告書には、あなたの飲料水に関する重要な情報が含まれています。和訳するか、理解できる人に相談してください。

KOREAN
본 보고서에는 귀하의 음료수에 관한 중요한 정보가 나와 있습니다. 번역을 부탁하거나 그 내용을 이해하시는 분으로부터 설명을 들으십시오.

CAMBODIAN (KHMER)
របាយការណ៍នេះមានព័ត៌មានសំខាន់ៗអំពីទឹកផឹក។ សូមអានឬប្រជុំជូនប្រពិជគ្រោះជាមួយអ្នកណាដែលយល់របាយការណ៍នេះ ។

THAI
รายงานฉบับนี้มีข้อมูลสำคัญเกี่ยวกับน้ำดื่มของท่าน ขอให้แปลรายงานฉบับนี้หรือพูดคุยกับผู้ที่เข้าใจเนื้อหาในรายงานนี้.

LAO
ລາຍງານສະບັບນີ້ມີຂໍ້ມູນສໍາຄັນກ່ຽວກັບນ້ຳດື່ມຂອງທ່ານ. ໃຫ້ທ່ານຜູ້ປະກອບສ່ວນນີ້ເປັນພາສາລາວ, ຫລືໃຫ້ທ່ານຜູ້ຮູ້ພາສາກັບຜູ້ທີ່ເຂົ້າໃຈເລື່ອງ.

PUNJABI
ਇਸ ਰਿਪੋਰਟ ਵਿੱਚ ਤੁਹਾਡੇ ਪੀਣ ਵਾਲੇ ਪਾਣੀ ਬਾਰੇ ਜ਼ਰੂਰੀ ਜਾਣਕਾਰੀ ਦਿੱਤੀ ਗਈ ਹੈ। ਇਸਦਾ ਅਨੁਵਾਦ ਕਰੋ ਜਾਂ ਕਿਸੇ ਨਾਲ ਗਲ ਕਰੋ ਜੋ ਇਸਨੂੰ ਸਮਝਦਾ ਹੋਵੇ।

GUJARATI
આ રિપોર્ટમાં તમારા પીવાના પાણી વિષે મહત્વની માહિતી છે. એની અનુવાદ કરો, અથવા જેને એની સમજણ પડતી હોય તેની સાથે વાત કરો.

HINDI
इस रिपोर्ट में आपके पीने के पानी के बारे में महत्वपूर्ण जानकारी दी हुई है। इसका अनुवाद करें, या किसी ऐसे व्यक्ति से बात करें जो इसे समझता हो।

RUSSIAN
Здесь содержится информация о вашей питьевой воде. Переведите ее, или обратитесь к тому, кто это понимает.

BOSNIAN
U ovom izvještaju nalaze se važne informacije o vašoj vodi za piće. Prevedite ga ili razgovarajte sa nekim ko razumije ovaj izvještaj.

VIETNAMESE
Bản báo cáo này có các thông tin quan trọng về nước uống của quý vị. Hãy chuyển ngữ tài liệu này, hoặc nói chuyện với người có thể hiểu được bản báo cáo này.

FRENCH
Ce rapport contient des informations importantes concernant votre eau potable. Faites-le traduire ou adressez-vous à quelqu'un qui est en mesure de le comprendre.

TAGALOG
Ang ulat na ito ay naglalaman ng importanteng impormasyon tungkol sa inyong iniinom na tubig. Isalin ito, o makipag-usap sa isang taong nakakaintindi nito.

POLISH
Ten raport zawiera ważne informacje dotyczące wody pitnej. Przetłumacz go, lub porozmawiaj z kimś, kto go rozumie.

GREEK
Η έκθεση αυτή περιέχει σημαντικές πληροφορίες σχετικά με το πόσιμο νερό σας. Μεταφράστε την έκθεση ή μιλήστε με κάποιον άτομο που την κατανοεί.

HMONG
Daim ntawv qhia no muaj cov lus qhia tseem ceeb txog koj cov dej haus. Muab txhais, los sis nrog ib tug neeg uas nkag siab txog qhov no tham.

HEBREW
דו"ד זה מכיל מידע חשוב על מי שתיה. תרגמו אותו או שאלו משהו שמבין את תוכנו.

ARABIC
يحتوي هذا التقرير على معلومات هامة حول مياه الشرب التي تتناولها. ترجم التقرير أو تحدث إلى شخص يستطيع فهمه.

FARSI
این گزارش حاوی اطلاعات مهمی درمورد آب آشامیدنی است. آن را ترجمه کنید. یا از کسی که مطالب آن را می فهمد سوال کنید.

URDU
اس رپورٹ میں آپ کے پینے کے پانی سے متعلق اہم معلومات ہیں۔ اس کا ترجمہ کریں، یا کسی ایسے شخص سے بات کریں جو اسے سمجھتا ہو۔

Public Participation

EBMUD encourages public participation in decisions affecting drinking-water quality and other matters at its Board meetings, which take place the second and fourth Tuesdays of each month at 1:15 p.m., 2nd floor, 375 Eleventh Street, Oakland.

To speak with someone who can provide more information about water quality or to report a water quality concern, call 1-866-40-EBMUD (1-866-403-2683).

Additional Contacts

California Department of Health Services
Drinking Water Branch - (510) 620-3463

U.S. Environmental Protection
Agency Safe Drinking Water Hotline -
(800) 426-4791

Local Health Departments:
Alameda County - (510) 267-8000
Contra Costa County - (925) 313-6712

 375 Eleventh Street
Oakland, CA 94607
1-866-40-EBMUD
www.ebmud.com

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One of the most important factors in water quality is its source: the purer the source, the better the water. Ninety percent of EBMUD's water comes from the 577-square-mile watershed of the Mokelumne River, which collects Sierra Nevada snowmelt and flows into Pardee Reservoir in the Sierra foothills near the town of Valley Springs. The watershed on the west slope of the Sierra Nevada is mostly undeveloped land, little affected by human activity. The water travels to the East Bay in pipelines and is protected from pesticides, agricultural and urban runoff, municipal sewage and industrial discharges. Local East Bay watershed rainfall accounts for about 10 percent of the District's water supply.

Before the water comes to your tap, EBMUD takes many steps to ensure its quality and safety. This includes carefully managing and protecting watershed lands, treating the water, sampling and monitoring, analyzing results of the sampling and adjusting treatment, flushing pipes and reservoirs, and repairing pipes. See the diagram on pages 6-7 for more information on the water treatment process.

SUCCESSFUL EARTHQUAKE UPGRADES

This past winter EBMUD shut down its most critical water pipeline, the Claremont Tunnel, to complete the tunnel's three-year seismic upgrade. The 3.4 mile-long tunnel brings water east to west for 800,000 customers, crossing through the Oakland-Berkeley hills directly over the Hayward Fault.

Use this table or the map on page 3 to find out which treatment plant serves your neighborhood. Then go to the chart on pages 4-5 (match the color and/or treatment plant name) to find water quality data for your neighborhood.

The shutdown required running back up facilities, portable pumps and stand by treatment facilities (including San Pablo Water Treatment Plant) on the western side of the hills at capacity.

The shutdown resulted in a narrow margin of water reliability for the northwest part of EBMUD's service area. Customers responded to requests to cut back on water use, and their efforts assured operational reliability, averting the need for mandatory rationing.

PROTECTING WATERSHED LANDS

In the fall of 2006, EBMUD worked together with the East Bay Regional Park District and ranchers who lease grazing land in the Pardee Reservoir watershed. Wet-season cattle grazing practices were altered to reduce the likelihood of Cryptosporidium and other contaminants entering drinking-water reservoirs. Monitoring and testing during this past and future wet seasons will help develop the best long-term methods for protecting the reservoirs.

City Served	Treatment Plant
Alameda	Orinda/Upper San Leandro
Alamo	Walnut Creek
Albany	Orinda/San Pablo
Berkeley	Orinda/San Pablo
Castro Valley	Upper San Leandro/Orinda
Crockett	Sobrante/Orinda
Danville	Walnut Creek
El Cerrito	Orinda/San Pablo
El Sobrante	Sobrante/Orinda
Emeryville	Orinda/San Pablo
Hayward	Upper San Leandro/Orinda
Hercules	Sobrante/Orinda
Kensington	Orinda/San Pablo
Lafayette	Lafayette/Walnut Creek
Moraga	Lafayette/Orinda
Oakland	Orinda/Upper San Leandro
Orinda	Orinda/Lafayette
Piedmont	Orinda/Upper San Leandro
Pinole	Sobrante/Orinda
Pleasant Hill	Walnut Creek
Richmond	Sobrante/Orinda
Rodeo	Sobrante/Orinda
San Leandro	Upper San Leandro/Orinda
San Lorenzo	Upper San Leandro/Orinda
San Pablo	Sobrante/Orinda
San Ramon	Walnut Creek
Walnut Creek	Walnut Creek/Lafayette

EBMUD ADVOCATES HIGHER LEAD PROTECTIONS

A new EBMUD-sponsored law (introduced by Assembly member Wilma Chan and signed into law by Governor Arnold Schwarzenegger last September) will reduce exposure to lead from drinking water in customers' homes, workplaces and schools by phasing out the lead in drinking water plumbing sold in California. Lead levels in EBMUD's water are consistently low, but brass plumbing in homes may leach lead into the water at the faucet.

Assembly Bill 1953 adds to the strict regulatory testing requirements for reducing lead in drinking water that water utilities must meet and provides added protection by removing lead from plumbing parts sold to customers and utilities. The parts will be required to contain no more than 0.25 percent lead beginning in January 2010.



This map of the EBMUD service area shows which water treatment plant serves your neighborhood under normal operations. There may be occasional changes in areas served due to operational or water demand changes.

WATER CONSERVATION NEEDED

This past winter was one of the driest years in our 84-year history – with little snow in the mountainous watershed that supplies our water. We will not be able to refill water supply reservoirs this year. If next winter is also dry, the supply could drop to levels that would lead to mandatory rationing.

Be WaterSmart - there is never enough to waste:

- Water lawns and gardens just three days a week, never on consecutive days and only at night or early morning before dawn.
- Check for leaks in toilets and sink fixtures, and fix them. A new toilet tank flapper ball can save thousands of gallons a day. New faucet washers help, too.
- Inspect your sprinkler system spray patterns, irrigation heads and controls. Water plants, not pavement.
- Take advantage of EBMUD rebates for clothes washers, high efficiency toilets, and landscaping and irrigation upgrades.
- Plant waterwise gardens with the help of EBMUD's plant and landscape book (order at www.ebmud.com) or advice from your local nursery or landscape professional.

For more information, visit www.ebmud.com (select *Conserving & Recycling*) or call 1-866-40-EBMUD.

EAST BAY MUNICIPAL UTILITY DISTRICT

EBMUD tests your water daily to make sure it is safe to drink. We look for more than 100 substances in the water, including bacteria, pesticides and herbicides, asbestos, lead, copper, petroleum products and by-products of industrial and water-treatment processes.

This table shows the measured level of substances detected at EBMUD source waters, water treatment plants (see table or map on pages 2-3 to see which treatment plant normally serves your neighborhood) or in the distribution system. Only the substances detected in 2006 are listed in this chart.

Regulations for *Primary Drinking Water Constituents* are designed to protect public health. Regulations for *Constituents Which Have Secondary MCLs* relate to the aesthetic qualities of your water such as taste and odor. *Unregulated Constituents* are chemical or microbial constituents that water agencies are required to monitor,

but no maximum contaminant levels (MCL) have been established. *In 2006 EBMUD met or surpassed all water quality regulations set by the California Department of Health Services and the United States Environmental Protection Agency.*

Table below lists all drinking water constituents detected at the source, the treatment plant or the distribution system in 2006.

What did we find in your water?	What's the regulation?		How much did we find?							Did we meet the Regulation?	Typical Sources
	MCL or [MRDL]	PHG (MCLG) or [MRDLG]	Average	Walnut Creek Treatment Plant	Lafayette Treatment Plant	Orinda Treatment Plant	San Pablo Treatment Plant	Sobrante Treatment Plant	USL Treatment Plant		
Microbiological Constituents - Turbidity has no health effects, but high levels of turbidity can interfere with disinfection and provide a medium for microbial growth.											
Total Coliforms, percent positive detected	5%	(0)	<0.1%	NA	NA	NA	NA	NA	NA	YES	Naturally present in the environment
Turbidity (NTU), maximum level, except for Average	1 NTU	NS	0.04	0.08	0.07	0.07	0.06	0.09	0.10	YES	Soil runoff
Turbidity	95% of the samples ≤ 0.3 NTU	NS	NR	100%	100%	100%	100%	100%	100%	YES	Soil runoff
Radioactive Constituents											
Gross Alpha particle activity (pCi/L)	15	(0)	<3	<3	<3	<3	<3-11	<3-11	<3	YES	Erosion of natural deposits
Gross Beta particle activity (pCi/L)	50	(0)	<4	<4	<4	<4	<4-9.1	<4-9.1	<4	YES	Decay of natural deposits
Inorganic Constituents											
Aluminum (ug/L)	1000	600	<50	<50-72	<50	<50	<50	<50-74	<50-56	YES	Erosion of natural deposits; residue from some surface water treatment processes
Fluoride (naturally occurring) (mg/L)*	2	1	<0.1	<0.1	<0.1	<0.1-0.15	0.13	0.13	0.15	YES	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Chloramine Residual as Cl ₂ (mg/L), maximum level, except for Average	[4]	[4]	1.9	2.5	2.1	2.8	2.7	3.2	3.0	YES	Drinking water disinfectant added for treatment
Organic Constituents											
Acrylamide in treatment chemical (percent of maximum dose allowed)	TT	(0)	NA	Met reqmt	NA	Met reqmt	NA	Met reqmt	NA	YES	Added to water during water treatment
Control of DBP precursors (TOC Reduction)	TT	NS	NR	NR	NR	NR	Met reqmt	Met reqmt	Met reqmt	YES	Various natural and man-made sources
Haloacetic acids, 5 species (ug/L)	60	NS	19**	13-42	13-33	10-34	17-36	9-25	6-13	YES	By-product of drinking water chlorination
Trihalomethanes (ug/L)	80	NS	47**	50-72	44-59	41-53	38-110	28-55	23-60	YES	By-product of drinking water chlorination
Constituents Which Have Secondary MCLs											
Aluminum (ug/L)	200	NS	<50	<50-72	<50	<50	<50	<50-74	<50-56	YES	Erosion of natural deposits; residue from some surface water treatment processes
Chloride (mg/L)	500	NS	8.4	3.8	3.4	4.0-5.4	11	14	14	YES	Runoff/leaching from natural deposits; seawater influence
Color, color units	15	NS	1	1	1	1-2	2	1	1	YES	Naturally-occurring organic materials
Odor-Threshold Odor Number (T.O.N.)	3	NS	1.9	1.4	1.9	1.3-2.5	1.7	2.5	1.9	YES	Naturally-occurring organic materials
Specific Conductance (umhos/cm)	1600	NS	182	55	50	62-112	256	364	374	YES	Substances that form ions when in water; seawater influence
Total Dissolved Solids (mg/L)	1000	NS	108	39	<25	53-68	150	210	210	YES	Runoff/leaching from natural deposits
Turbidity (NTU)	5	NS	0.04	0.08	0.07	0.07	0.06	0.09	0.10	YES	Soil runoff
Unregulated Constituents											
Boron (ug/L)	1000	NS	<100	<100	<100	<100	<100	<100	<100-109	YES	Runoff/leaching from natural deposits
N-Nitrosodimethylamine (NDMA), ng/L***	10	3.0	3.0	<2-16	<2-11	<2-14	NS	<2-4	<2-5	YES	Runoff/leaching from natural deposits
Lead and Copper: Sampled last in 2005. Required every three years.											
Copper (ug/L) (regulated at 90th percentile)	AL	PHG	90 th Percentile Level Found	# of Sites found above the AL						YES	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ug/L)**** (regulated at 90th percentile)	1300	170	51	No sites out of 52 sites						YES	Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

TERMS USED

AL = regulatory action level. The concentration which, if exceeded, triggers treatment or other requirements that a water system must follow.

Cl₂ = chlorine, measured disinfectant residual equivalent.

DBP = disinfection by-products. Trihalomethanes (THMs), haloacetic acids (HAAs) and bromate are disinfection by-products, formed when chlorine and/or ozone reacts with natural constituents in water.

MCL = maximum contaminant level. The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible.

MCLG = maximum contaminant level goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency. Chloramine has a maximum residual disinfectant level goal instead of a MCLG.

mg/L = milligrams per liter, or parts per million (ppm).

MRDL = maximum residual disinfectant level. The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.

MRDLG = maximum residual disinfectant level goal. The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by the U.S. Environmental Protection Agency.

NA = not applicable.

ng/L = nanograms per liter, or parts per trillion (ppt).

NL = notification level. Notification levels are health-based advisory levels established by CDHS for chemicals in drinking water that lack MCLs.

NR = not required for meeting regulations.

NS = no standard (MCL or PHG for example) established.

NTU = nephelometric turbidity units.

pCi/L = pico curies per liter, a measure of radioactivity.

PDWS = primary drinking water standard. MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

PHG = public health goal. The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Secondary drinking water standard. MCLs set to protect odor, taste and appearance of drinking water.

TOC = total organic carbon. A measurement of organic compounds which could form by-products after disinfection. See DBP.

T.O.N. = threshold odor number, a measurement of odors in water.

TT = treatment technique. A required process intended to reduce the level of a contaminant in drinking water.

Trihalomethanes = A group of contaminants in drinking water formed as a by-product of disinfection. See DBP.

Turbidity = A measure of cloudiness of the water. See NTU.

ug/L = micrograms per liter, or parts per billion (ppb).

umhos/cm = micromhos per centimeter, a measure of electrical conductance.

USL = Upper San Leandro.

90th percentile = 90% of samples had lower values than required by the regulatory Action Level.

*Fluoride reported above reflect levels in the source waters. Fluoride was added in the range of 0.9 to 1.0 mg/L, to help prevent dental decay in consumers.

**Highest Running Annual Average.

***Sampled at representative distribution system taps.

****Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.

If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the USEPA Safe Drinking Water Hotline: (800-426-4791).

INFORMATION FROM THE USEPA & CDHS

In order to ensure that tap water is safe to drink, the U. S. Environmental Protection Agency (USEPA) and the California Department of Health Services (CDHS) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The CDHS regulations also establish limits for contaminants in bottled water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

CONTAMINANTS IN DRINKING WATER

The sources of drinking water—both tap water and bottled water—include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

Microbial contaminants, such as viruses, bacteria and protozoa, such as Cryptosporidium, that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic contaminants, such as salts and metals that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Synthetic organic contaminants such as pesticides and herbicides that may come from a variety of sources, including agriculture, urban storm water and residential uses.

Volatile organic contaminants from industrial processes and petroleum production, and from gas stations, urban storm water runoff, agricultural application and septic systems.

Radioactive contaminants that can be naturally occurring or be the result of oil and gas production, and mining activities.

The following table includes measurements of other water quality constituents that might be of interest to our consumers:

OTHER WATER QUALITY PARAMETERS	Walnut Creek Treatment Plant	Lafayette Treatment Plant	Orinda Treatment Plant	San Pablo Treatment Plant	Sobrante Treatment Plant	USL Treatment Plant
Alkalinity, bicarbonate (mg/L as CaCO3)	15.8	13.6	17-30	74	104	125
Alkalinity, carbonate (mg/L as CaCO3)	2.4	0.8	2-2.2	2.2	6.1	4.7
Calcium (mg/L)	4.3-6.4	4.2-6.4	4.5-16.0	15-24	16-30	31-33
Hardness (mg/L as CaCO3)	14-26	13-20	15-62	58-84	66-120	130-140
Magnesium (mg/L)	0.7-1.5	0.7-1.5	0.9-4.2	4.4-7.7	5.0-10.0	12.0-14.0
pH (pH units)	9.2-9.5	8.6-9.1	8.9-9.4	7.3-8.9	8.6-8.8	8.5-8.8
Potassium (mg/L)	0.5-0.7	0.5-0.8	0.6-1.2	1.0-1.3	1.2-1.5	1.6-1.7
Silica (mg/L)	8.6-14.3	8.8-13.9	8.1-13.7	10.3-12.4	10.3-13.1	8.1-13.1
Sodium (mg/L)	5.3-6.8	4.1-6.0	5.4-15.0	18.0-25.0	20.0-32.0	29.0-31.0

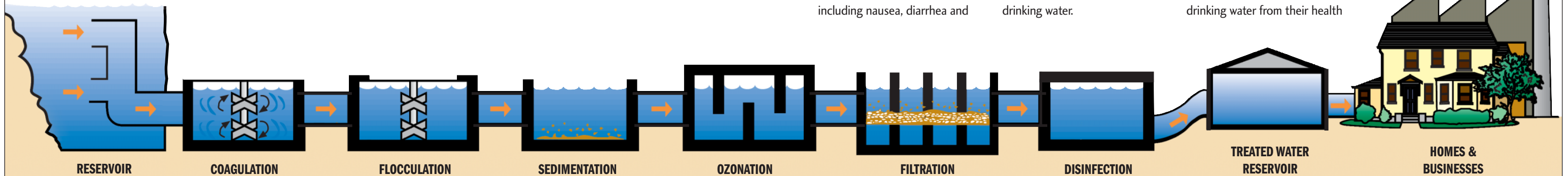
Dishwashers and industrial cooling process applications often perform better when programmed with information on water hardness in "grains per gallon." To convert the hardness values into grains per gallon, divide the values shown in the tables in milligrams per liter by 17. For example, hardness for areas served by Orinda Water Treatment Plant had a range from 15 to 62 mg/L, which is equivalent to 0.9 to 3.6 grains per gallon.

Cryptosporidium is a microbial contaminant found in surface water throughout the United States. Although filtration is highly effective in removing Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Current test methods cannot determine if the organisms are dead or are capable of causing disease. Ingestion of Cryptosporidium may cause abdominal infection with symptoms including nausea, diarrhea and

abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their physician regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Low Resistance—Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health

care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline: (800) 426-4791 or www.epa.gov/safewater.



THE WATER TREATMENT PROCESS

Source Water Protection EBMUD protects the watershed lands surrounding reservoirs so that the water delivered to treatment plants is as clean as possible.

Coagulation Coagulants such as alum neutralize very small particles, allowing them to clump together.

Flocculation After coagulants are added, the water is gently mixed to cause sediment particles to combine and grow large enough to settle.

Sedimentation Water flows very slowly in sedimentation basins, allowing the particles to settle to the bottom.

Ozonation At the Sobrante and Upper San Leandro water treatment plants, ozone is used for disinfection, and taste and odor control.

Filtration Water flows through filter beds made up of layers of coal (anthracite), and sand. The coal and sand trap any particles remaining in the water.

Disinfection The addition of chlorine and chloramines (chlorine and ammonia) kills remaining microorganisms, providing protection against disease-causing organisms, such as bacteria or viruses.

Fluoridation Fluoride is added to prevent dental cavities.

Corrosion Control EBMUD adds calcium hydroxide (lime) or sodium hydroxide to the water to control corrosion in distribution pipes and

consumers' plumbing. This also keeps substances like lead and copper from leaching out of plumbing into the drinking water.

Appendix C

Alameda County PWA Water Resources – Wells Location History Search

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User: vickyh1



Detail for Wells Location History Search

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Well Key: 3475

Permit Number:

Street Address:

City:

CoOrd X:

CoOrd Y:

Rec Code:

Drill Date: (mm/dd/yyyy)

Total Depth:

Diameter:

Log Code:

WQ:

DTW Calc:

*Tract Number:

*Section Number:

Owner Name:

Match Level:

Tsr QQ:

Phone Number:

Elevation:

Water Depth:

Well Use:

WI:

Yield:

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User: vickyh1

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Well Key: 3489

Permit Number:

Street Address:

City:

CoOrd X:

CoOrd Y:

Rec Code:

Drill Date: (mm/dd/yyyy)

Total Depth:

Diameter:

Log Code:

WQ:

DTW Calc:

*Tract Number:

*Section Number:

Owner Name:

Match Level:

Tsr QQ:

Phone Number:

Elevation:

Water Depth:

Well Use:

WI:

Yield:

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User: vickyh1

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Well Key: 3491

Permit Number:

Street Address:

City:

CoOrd X:

CoOrd Y:

Rec Code:

Drill Date: (mm/dd/yyyy)

Total Depth:

Diameter:

Log Code:

WQ:

DTW Calc:

*Tract Number:

*Section Number:

Owner Name:

Match Level:

Tsr QQ:

Phone Number:

Elevation:

Water Depth:

Well Use:

WI:

Yield:

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User: vickyh1

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Well Key: 3536

Permit Number:

Street Address:

City:

CoOrd X:

CoOrd Y:

Rec Code:

Drill Date: (mm/dd/yyyy)

Total Depth:

Diameter:

Log Code:

WQ:

DTW Calc:

*Tract Number:

*Section Number:

Owner Name:

Match Level:

Tsr QQ:

Phone Number:

Elevation:

Water Depth:

Well Use:

WI:

Yield:

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Online Wells Permit Application System - Wells Location History Search



User: vickyh1

Detail for Wells Location History Search

[Go To New Search](#) [Return To Search Results](#)

Well Key: 3506

Permit Number:

Street Address:

City:

CoOrd X:

CoOrd Y:

Rec Code:

Drill Date: (mm/dd/yyyy)

Total Depth:

Diameter:

Log Code:

WQ:

DTW Calc:

*Tract Number:

*Section Number:

Owner Name:

Match Level:

Tsr QQ:

Phone Number:

Elevation:

Water Depth:

Well Use:

WI:

Yield:

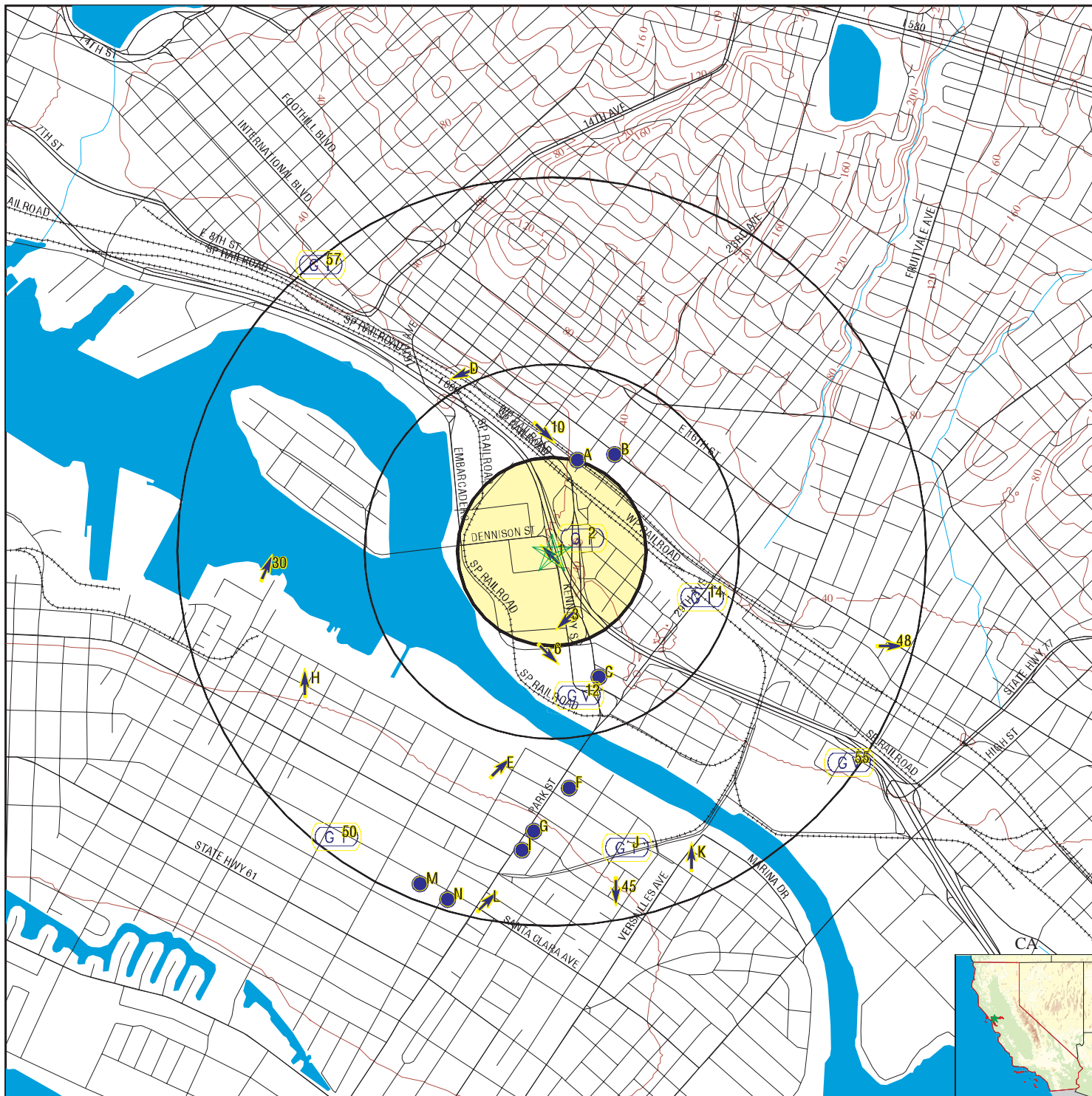
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Appendix D

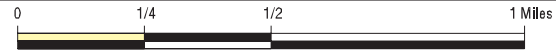
EDR Water Well Report

PHYSICAL SETTING SOURCE MAP - 1607160.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: 955 Kennedy Street
 ADDRESS: 955 Kennedy Street
 Oakland CA 94606
 LAT/LONG: 37.7791 / 122.2382

CLIENT: Philip Services Corporation
 CONTACT: Stavena L. Akins
 INQUIRY #: 1607160.2s
 DATE: February 06, 2006

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
1 South 0 - 1/8 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0863 NW Not Reported Not Reported 17-18 04/17/1997	AQUIFLOW	66597
2 ENE 0 - 1/8 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0933 Not Reported Not Reported Not Reported 37 ft 03/13/1996	AQUIFLOW	66626
3 SSE 1/8 - 1/4 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2132 SW Not Reported Not Reported Not Reported 03/26/1996	AQUIFLOW	51857
A4 NNE 1/8 - 1/4 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1317 NE 7.98 9.06 Not Reported 12/01/1993	AQUIFLOW	52385
A5 NNE 1/8 - 1/4 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-1317 Varies 7.0 9.0 Not Reported 06/09/1995	AQUIFLOW	52384
6 South 1/4 - 1/2 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0442 SE Not Reported Not Reported Not Reported 01/30/1989	AQUIFLOW	63906
A7 North 1/4 - 1/2 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2179 SW Not Reported Not Reported Not Reported 07/17/1996	AQUIFLOW	63922

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID	Direction	Distance	Elevation	Database	EDR ID Number
B8					
NNE	Site ID:	01-1448		AQUIFLOW	52382
1/4 - 1/2 Mile	Groundwater Flow:	NW			
Higher	Shallow Water Depth:	9.44			
	Deep Water Depth:	12.56			
	Average Water Depth:	Not Reported			
	Date:	06/29/1999			
B9					
NNE	Site ID:	01-1448		AQUIFLOW	52383
1/4 - 1/2 Mile	Groundwater Flow:	N			
Higher	Shallow Water Depth:	Not Reported			
	Deep Water Depth:	Not Reported			
	Average Water Depth:	Not Reported			
	Date:	09/19/1988			
10					
North	Site ID:	01-1455		AQUIFLOW	63904
1/4 - 1/2 Mile	Groundwater Flow:	SE			
Lower	Shallow Water Depth:	Not Reported			
	Deep Water Depth:	Not Reported			
	Average Water Depth:	20			
	Date:	10/20/1990			
C11					
SSE	Site ID:	01-1823		AQUIFLOW	67900
1/4 - 1/2 Mile	Groundwater Flow:	N			
Lower	Shallow Water Depth:	6.26			
	Deep Water Depth:	8.02			
	Average Water Depth:	Not Reported			
	Date:	09/24/1993			
12					
South	Site ID:	01-1241		AQUIFLOW	63755
1/4 - 1/2 Mile	Groundwater Flow:	Varies			
Lower	Shallow Water Depth:	10.00			
	Deep Water Depth:	10.38			
	Average Water Depth:	Not Reported			
	Date:	05/29/1990			
C13					
SSE	Site ID:	01-4880		AQUIFLOW	63789
1/4 - 1/2 Mile	Groundwater Flow:	SW			
Lower	Shallow Water Depth:	Not Reported			
	Deep Water Depth:	Not Reported			
	Average Water Depth:	5.5			
	Date:	05/18/1996			
14					
ESE	Site ID:	01-1763		AQUIFLOW	55637
1/4 - 1/2 Mile	Groundwater Flow:	N, S, Varies			
Higher	Shallow Water Depth:	Not Reported			
	Deep Water Depth:	Not Reported			
	Average Water Depth:	Not Reported			
	Date:	04/21/1999			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
D15 NNW 1/2 - 1 Mile Lower	Site ID:	01-2067	AQUIFLOW	55937
	Groundwater Flow:	WSW		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	9		
Date:	03/26/1996			
D16 NNW 1/2 - 1 Mile Lower	Site ID:	01-2067	AQUIFLOW	55938
	Groundwater Flow:	WSW		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	4		
Date:	11/18/1991			
D17 NNW 1/2 - 1 Mile Lower	Site ID:	01-2067	AQUIFLOW	55936
	Groundwater Flow:	WSW		
	Shallow Water Depth:	10.0		
	Deep Water Depth:	10.2		
	Average Water Depth:	Not Reported		
Date:	11/22/1991			
E18 SSW 1/2 - 1 Mile Lower	Site ID:	01-0429	AQUIFLOW	52973
	Groundwater Flow:	NE		
	Shallow Water Depth:	5.15		
	Deep Water Depth:	6.43		
	Average Water Depth:	Not Reported		
Date:	05/10/1989			
E19 SSW 1/2 - 1 Mile Lower	Site ID:	01-0429	AQUIFLOW	52975
	Groundwater Flow:	NE		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	5-10		
Date:	05/04/1992			
E20 SSW 1/2 - 1 Mile Lower	Site ID:	01-0429	AQUIFLOW	52974
	Groundwater Flow:	NE		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	7-7-5		
Date:	06/06/1991			
F21 South 1/2 - 1 Mile Lower	Site ID:	01-0294	AQUIFLOW	69335
	Groundwater Flow:	SW		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	50.0'		
Date:	04/22/1991			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
F22 South 1/2 - 1 Mile Lower	Site ID:	01-2169	AQUIFLOW	69338
	Groundwater Flow:	NE		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	Not Reported		
Date:	04/26/1995			
F23 South 1/2 - 1 Mile Lower	Site ID:	01-0042	AQUIFLOW	52494
	Groundwater Flow:	N		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	6.5		
Date:	06/20/1988			
G24 South 1/2 - 1 Mile Lower	Site ID:	01-1258	AQUIFLOW	52954
	Groundwater Flow:	Varies		
	Shallow Water Depth:	5.5		
	Deep Water Depth:	7.5		
	Average Water Depth:	Not Reported		
Date:	11/04/1993			
G25 South 1/2 - 1 Mile Lower	Site ID:	01-1258	AQUIFLOW	52955
	Groundwater Flow:	Varies		
	Shallow Water Depth:	2.16		
	Deep Water Depth:	4.72		
	Average Water Depth:	Not Reported		
Date:	09/13/1996			
G26 South 1/2 - 1 Mile Higher	Site ID:	01-2219	AQUIFLOW	52520
	Groundwater Flow:	NE		
	Shallow Water Depth:	6.15		
	Deep Water Depth:	7.01		
	Average Water Depth:	Not Reported		
Date:	10/03/1994			
G27 South 1/2 - 1 Mile Higher	Site ID:	01-2219	AQUIFLOW	52521
	Groundwater Flow:	Varies		
	Shallow Water Depth:	4.22		
	Deep Water Depth:	6.50		
	Average Water Depth:	Not Reported		
Date:	03/06/1997			
H28 WSW 1/2 - 1 Mile Lower	Site ID:	01-2021	AQUIFLOW	52482
	Groundwater Flow:	N		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	5.8		
Date:	01/02/1995			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
H29 WSW 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-2021 N Not Reported Not Reported 5.4 03/07/1994	AQUIFLOW	52481
30 West 1/2 - 1 Mile Lower	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0288 NNE 0.4 6.0 Not Reported 04/03/1998	AQUIFLOW	52962
G31 South 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0008 Varies 10.00 25.00 Not Reported 08/28/1992	AQUIFLOW	51823
G32 South 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0602 SE 3.06 23.07 Not Reported 09/14/1999	AQUIFLOW	52338
G33 South 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0602 SE 6.25 18.5 Not Reported 06/01/1989	AQUIFLOW	52339
G34 South 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0008 NE 4.82 8.42 Not Reported 01/02/1991	AQUIFLOW	51822
G35 South 1/2 - 1 Mile Higher	Site ID: Groundwater Flow: Shallow Water Depth: Deep Water Depth: Average Water Depth: Date:	01-0008 NE Not Reported Not Reported 3.15 07/05/1994	AQUIFLOW	51810

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
I36 South 1/2 - 1 Mile Higher	Site ID:	01-1950	AQUIFLOW	52332
	Groundwater Flow:	Varies		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	9.5		
Date:	07/05/1994			
I37 South 1/2 - 1 Mile Higher	Site ID:	01-0291	AQUIFLOW	50094
	Groundwater Flow:	NE,NW,Varies		
	Shallow Water Depth:	5.13		
	Deep Water Depth:	8.96		
	Average Water Depth:	Not Reported		
Date:	04/22/1996			
I38 South 1/2 - 1 Mile Higher	Site ID:	01-0291	AQUIFLOW	52509
	Groundwater Flow:	NW		
	Shallow Water Depth:	7.16		
	Deep Water Depth:	9.57		
	Average Water Depth:	Not Reported		
Date:	04/15/1992			
J39 SSE 1/2 - 1 Mile Lower	Site ID:	01-2087	AQUIFLOW	52483
	Groundwater Flow:	Not Reported		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	6.5		
Date:	12/09/1994			
J40 SSE 1/2 - 1 Mile Lower	Site ID:	01-2087	AQUIFLOW	52484
	Groundwater Flow:	Not Reported		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	5.5		
Date:	08/09/1995			
I41 South 1/2 - 1 Mile Higher	Site ID:	01-0711	AQUIFLOW	52333
	Groundwater Flow:	Varies		
	Shallow Water Depth:	4.0		
	Deep Water Depth:	6.0		
	Average Water Depth:	Not Reported		
Date:	04/29/1987			
K42 SSE 1/2 - 1 Mile Lower	Site ID:	01-0864	AQUIFLOW	53624
	Groundwater Flow:	N		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	15		
Date:	05/23/1985			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
K43 SSE 1/2 - 1 Mile Lower	Site ID:	01-0864	AQUIFLOW	53622
	Groundwater Flow:	N		
	Shallow Water Depth:	13.3		
	Deep Water Depth:	30.0		
	Average Water Depth:	Not Reported		
Date:	10/24/1989			
K44 SSE 1/2 - 1 Mile Lower	Site ID:	01-0864	AQUIFLOW	53623
	Groundwater Flow:	N		
	Shallow Water Depth:	5.0		
	Deep Water Depth:	5.5		
	Average Water Depth:	Not Reported		
Date:	06/01/1984			
45 South 1/2 - 1 Mile Higher	Site ID:	01-0797	AQUIFLOW	69346
	Groundwater Flow:	S		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	2 ft		
Date:	12/12/1991			
L46 South 1/2 - 1 Mile Higher	Site ID:	01-0221	AQUIFLOW	52335
	Groundwater Flow:	NE		
	Shallow Water Depth:	7.5		
	Deep Water Depth:	12.0		
	Average Water Depth:	Not Reported		
Date:	11/20/1987			
L47 South 1/2 - 1 Mile Higher	Site ID:	01-0221	AQUIFLOW	52336
	Groundwater Flow:	NE		
	Shallow Water Depth:	7.04		
	Deep Water Depth:	23.40		
	Average Water Depth:	Not Reported		
Date:	04/26/1999			
48 ESE 1/2 - 1 Mile Higher	Site ID:	01-1812	AQUIFLOW	63714
	Groundwater Flow:	E		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	Not Reported		
Date:	03/04/1998			
M49 SSW 1/2 - 1 Mile Higher	Site ID:	01-0657	AQUIFLOW	69329
	Groundwater Flow:	NW		
	Shallow Water Depth:	8.64		
	Deep Water Depth:	9.10		
	Average Water Depth:	Not Reported		
Date:	03/22/1992			

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation			Database	EDR ID Number
50 SW 1/2 - 1 Mile Higher	Site ID:	01-1992	AQUIFLOW	69327
	Groundwater Flow:	N, SE		
	Shallow Water Depth:	3.68'		
	Deep Water Depth:	6.99'		
	Average Water Depth:	Not Reported		
	Date:	06/15/1995		
M51 SSW 1/2 - 1 Mile Higher	Site ID:	01-2152	AQUIFLOW	69332
	Groundwater Flow:	NNE		
	Shallow Water Depth:	Not Reported		
	Deep Water Depth:	Not Reported		
	Average Water Depth:	15-20		
	Date:	06/28/1995		
N52 SSW 1/2 - 1 Mile Higher	Site ID:	01-1063	AQUIFLOW	52977
	Groundwater Flow:	N		
	Shallow Water Depth:	7.37		
	Deep Water Depth:	10.16		
	Average Water Depth:	Not Reported		
	Date:	06/30/1998		
N53 SSW 1/2 - 1 Mile Higher	Site ID:	01-5808	AQUIFLOW	52344
	Groundwater Flow:	NNE		
	Shallow Water Depth:	11.0		
	Deep Water Depth:	13.0		
	Average Water Depth:	Not Reported		
	Date:	01/26/1998		
N54 SSW 1/2 - 1 Mile Higher	Site ID:	01-5808	AQUIFLOW	52345
	Groundwater Flow:	NNE		
	Shallow Water Depth:	8.0		
	Deep Water Depth:	9.5		
	Average Water Depth:	Not Reported		
	Date:	09/10/1996		
55 SE 1/2 - 1 Mile Higher	Site ID:	01-0073	AQUIFLOW	63726
	Groundwater Flow:	Varies		
	Shallow Water Depth:	14.0		
	Deep Water Depth:	24.0		
	Average Water Depth:	Not Reported		
	Date:	02/02/1998		
L56 South 1/2 - 1 Mile Higher			FRDS PWS	CA5500139

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

PWS ID: CA5500139 PWS Status: Active
Date Initiated: 7706 Date Deactivated: Not Reported
PWS Name: CAMP CEDARBROOK
CAMP CEDARBROOK
ODD FELLOW
LONG BARN, CA 95335

Addressee / Facility: System Owner/Responsible Party
CAMP CEDARBROOK
2246 P O B
ALAMEDA, CA 94501

Facility Latitude: 37 45 55 Facility Longitude: 122 14 26
City Served: Not Reported
Treatment Class: Untreated Population: 00000100

PWS currently has or had major violation(s) or enforcement: No

**57
NW
1/2 - 1 Mile
Higher**

Site ID: 01-0699
Groundwater Flow: S, SW
Shallow Water Depth: 5
Deep Water Depth: 20
Average Water Depth: Not Reported
Date: 03/10/1998

AQUIFLOW 55949

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

Federal EPA Radon Zone for ALAMEDA County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level \geq 2 pCi/L and \leq 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for ALAMEDA COUNTY, CA

Number of sites tested: 49

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.776 pCi/L	100%	0%	0%
Living Area - 2nd Floor	-0.400 pCi/L	100%	0%	0%
Basement	1.338 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002. 7.5-Minute DEMs correspond to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: California Spatial Information Library

Telephone: 916-654-9990

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic (SSURGO) Database

Source: Department of Agriculture, Natural Resources Conservation Services

Telephone: 800-672-5559

SSURGO depicts information about soil features on or near the surface of the Earth.

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

California Drinking Water Quality Database

Source: Department of Health Services

Telephone: 916-324-2319

The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations for District 2, 3, 5 and 6

Source: Department of Conservation

Telephone: 916-323-1779

RADON

State Database: CA Radon

Source: Department of Health Services

Telephone: 916-324-2208

Radon Database for California

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

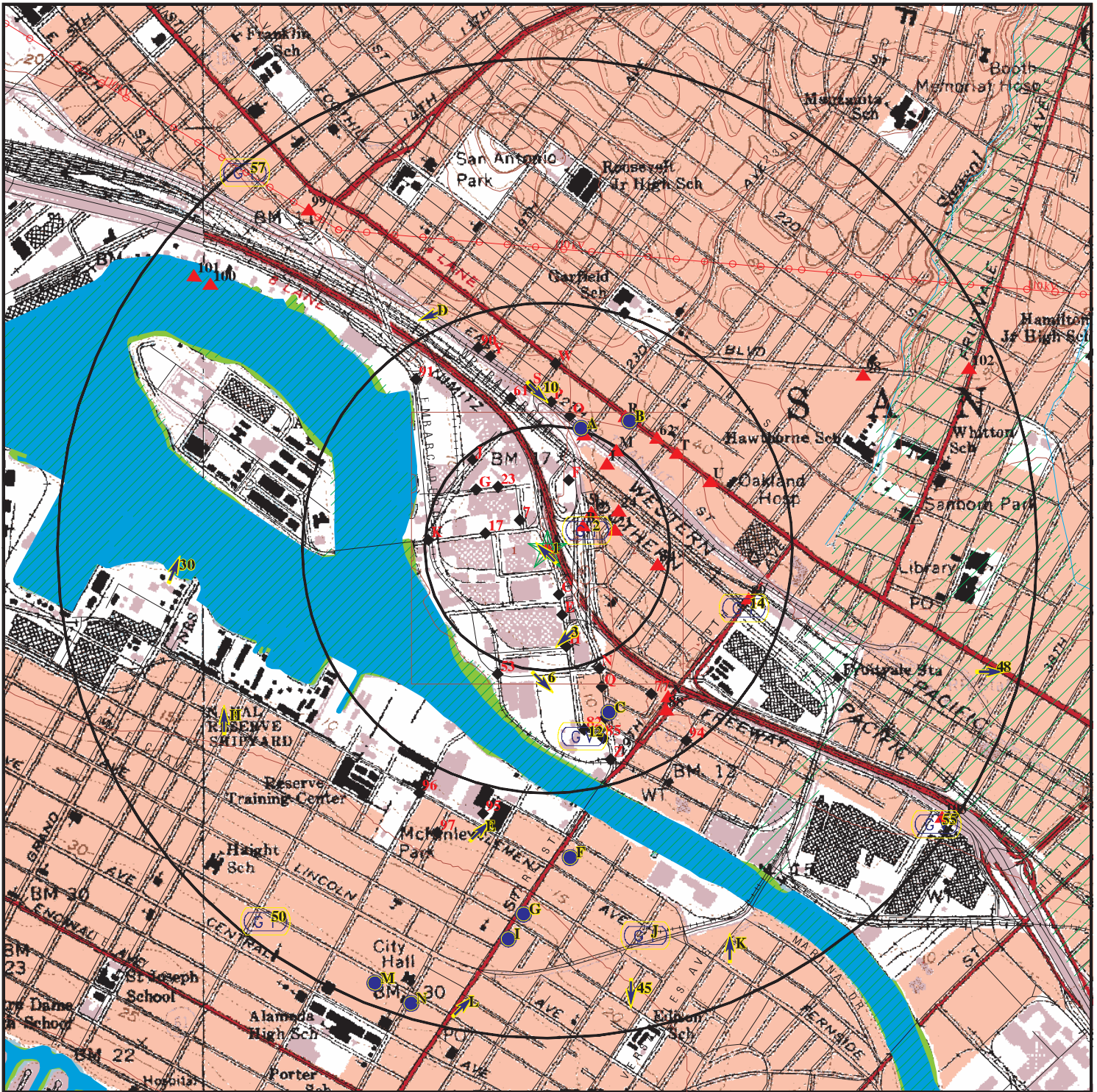
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

Appendix E

EDR Figures, Historical Topographic Maps, and Creek and Watershed Map of Oakland and Berkeley

OVERVIEW MAP - 1607160.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands
- Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 955 Kennedy Street
 ADDRESS: 955 Kennedy Street
 Oakland CA 94606
 LAT/LONG: 37.7791 / 122.2382

CLIENT: Philip Services Corporation
 CONTACT: Stavena L. Akins
 INQUIRY #: 1607160.2s
 DATE: February 06, 2006

DETAIL MAP - 1607160.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Ⓜ Historical Gas Stations / Historical Dry Cleaners
See the EDR Proprietary Historical Map Findings
- Ⓜ Sensitive Receptors
- Ⓜ National Priority List Sites
- Ⓜ Landfill Sites
- Ⓜ Dept. Defense Sites

- Ⓜ Indian Reservations BIA
- Ⓜ Oil & Gas pipelines
- Ⓜ 100-year flood zone
- Ⓜ 500-year flood zone
- Ⓜ Federal Wetlands

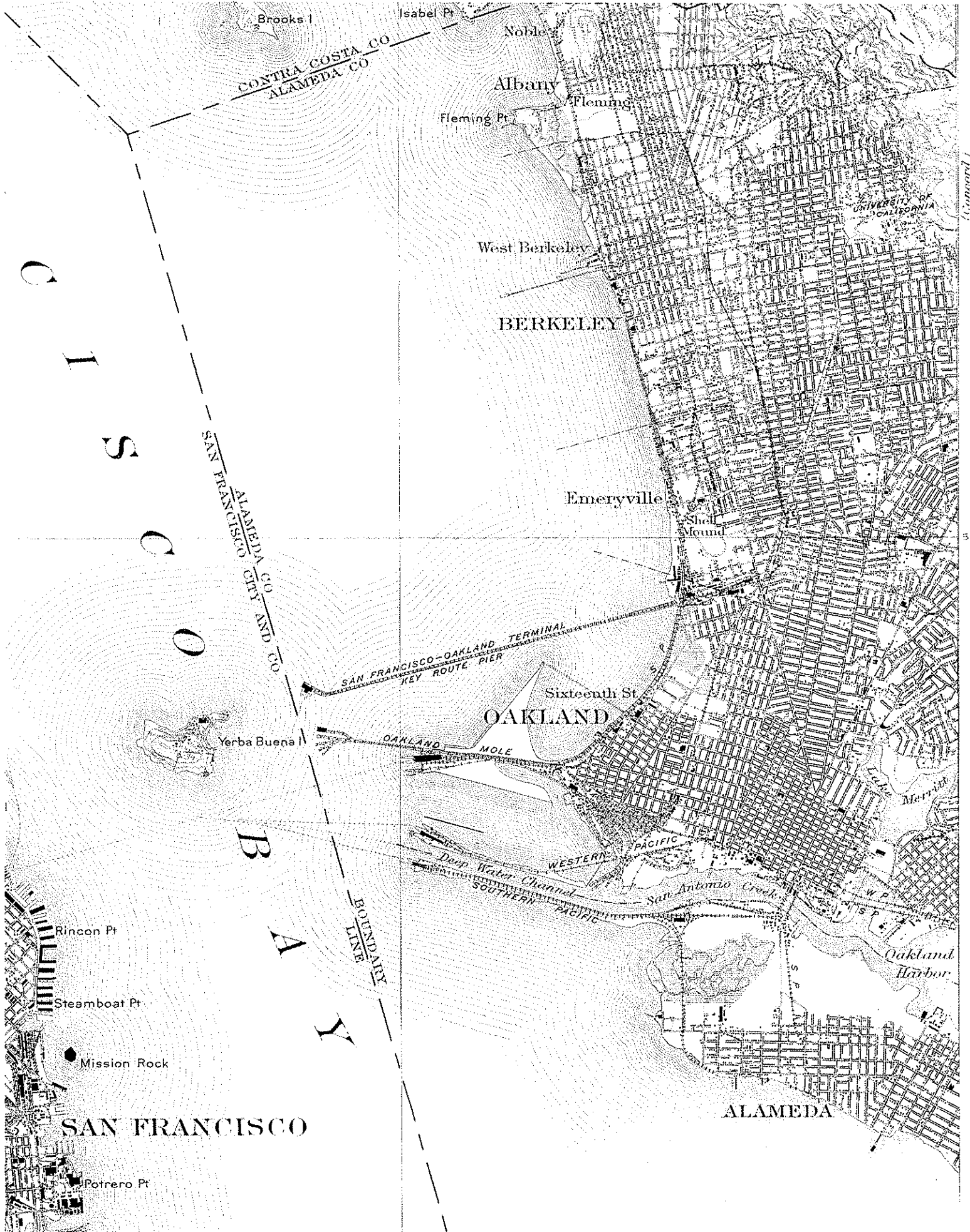
- Ⓜ Areas of Concern



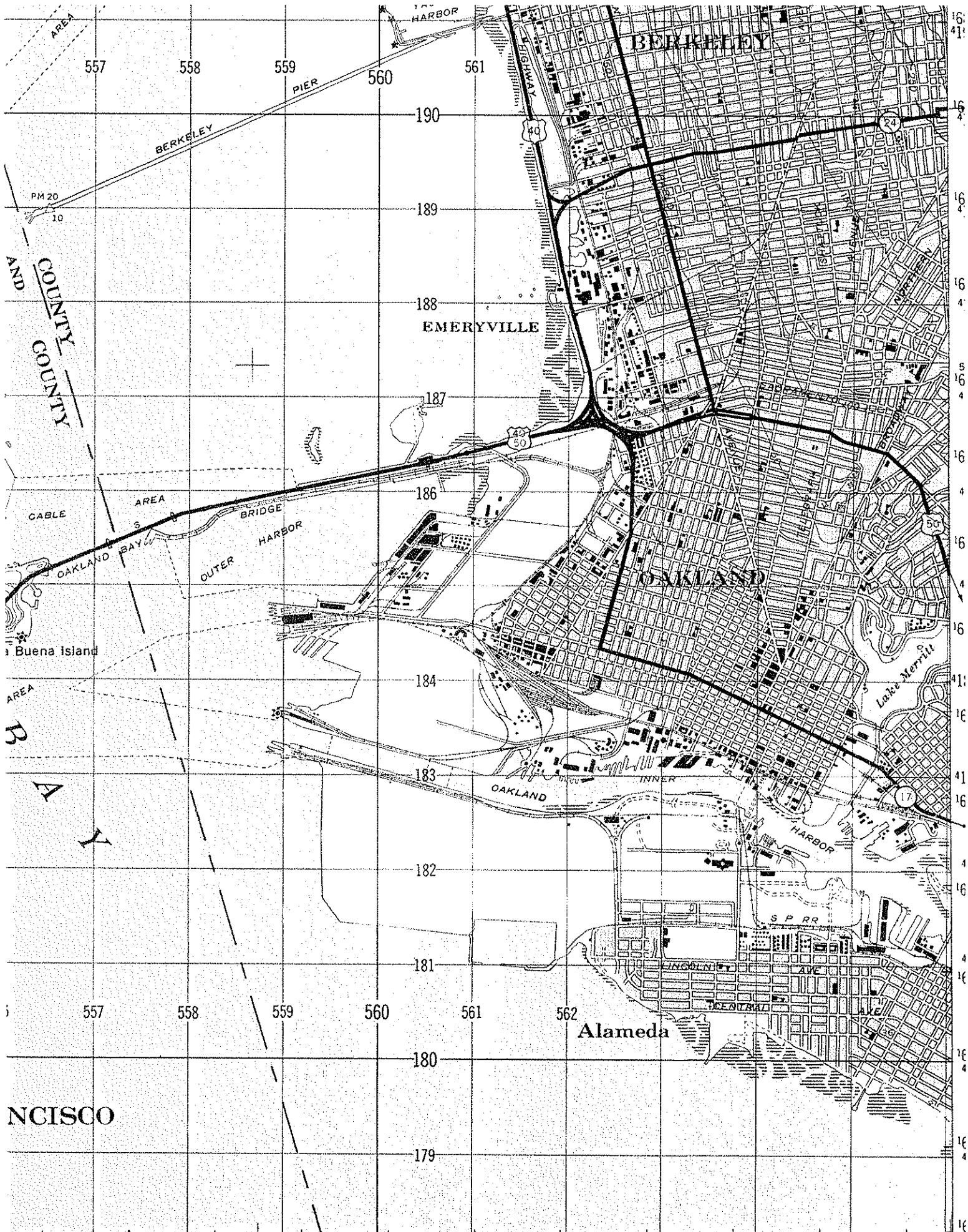
This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

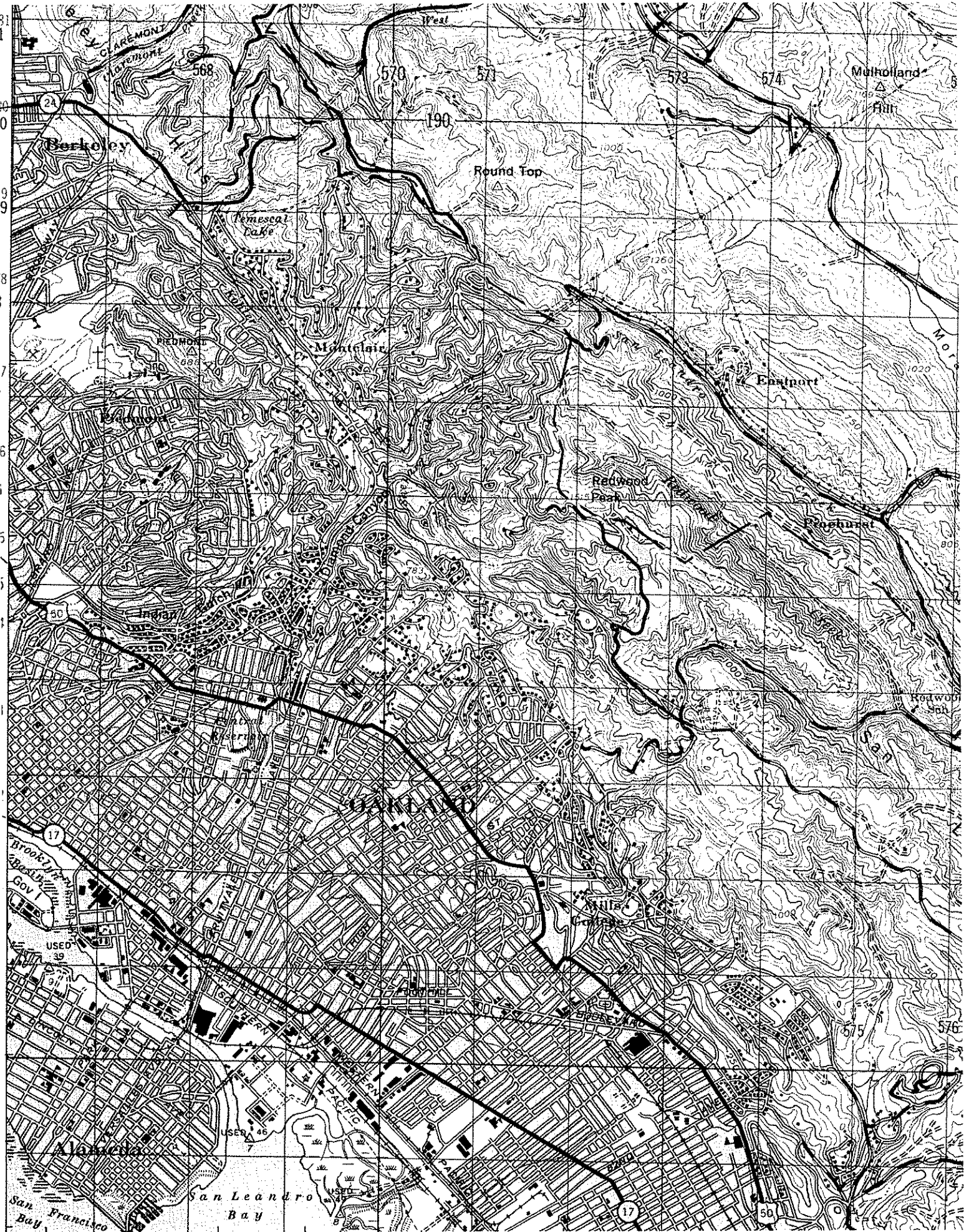
SITE NAME: 955 Kennedy Street
 ADDRESS: 955 Kennedy Street
 Oakland CA 94606
 LAT/LONG: 37.7791 / 122.2382

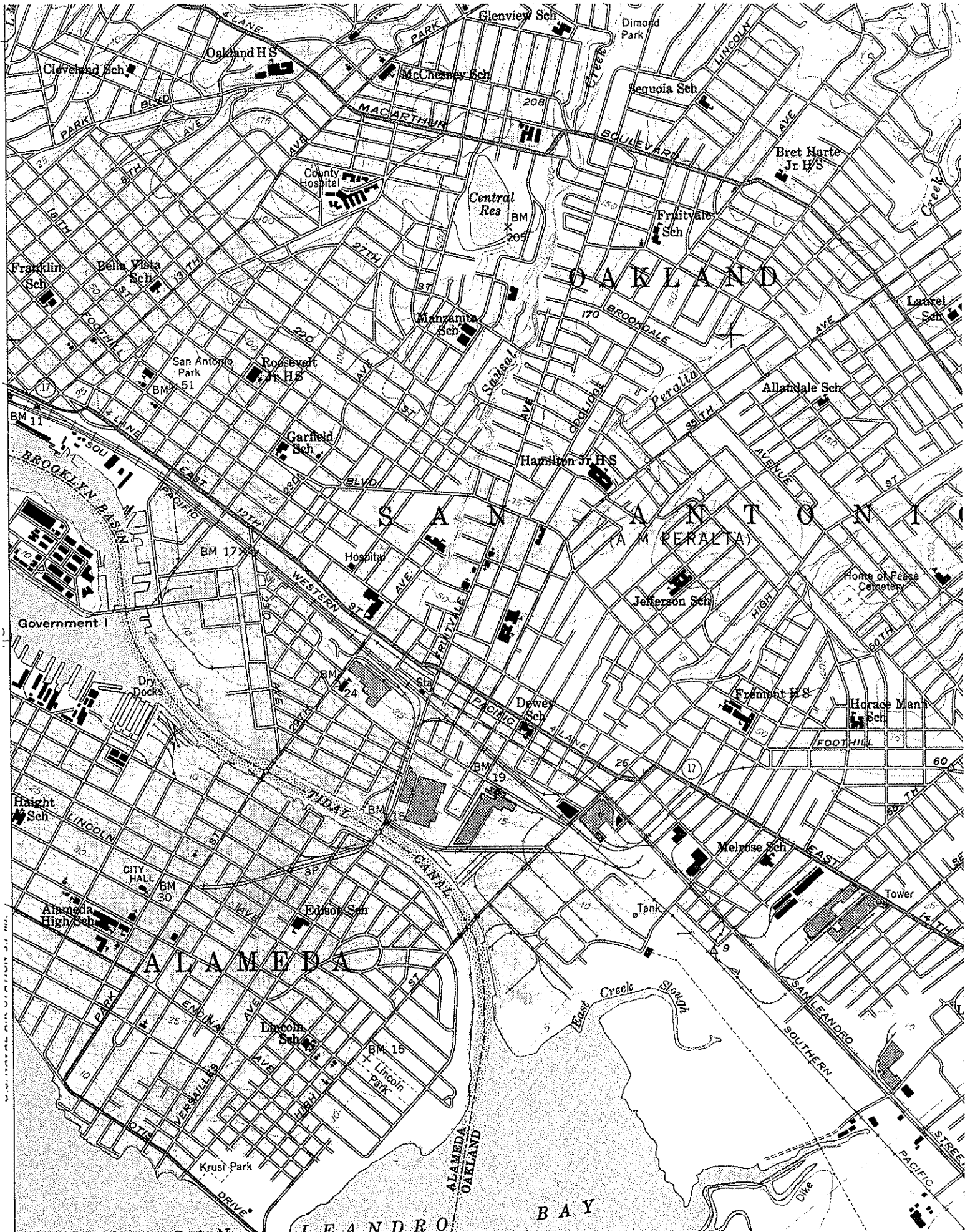
CLIENT: Philip Services Corporation
 CONTACT: Stavena L. Akins
 INQUIRY #: 1607160.2s
 DATE: February 06, 2006















1.5 MI. TO HIGH ST. V. 4
 OAKLAND AIRPORT 3.3 MI. 41

