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July 22, 2011

1211.001.01.007

Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Attention: Mr. Mark Detterman

**Transmittal
Work Plan for Additional Investigation
1650 65th Street
Emeryville, California
Fuel Leak Case No. RO0000440
Geotracker Global ID T0600100511**

Dear Mr. Detterman:

Submitted herewith for your review is the *Work Plan for Additional Investigation, 1650 65th Street, Emeryville, California* prepared by PES Environmental, Inc.

I declare, under penalty of perjury, that the information and recommendations contained in the attached document are true and correct to the best of my knowledge.

Very truly yours,

GRIFFIN CAPITAL CORPORATION

Julie A. Treinen
Managing Director, Asset Management

cc: Chris Baldassari, PES Environmental, Inc.

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Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Attention: Mr. Mark Detterman

**Subject: Work Plan for Additional Investigation
1650 65th Street, Emeryville, California
Fuel Leak Case No. RO0000440
Geotracker Global ID T0600100511**

Dear Mr. Detterman:

This *Work Plan for Additional Investigation* (Work Plan) has been prepared by PES Environmental, Inc. (PES) on behalf of Griffin Capital Corporation (Griffin), as agent for the fee owners for the property located at 1650 65th Street, in Emeryville, California (Site; Plate 1). Alameda County Department of Environmental Health (ACEH) has requested that Griffin submit a work plan addressing technical comments concerning the subject property (also known as the Atrium, and formerly Emery Bay Plaza) as presented in ACEH's letter to Griffin dated April 1, 2011 (ACEH 2011 Letter). The request is based on their review of an October 25, 2010 report¹ (Report) prepared by PES.

BACKGROUND INFORMATION

One 2,000-gallon gasoline underground storage tank (UST) was removed from the Site in July 1987. A fuel release affecting soil and groundwater was discovered at that time. Soil remediation activities were completed under a remedial plan approved by ACEH in 1988. Groundwater monitoring was initiated in November 1989, and a groundwater remediation system was installed in December 1990 to extract and treat groundwater. Remediation via groundwater extraction continued until October 1993, and an *in-situ* bioremediation pilot study program was initiated in August 1994. The *in-situ* bioremediation program continued until December 1998. At that time, ACEH approved: (1) cessation of groundwater remediation and monitoring; and (2) directed the Site be evaluated for closure. In April 2001, PES submitted a report² to ACEH that recommended no further groundwater monitoring on the

¹ PES Environmental, Inc., 2010. *Results of Groundwater Monitoring and Preferential Pathway Study, and Request for Case Closure, 1650 65th Street, Emeryville, California.* October 25.

² PES Environmental, Inc. 2001. *Groundwater Monitoring Report and Request for Closure, Emery Bay Plaza, 1650 65th Street, Emeryville, California.* April 27.

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basis of the stable and localized nature of the groundwater plume, and requested documentation of No Further Action (NFA) with respect to the former UST.

In response to the NFA request in April 2001, ACEH issued a letter to Griffin dated July 7, 2009 (ACEH 2009 Letter). To address technical comments in the ACEH 2009 Letter, PES submitted a Work Plan on behalf of Griffin³, which ACEH conditionally approved in a letter to Griffin dated August 16, 2010. On behalf of Griffin, PES subsequently submitted a report to ACEH entitled *Results of Groundwater Monitoring and Preferential Pathway Study, and Request for Case Closure* dated October 25, 2010; the report summarized the results of: (1) groundwater sampling conducted in October (Fourth Quarter) 2010; and (2) a preferential pathway study. After review, the ACEH 2011 Letter was sent to Griffin. The ACEH 2011 Letter included requests to submit a work plan for conducting the following: (1) limited groundwater investigation in the area downgradient of the former UST between monitoring wells MW-4 and MW-6; (2) sub-slab vapor sampling inside the southeastern corner of the onsite building; (3) focused source area delineation of residual contamination; (4) groundwater monitoring of select wells on a semi-annual basis; (5) evaluation of hydrocarbons detected in upgradient monitoring well MW-8; and (6) additional review and discussion of potential conduits for the migration of residual contaminants from the former UST. On June 2, 2011, PES, Griffin, ACEH, and representatives for the UST case at 6601/6603 Shellmound Street⁴ met (i.e., Sybase and its consultant EKI) to discuss the technical comments contained in ACEH's 2011 letters to the respective responsible parties.

This Work Plan addresses technical comments presented in the ACEH 2011 Letter. An assessment and discussion of technical comments provided by ACEH, a proposed scope of work, and a description of proposed methods are presented below. An addendum to the preferential pathway study is provided in Appendix A.

As requested in the ACEH 2011 Letter (Technical Comment No. 7), semi-annual groundwater monitoring was conducted at the Site in May 2011 (Second Quarter 2011), and the results were recently submitted in a report to the ACEH and dated July 22, 2011⁵. PES understands that, while the ACEH 2011 Letter requested that groundwater monitoring be coordinated between the subject property and the adjacent site at 6601/6603 Shellmound Street, a schedule for annual groundwater monitoring at that site had not yet been determined.

³ PES Environmental, Inc., 2009. *Work Plan for Groundwater Monitoring and Preferential Pathway Study, 1650 65th Street, Emeryville, California*. October 7.

⁴ This site is north of and adjacent to the subject property, is an open LUST case, and has also been requested by ACEH to perform additional investigation, including on the subject property.

⁵ PES Environmental, Inc. 2011. *Second Quarter 2011 Groundwater Monitoring Report, 1650 65th Street, Emeryville, California*. July 22.

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As discussed in PES' October 25, 2010 report, the presence of concentrations of fresh hydrocarbons in well MW-8, located upgradient from the source area, were detected in the groundwater sample collected in October 2010 (Fourth Quarter 2010). Total petroleum hydrocarbons quantified as gasoline (TPHg) was detected at a concentration of 2,900 micrograms per liter ($\mu\text{g/L}$) and benzene was detected at a concentration of 1,500 $\mu\text{g/L}$. Upon review of the PES 2010 Report, ACEH requested further evaluation of the potential source(s) or causes of the hydrocarbon detections in MW-8 (Technical Comment No. 4). The results of the recent Second Quarter 2011 groundwater monitoring event suggest that the detected concentrations of TPHg and benzene in MW-8 may have been from a transient source or sampling error, as TPHg was not detected at or above the laboratory reporting limit and benzene was detected just above the laboratory reporting limit at 0.60 $\mu\text{g/L}$. The concentrations reported in the Second Quarter 2011 monitoring event for well MW-8 are also consistent with historical groundwater concentration data (1994 to 2000) for MW-8. Based on the Second Quarter 2011 monitoring event, which indicates that the analytical results of groundwater from the 2010 sampling event at well MW-8 are anomalous, PES does not propose to conduct any subsurface investigations at or around well MW-8. The well will continue to be monitored under the current request from ACEH on a semi-annual basis.

PROPOSED SCOPE OF WORK

The scope of work includes the following activities: (1) field preparation activities; (2) collection and analysis of sub-slab vapor from the building interior near the source area; (3) collection and analysis of groundwater from the area between wells MW-4 and MW-6; and (4) collection and analysis of soil samples as part of source area delineation. These tasks are described below.

Field Preparation

The following preparatory activities will be performed prior to the commencement of field sampling activities:

- Update the site-specific Health and Safety Plan in accordance with applicable occupational safety and health requirements, as needed;
- Obtain drilling permits from Alameda County Public Works Agency (ACPW);
- Contact Underground Services Alert for public utility clearance;
- Perform utility clearances at sampling locations; and
- Retain and schedule drilling and laboratory subcontractors.

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Sub-Slab Vapor Sampling

As discussed at the June 2, 2011 meeting with ACEH, the results of PES' prior study⁶ indicate that subsurface oxygen levels in the southeast corner of the building are sufficient to facilitate attenuation of potential fuel vapors⁷. However, based on the near proximity of the former UST to the building as well as the uncertainty of the extent of petroleum hydrocarbon vapors, if any, underneath the building from residual contamination attributed to the former UST, at the request of ACEH, sub-slab vapor sampling will be conducted to assess ACEH's vapor intrusion concerns beneath the southeast corner of the building. The data will allow additional estimation of risk, if any, to indoor building occupants resulting from potential vapor intrusion of petroleum-related compounds (e.g., benzene), which may be associated with the former UST. To assess local air quality, a 6- to 8-hour outdoor time-weighted average ambient air sample will also be collected.

Sub-slab vapor point installation, sample collection, and analysis will generally follow the procedures outlined in both Appendix G – Soil Gas Sampling Directly Under Building Foundations (Subslab Sampling) contained in the *Vapor Intrusion Guidance Document – Final Interim* published by the California Department of Toxic Substances (DTSC) on December 15, 2004 (as revised February 7, 2005), as well as DTSC's March 2010 *Advisory – Active Soil Gas Investigation* (DTSC 2010 Advisory).

The sub-slab soil vapor sample collected within the southeastern interior corner of the building will be located a minimum of 30 feet away from exterior walls (as shown on Plate 2) in order to reduce potential bias of oxygenated soils near the edges of the building. The sampling location may be shifted based on underground utilities or other location-specific constraints. To collect sub-slab vapor from beneath the interior slab, a small diameter hole (approximately 1-inch in diameter) will be drilled through the concrete and 3- to 4-inches into the base material directly beneath the slab. The semi-permanent sub-slab vapor probe will consist of an approximately 6-inch long by ¼-inch outside-diameter length of stainless-steel tubing. The probe will be equipped with a threaded compression fitting at the top (plugged to prevent debris or contamination from entering) and equipped with a flexible plug at the bottom. To prevent air/vapor breakthrough from the surface, a hydrated bentonite seal will be placed in the annular space above the flexible plug at the bottom of the probe. The remaining annular space above the bentonite seal will be grouted with anchoring cement. The cement seal will be allowed to set for at least 30 minutes before sampling takes place. The probe will be

⁶ PES Environmental, Inc., 2004. *Summary Report of Methane Characterization Study, The Atrium at Emery Bay Plaza, 1650 65th Street, Emeryville, California.* March 2.

⁷ Specifically, as indicated in Tables 2 and 3 of the *Summary Report of Methane Characterization Study*, sample locations SG-17, 17C, and 18S (at one-foot bgs), and sample location SG-16 (at four-feet bgs) had oxygen levels greater than 2% (the minimum oxygen concentration required for significant attenuation of fuel vapors).

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completed flush with the existing slab surface. To minimize ambient air breakthrough or preferential vapor-stripping, a flow rate of 50 milliliters per minute (mL/min) and low vacuum of less than 100 inches of water will be used.

A 1-liter vapor sample canister that has been batch-certified clean by a California-certified analytical laboratory will be utilized to collect sub-slab soil vapor. Prior to sample collection, a closed stainless steel valve will be attached to the probe fitting. Sub-slab vapor within the sampling probe will be allowed to re-equilibrate for approximately 30 minutes prior to sampling. Appropriate sample tubing (e.g., Teflon) will be attached to a sealed, laboratory-cleaned sampling manifold. The manifold will be vacuum-tested in the field after connecting it to the probe and prior to collecting a vapor sample. To remove non-representative vapor from the probe prior to sample collection, approximately 50 milliliters ("mL") of soil vapor will be purged. A residual vacuum of approximately 2 to 5 inches of mercury will be retained in the canister. One duplicate vapor sample will be collected sequentially for field quality assurance/quality control purposes. The initial and final canister vacuum, start and stop time, and approximate ambient temperature will be recorded during sampling.

A helium-shroud leak test will be conducted during sample collection to evaluate whether a good seal was established in the sampling train, ground surface, and point interface. Once collected, the canister will be labeled and transported to the laboratory under chain-of-custody protocol. Sub-slab vapor sample analysis will be performed by a California state-certified stationary laboratory using EPA Method TO-15. Analytical reporting will include benzene, toluene, ethylbenzene, and total xylenes (BTEX). Helium analysis will be completed by the laboratory method ASTM D-1946.

Based on the proximity of the Site to Interstate 80, concentrations of BTEX in sub-slab soil vapor may be influenced by those present in ambient air, therefore, an outdoor ambient air sample will be collected over a 6 to 8-hour time period on the day that sub-slab soil vapor is sampled. The sample will be collected using a batch-certified clean 6-liter SUMMA[®] canister equipped with a flow restrictor and manifold. The ambient air sampling canister will be placed in a secure exterior location upwind of the probe. The start time and initial vacuum will be noted, the valve will be opened, and the canister will be left to slowly collect an integrated sample for the rated time interval of 6 to 8 hours. A residual vacuum of approximately 2 to 5 inches of mercury will be retained in the canister to prevent potential back-flow from low vacuum residuals. The initial and final canister vacuum, start and stop time, and approximate ambient temperature will be recorded during sampling. The ambient air vapor sample analysis will be performed by a California state-certified stationary laboratory using EPA Method TO-15, and include reporting for BTEX compounds

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The slab penetration will be filled with grout and a concrete patch at the conclusion of sampling. No investigation-derived waste ("IDW") is expected to be generated during installation or sampling of the sub-slab vapor probe. It is anticipated that the minor amount of concrete dust generated during drilling activities will be removed with a HEPA-filtered vacuum cleaner.

Groundwater Sampling

To provide groundwater data between wells MW-4 and MW-6, a temporary groundwater well will be installed and sampled approximately midway between MW-4 and MW-6, as shown on Plate 2.

The temporary well is anticipated to be screened from approximately 6 to 16 feet bgs (i.e., within the first water-bearing zone). The boring for the temporary well will be drilled using 8-inch diameter hollow-stem augers, and the temporary well will be constructed using 2-inch diameter schedule 40 polyvinyl chloride (PVC) casing and screen (0.010-inch factory slotted). A wooden or Teflon knock-out plug will be used to prevent materials (such as fill materials) from entering the hollow axle of the augers. After the target depth has been reached, the plug will be knocked-out and the temporary well will be constructed inside the auger. To facilitate construction, the casing string will be suspended from the surface. A filterpack consisting of #2/12 Monterey Sand will be placed in the annular space adjacent to the entire screened interval of the well and will extend approximately 2 feet above the top of the screened interval. During this procedure, the augers will be raised periodically and auger flights successively removed to allow sand to fill the annulus between the well casing and the borehole wall from the bottom up. An approximately 2-foot thick seal consisting of bentonite pellets or chips will be placed above the filter pack. Because the well will be temporary (i.e., remain in the ground less than 72 hours, in accordance with ACPW requirements), no sanitary seal will be constructed.

The well will be purged to remove fine-grained materials inside the filter pack and casing, to stabilize the filter pack around the well screen, and to produce representative water samples from the water-bearing zone. The groundwater sample will be collected from the temporary well using low-flow sampling techniques (i.e., generally in accordance with EPA recommended procedures for low-flow sampling⁸). In accordance with low-flow sampling techniques, groundwater will be purged until at least three of four parameters (temperature, specific conductance, pH, and turbidity) have stabilized. If low-flow sampling cannot be accomplished due to limited groundwater availability (e.g. at a purge rate of 0.2 liters per

⁸ *(Low Flow (Minimal Drawdown) Groundwater Sampling Procedures, EPA/540/S-95/504, April 1996, and Use of Low-Flow Methods for Groundwater Purging and Sampling: An Overview, US EPA Region 9, Quick Reference Advisory, December 1995.*

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minute the water level in the temporary well produces drawdown greater than 0.33 feet), the final parameter readings will be recorded and the sample will be collected. Water quality parameters including temperature, pH, specific conductance, and turbidity will be monitored.

Groundwater from the temporary well will be analyzed for: total petroleum hydrocarbons quantified as gasoline (TPHg) using U.S. EPA Test Method 8015B; (2) BTEX using EPA Test Method 8260B; and (3) fuel oxygenates consisting of methyl-tertiary butyl ether (MTBE), ethyl tertiary-butyl ether (ETBE), di-isopropyl ether (DIPE), tert-butyl alcohol (TBA), ethylene dibromide (EDB), 1,2-dichloroethane (1,2-DCA), and tertiary-amyl methyl ether (TAME) using U.S. EPA Test Method 8260B.

After sampling, the temporary well will be removed and the boring will be reamed with 8-inch augers to the total depth of the original boring and grouted in accordance with the ACPW permit requirements. Soil cuttings generated during drilling activities will be temporarily stored on-Site in 55-gallon drums until arrangements are made for disposal. One composite sample of the decontamination fluids and the soil cuttings will be collected and analyzed for TPHg, BTEX, and fuel oxygenates using U.S. EPA Test Method 8260B, and total lead using U.S. EPA Test Method 6010B. Based on the laboratory analytical results, the soil cuttings and decontamination fluids will be disposed in accordance with applicable state and federal regulations.

Source Area Delineation

As described in prior reports prepared by PES, the removal of the former UST⁹ and the completion of soil remediation activities¹⁰ were documented in reports prepared by Engineering-Science, Inc. (ES). Remediation activities were conducted in February and March 1988 and included: (1) excavation and disposal of 92 cubic yards of contaminated soil in the vicinity of the former 2,000-gallon UST; and (2) collecting and analyzing confirmation soil samples from the excavation. At the time of the remediation in 1988, confirmation samples indicated that contaminant concentrations were below applicable regulatory thresholds, and backfilling of the excavation with clean soil was subsequently approved by ACEH and San Francisco Bay Regional Water Quality Control Board (RWQCB) representatives.

However, based on observations of groundwater data from wells in the source area (MW-2 and EW-1) as well as the limited historical excavation and soil confirmation sampling conducted underneath the building, ACEH has requested that soil samples be collected as part of a

⁹ Engineering-Science (ES) 1987. *Underground Fuel Storage Tank Site Investigation near the Southeast Corner of the Warehouse Building, 1650 65th Street Property, Emeryville, California.* September 18.

¹⁰ Engineering-Science (ES) 1988. *Implementation of Remedial Action Plan Report for United States Postal Service Site at 1650-65th Street, Emeryville California.* April 6.

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focused source area delineation to assess residual petroleum hydrocarbons in soil. As discussed at the June 2, 2011 meeting with ACEH, PES proposes to utilize a phased approach for conducting the proposed source area delineation. Following performance of the sub-slab vapor and groundwater sampling activities, the data from these investigations will be assessed to provide a better estimate of the magnitude of residual soil contamination in and around the source area, and a soil matrix source area delineation investigation will be conducted, as appropriate. We anticipate that we will discuss with you a proposed scope of work for the requested source area delineation and upon mutual agreement will submit a brief addendum to this Work Plan to ACEH for approval.

Reporting and Schedule

A description of the methods, procedures, and results of the sampling activities proposed in this Work Plan will be presented in a report submitted within eight to ten weeks after receiving approval from ACEH. Additionally, an electronic copy of the finalized report will be uploaded to Geotracker and ACEH file-transfer protocol (ftp) websites.

Closing

We trust that this is the information you require at this time. Please call either of the undersigned if you have any questions.

Yours very truly,

PES ENVIRONMENTAL, INC.

Christopher J. Baldassari
Senior Geologist

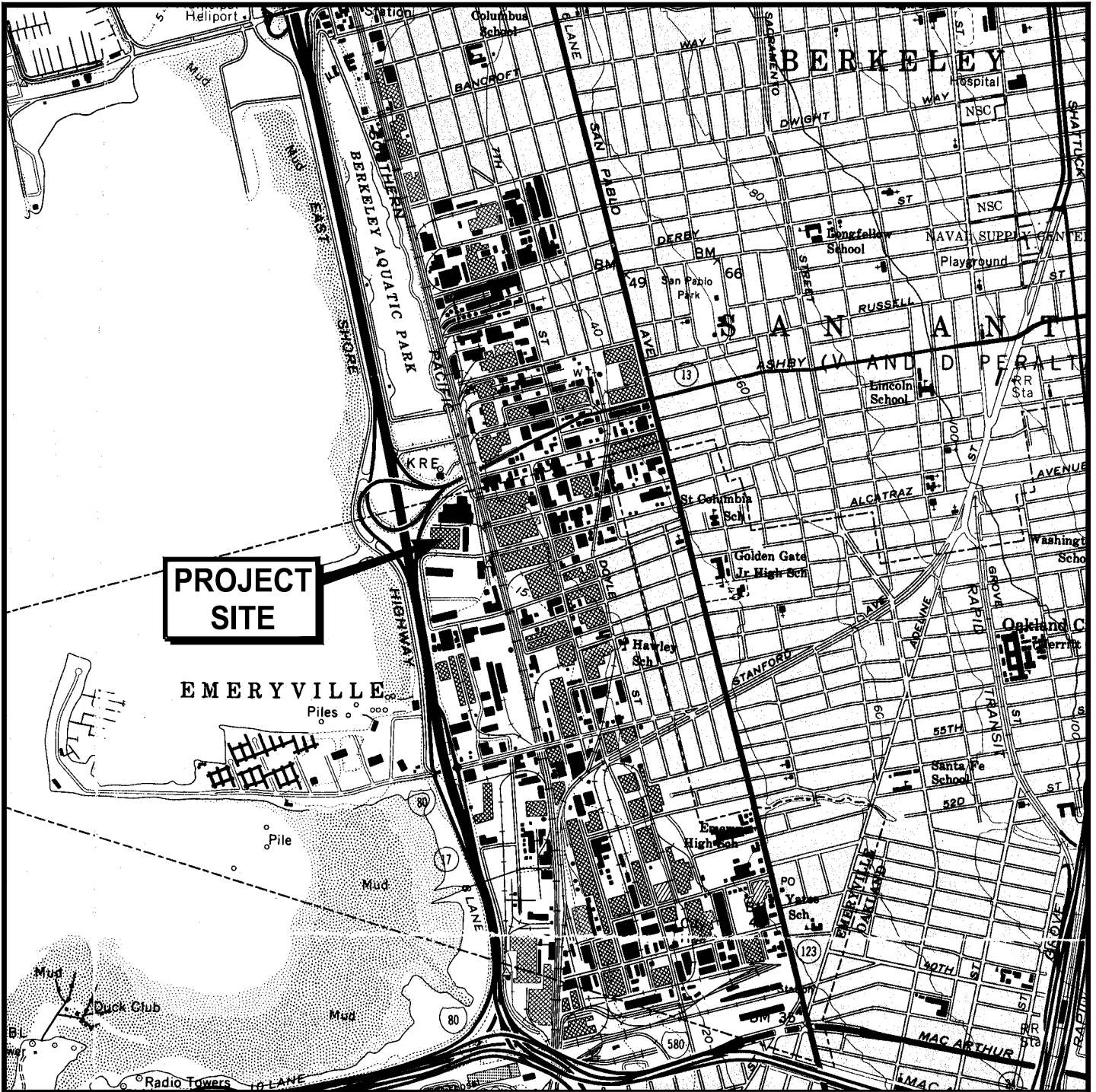
Robert S. Creps, P.E.
Principal Engineer



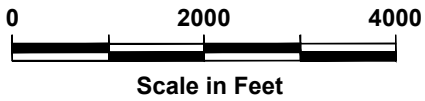
Attachments: Plate 1 – Site Location Map
Plate 2 – Proposed Sub-slab Vapor and Groundwater Sampling Locations
Appendix A – Addendum to Preferential Pathway Study

cc: Julie A. Treinen, Griffin Capital Corporation

PLATES



PROJECT SITE

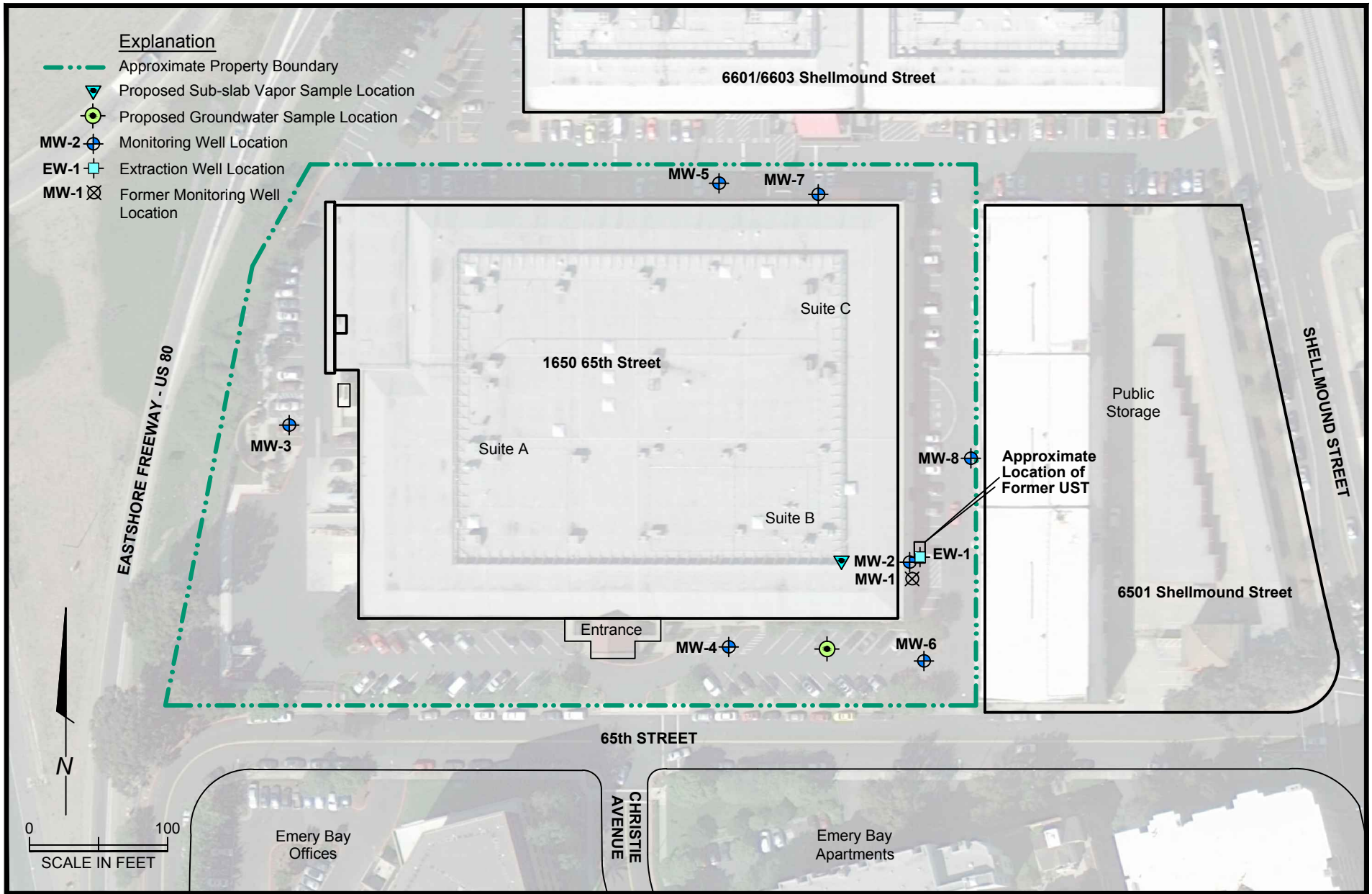


U.S.G.S. Topo Map - Oakland West, California, 7.5-minute quadrangle. Map version 1997; current as of 1993



Site Location Map
1650 65th Street
Emeryville, California

PLATE
1



APPENDIX A

ADDENDUM TO PREFERENTIAL PATHWAY STUDY



**ADDENDUM TO PREFERENTIAL PATHWAY STUDY
1650 65TH STREET
EMERYVILLE, CALIFORNIA
FUEL LEAK CASE NO. RO0000440
GEOTRACKER GLOBAL ID T0600100511**

This Addendum to the preferential pathway study has been prepared for the subject property at 1650 65th Street, in Emeryville, California (Site) to document the results of additional information that was reviewed at the request of the Alameda County Department of Environmental Health (ACEH) (Technical Comment No. 6 in the April 1, 2011 letter from ACEH to Griffin). The initial preferential pathway study was presented in a report prepared by PES entitled *Results of Groundwater Monitoring and Preferential Pathway Study, and Request for Case Closure* and dated October 25, 2010 (2010 Report). Results of the supplemental preferential pathway study activities conducted at the request of ACEH are presented below.

Supplemental Well Survey Information

Off-Site well records were obtained from the Alameda County Public Works Agency (ACPWA) within a 0.25-mile radius of the Site and reviewed. The records from the ACPWA include site address information, well construction and use details, and x,y coordinate locations. The ACPWA well record information is summarized in Table A-1 of this Appendix. A map showing the off-Site well locations provided in the ACPWA database is shown on Plate A-1 (each well location on Plate A-1 is numbered, and corresponds with the “Map ID” column in Table A-1). Based on our review of ACPWA data, shallow monitoring wells at 6400 Christie Avenue, located south of the Site, are present in a generally downgradient location from the Site¹. According to well records, the wells generally have screened intervals that are limited to less than 30 feet below ground surface (bgs). Therefore these wells are unlikely to be conduits for vertical transfer of contaminants. Additionally, they are unlikely to be significant routes of exposure from impacted groundwater from the Site to human receptors. With respect to the other wells identified within the search area, based on (1) the distance of wells identified in the ACPWA database from the Site; and (2) the off-Site wells’ upgradient locations, it is unlikely these wells present a concern for vertical migration of contaminants from the former UST at the Site.

Supplemental Utility Survey Information

The 2010 Report identified the locations of utilities in the vicinity of the former UST and plume area through the file review and field activities. The approximate locations of subsurface utility lines at the Site (including sanitary sewer, electrical, natural gas, storm

¹ Based on prior monitoring events, groundwater flow is estimated to be generally towards the southwest.

drain, and water lines) are shown on Plate A-2. The natural gas main line is located at the northeast corner of the property (approximately 250 feet to the north, and upgradient from the former UST) and is plumbed to gas meters located at the northeast corner of the building before distribution throughout the building from overhead lines. As previously noted in the 2010 Report, and shown on Plate A-2, storm drain inverts are located at various locations across the property; a contiguous underground storm drain line runs from the northern side and continues down along the western side of the building before exiting the property at the southwest quadrant. The depth of the storm drain inverts in the southeastern portion of the property were previously estimated to be between 1.5 and 2 feet bgs, which is above the historical groundwater levels.

The sanitary sewer main line is located in 65th Street. A sewer lateral connecting the building sewer lines to the sewer main in 65th Street is located at the southwest corner of the Site, approximately 375 feet west of the former UST. Based on historic building records, and as shown on Plate A-2, the nearest sanitary sewer lateral is present approximately 100 feet west of the former UST, and runs westward toward the sanitary sewer main. On July 13, 2011 the approximate depth of the sanitary sewer line was measured from a cleanout port located in a restroom in the southeast quadrant of the building (approximately 110 feet west of the former UST). The depth from the finished floor to the bottom of the sewer line was approximately 27-inches bgs. The flow direction of the line was also confirmed to be westward, towards the sanitary sewer main line located at the southwest corner of the building. Based on the field measurements, even with 6-inches of backfill beneath the pipeline, the sanitary sewer line is well above the historical groundwater-levels (with depth-to-water [dtw] measurements ranging from 7- to greater than 12-feet from top-of-casing [toc] in wells in the southern portion of the Site). Furthermore, the sanitary sewer line is cross-gradient from the former UST. The sanitary sewer lines at the Site are not likely to present a concern for lateral migration of contaminants from the former UST.

An East Bay Municipal Utility District (EBMUD) water main is located within 65th Street. As shown on Plate A-2, the main water line for the building runs perpendicular from the water main in 65th Street and enters midway along the southern side of the building, approximately 220 feet west of the former UST, and is generally outside of the plume area. Water is conveyed by overhead lines within the building.

Records from the City of Emeryville for the approximate 10-inch fire service line located near the southeast corner of the building (shown on Plate A-2) were not available. However, historic groundwater-levels measured in monitoring well MW-6 (approximately 20 feet east of the underground fire service pipeline) range between 7- to greater than 9-feet (as dtw from toc). Based on typical plumbing and engineering construction standards, the pipeline trench is unlikely to be installed at or below the water table, and is not likely to have been a conduit to spread contaminants from the former UST.

Based on the absence of identified horizontal conduits in the vicinity of the former UST and the affected groundwater plume, it remains unlikely that on-Site utilities present a concern for preferential migration of contaminants.

Conclusions

The results of the supplemental preferential pathway study information, taken with the initial study results presented in the 2010 Report, indicate that no lateral or vertical conduits that could transport residual contamination from the former UST have been identified.



**SITE
LOCATION**

Explanation

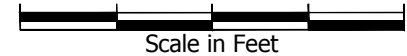


Approximate Off-Site Well Locations (ACPWA Database)

ACPWA = Alameda County Public Works Agency

Aerial Photo Source: Google Earth, October 2, 2009

0 500 1000



Scale in Feet

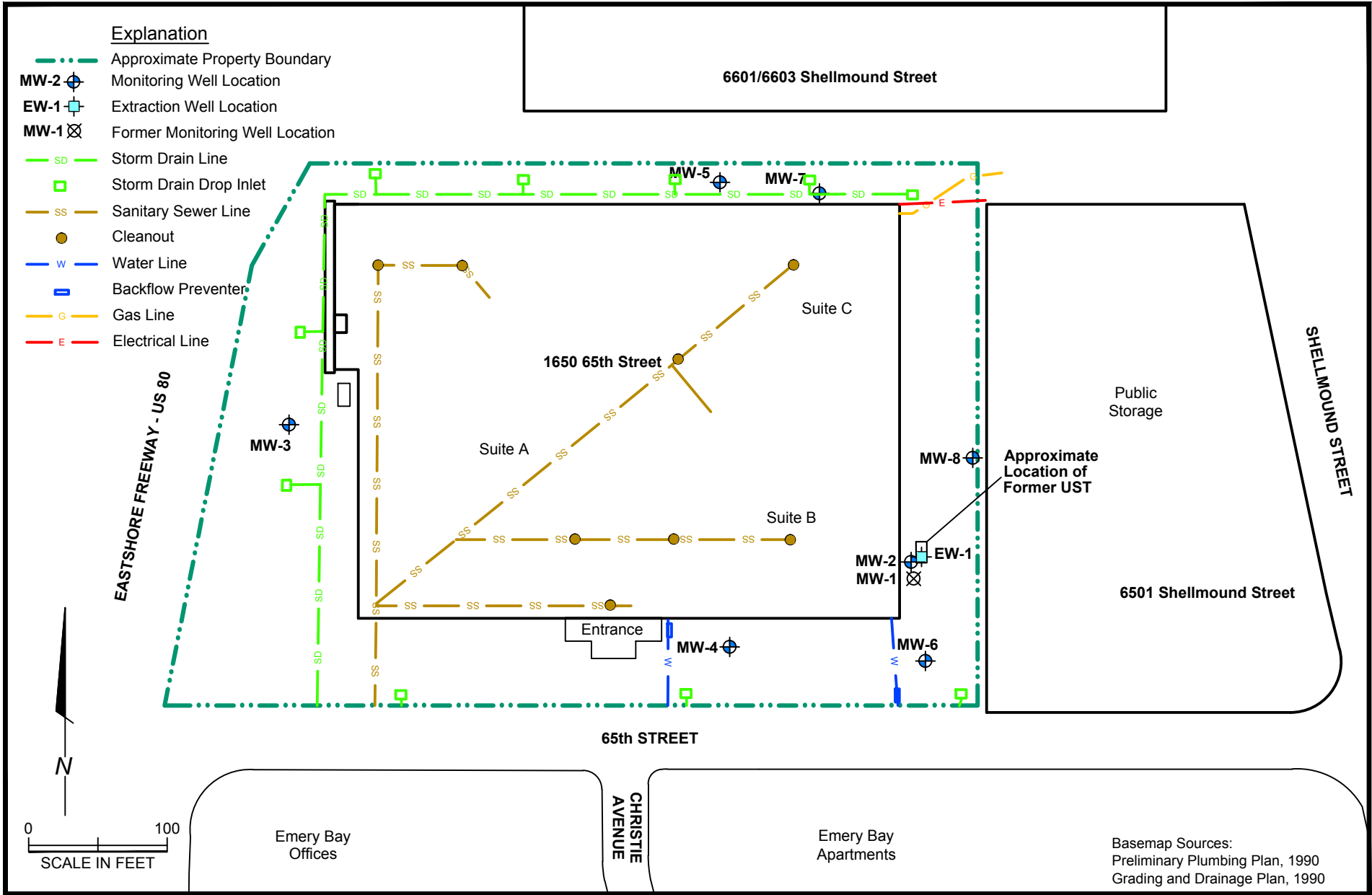


PES Environmental, Inc.
Engineering & Environmental Services

Off-Site Well Location Map
1650 65th Street
Emeryville, California

PLATE

A-1



Location of Subsurface Utilities
1650 65th Street
Emeryville, California

PLATE

A-2

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED