CITY OF Fremont

Office of the City Manager
3300 Capitol Avenue, Building A, P.O. Box 5006, Fremont, CA 94537-5006
510 284-4000 *ph* | 510 284-4001 *fax* | www.fremont.gov

February 2, 2016

RECEIVED
By Alameda County Environmental Health 3:46 pm, Feb 02, 2016

1098.007.01.001

Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502
Attention: Mr. Mark Detterman, PG, CEG

Transmittal
Work Plan for Soil Extraction and Well Destruction
39155 and 39183 State Street, Fremont, CA

Dear Mr. Detterman:

Submitted herewith for your review is the *Work Plan for Soil Extraction and Well Destruction, 39155 and 39183 State Street, Fremont, CA* prepared by PES Environmental, Inc.

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

Very truly yours,

Clifford Nguyen
Urban Initiatives Manager
City of Fremont
510.284.4017
cnguyen@fremont.gov

cc: Carl Michelsen, PES Environmental, Inc.

PES Environmental, Inc.
Engineering & Environmental Services

January 29, 2016

220.003.02.001

A Report Prepared for:

Fremont State Street Center LLC
Attention: Ms. Denise Cunningham
3000 Executive Parkway, Suite 450
San Ramon, California 94583

For Submittal to Oversight Agency:

Alameda County Environmental Health
Attention: Mr. Mark Detterman, PG, CEG
1131 Harbor Bay Parkway
Alameda, California 94502

Received by: _____
Date: _____

Subject: Work Plan for Soil Excavation and Well Destruction
39155 and 39183 State Street
Fremont, California

Dear Ms. Cunningham:

PES Environmental, Inc. (PES) has prepared this *Work Plan for Soil Excavation and Well Destruction* (Work Plan) on behalf of Fremont State Street Center LLC (FSSC) for the vacant commercial property located at 39155 and 39183 State Street in Fremont, California (the site or subject property). PES understands that FSSC plans to redevelop the property with commercial retail/residential buildings with subsurface parking along the northwestern portion of the site, and slab-on-grade residential buildings to the southeast[1]. The site location and vicinity are shown on Plate 1.

Benzene has been identified in soil gas samples at borings located in the southern portion of the site at concentrations that exceed the Regional Water Quality Control Board (RWQCB) Residential Environmental Screening Level (ESL) of 42 micrograms per cubic meter [$\mu g/m^3$])[2]. In addition, the volatile organic compound (VOC) tetrachloroethylene (PCE) has been detected in soil vapor samples collected on the site at locations adjacent to and within State Street. The soil vapor appears to be the result of discharges of PCE into the sanitary sewer and/or storm

[1] KTGY Group, Inc. (KTGY), 2015. *100% Design Development Drawings, State Street Center On-Grade, Fremont, California*. November 30.

[2] PES, 2015a. *Report of Results Subsurface Investigation, 39155 and 39183 State Street, Fremont California*. February 12; PES, 2015b. *Report of Results, Supplemental Subsurface Investigation, 39155 and 39183 State Street, Fremont, California*. October 20.

drain by a prior dry cleaning establishment, Norge Cleaners, located to the northwest at 39067 State Street within the adjacent Fremont Plaza Shopping Center.

At the November 19, 2015 meeting with the Alameda County Department of Environmental Health (ACEH), a work plan was requested to address several environmental tasks that will need to be performed and approved by ACEH prior to site redevelopment activities. These tasks include the following: (1) excavation and removal of potentially contaminated material in the vicinity of the benzene and concrete debris occurrences on the southern portion of the site; (2) location and destruction of water well number 4S/1W-33D002; and (3) conducting a supplemental soil vapor investigation on the northeastern portion of the subject property to confirm soil vapor conditions at proposed elevator shafts located at the commercial buildings and confirm prior results and establish baseline conditions prior to development.

This Work Plan was prepared to outline the procedures for excavation, verification soil sampling, and management of the benzene-affected material and concrete debris located on the southern portion of the site. The Work Plan is intended to provide earthwork contractors and other property owner representatives with: (1) information regarding known environmental conditions at the site; (2) excavation procedures; (3) procedures for proper management (e.g., stockpiling) and disposal of chemically-affected soil; (4) procedures for verification sampling; and (5) protocols for implementing contingencies measures to be used in response to unanticipated subsurface conditions, if any, that may be encountered during excavation.

In addition, this Work Plan provides discussion of activities that will be conducted to locate and destroy the water well located at the site.

A separate work plan has been prepared by PES (and conditionally approved by ACEH) to address supplemental soil vapor sampling activities within State Street and along the northeastern portion of the site and within the footprints of planned future buildings[3].

BACKGROUND

Site Characteristics

A majority of the subject property is currently developed as a vacant lot. The southwestern corner of the site consists of a building located at 39180 Fremont Boulevard (Nation's Giant

[3] PES, 2015c. *Work Plan for Supplemental Site Investigation, 39155 and 39183 State Street, Fremont California*. December 15. The workplan was approved in a ACEH letter, *Conditional Work Plan Approval; Site Cleanup Program Case No. RO0003176 and Geotracker Global ID T10000007102, Fremont Plaza Shopping Center, 39155 and 39183 State Street, Fremont, CA 94538,* dated January 14, 2016.

Hamburgers [Nation's]) with associated parking and landscaping areas (Plate 2). The site consists of approximately 5.3 acres and has the street addresses of 39155 and 39183 State Street in Fremont, California. The site is bounded to the northeast by State Street, to the northwest by Capitol Avenue and farther northwest by the Fremont Plaza Shopping Center, to the southwest by commercial properties including restaurants and banks, and to the southeast by the Fremont Professional Park office complex.

Based on the information provided in a letter from Alameda County Water District (ACWD) dated October 6, 2014[4], and discussions with Ms. Michelle Myers from ACWD, an unused irrigation well (State Well Identification number 4S/1W-33D02) is located on the southern portion of the subject property. The well reportedly pre-dates 1959 and was installed at a depth of 115 feet below grade for irrigation purposes on what was then an orchard. Ms. Myers also informed PES that the well is currently buried beneath the asphalt-paved lot and will need to be found and properly abandoned before redevelopment activities.

Site History

PES previously authored a Phase I Environmental Site Assessment (ESA) report for the subject property, dated July 15, 2014[5]. Historical documents indicate that the site was originally developed as cultivated farmland from at least 1939 through 1966. The subject property was redeveloped in 1966 with a 62,000 square foot building and asphalt-paved parking lot throughout the remainder of the property. The building was utilized as a Payless Drug Store and, later, a Nob Hill General Store. The building was reportedly demolished in 2001.

Another building, approximately 12,000 square feet in area, was built in front of the subject property directly northeast of the larger building in 1989, and Fremont Bank was reportedly the only tenant. Available records indicate that the subject property buildings had been demolished and that the site remained mostly vacant from the early 2000s until the present. The approximate location of the former buildings are shown on Plate 2. Limited use of the site, after demolition of site buildings has included a training yard for the Fremont Fire Department, a traveling carnival, and as a storage yard for a construction company. The storage yard was located on the northeastern portion of the site, and the traveling carnival were located on the northwestern portion of the site. The location of the former training yard for the fire department is unknown.

---

[4] Alameda County Water District (ACWD), 2014. *Water Well Located Within – PLN2015-00032, (State Street Mixed-Use Development), 39155 State St., ACWD No. 2013-0076, (ACWD Site #0690), WC 2014-0101*. October 6.

[5] PES, 2014a. *Phase I Environmental Assessment, 39155 and 39183 State Street, Fremont, California*. July 15.

Benzene in Soil Vapor

Based on the results of the ESA, PES completed four phases of site investigations at the subject property in October and December 2014, and January and September 2015. A corresponding work plan for each phase of site investigation was submitted to the ACWD on September 26, 2014, December 2, 2014, January 26, 2015, and August 6, 2015[6]. The investigations included completing 50 borings (B1 through B50) for soil and/or soil vapor sample collection. The approximate locations of the borings are shown on Plate 2. The objective of the investigations was to evaluate the chemical characteristics of the soil and soil vapor beneath the site to assess if they have been impacted by prior site usage or potential offsite sources of contamination.

Observations made during drilling on the southern portion of the site, in the vicinity of boring B4, identified dark brown silty gravel to the total depth explored of 5 feet below grade. This layer is underlain by concrete debris that prohibited deeper observations.

Several VOCs were identified during the subsurface investigations. As described previously, soil vapor sampling within the State Street right of way adjacent to and northeast of the site, and on a limited area on the northeastern portion of the site has identified the presence of a PCE soil vapor plume. The chlorinated VOC results were discussed in the December 15, 2015 Work Plan and are not discussed further.

Benzene was detected in soil vapor in a localized area, in the vicinity of boring B4, located in the southern portion of the subject property. At the boring B4 vicinity, only benzene was detected in soil vapor at concentrations above the ESL (42 $\mu g/m^3$)[7]. The borings that exceeded the soil vapor ESL for benzene were B4, B45, B46, and B47, at concentrations of 510, 88, 91, and 710 $\mu g/m^3$, respectively. Boring locations are shown on Plate 2. In addition, the detections of benzene in soil vapor appears to be associated with the presence of concrete debris in the subsurface. The drilling rig encountered refusal due to a layer of concrete debris at a depth of 5 feet below ground surface (bgs) in borings B4, B44, B45, B46, and B47. As noted above, elevated benzene concentrations were observed in each of these borings, with the exception of boring B44.

---

[6] PES, 2014b. *Work Plan for Limited Site Investigation, 39155 and 39183 State Street, Fremont, California*. September 26; PES, 2014c. *Work Plan for Supplemental Site Investigation, 39155 and 39183 State Street, Fremont, California*. December 2; PES, 2015d. *Work Plan for Supplemental Soil Vapor Investigation, 39155 and 39183 State Street, Fremont, California*. January 26; PES, 2015e. *Work Plan for Supplemental Site Investigation, 39155 and 39183 State Street, Fremont, California*. August 6.

[7] The observed local lithology at the boring B4 location was a silty gravel. As such the previous use of a site specific screening level for benzene in this area (using a clay rich soil) is not appropriate and the standard residential ESL was used for screening purposes.

However, benzene and related aromatic VOCs (e.g., toluene, ethylbenzene, and xylenes) were not detected at concentrations in excess of the residential ESL in any of the soil samples collected from borings B44, B45, B46, B47, or B50 that are located in the boring B4 area. Review of the history of the site (e.g., a Payless Drug Store, Nob Hill General Store, and Fremont Bank with associated parking) was unable to identify a possible source area for the localized occurrence of benzene in soil vapor.

Freon in Soil Vapor

As requested by ACEH, this section provides further discussion regarding the presence of Freon in soil vapor samples. In addition to benzene and PCE, detectable concentrations of Trichlorofluoromethane (Freon 11) and Dichlorodifluoromethane (Freon 12) were identified in soil vapor during site investigations. Freon 11 and/or Freon 12 were detected in 48 of 50 on-site and off-site soil vapor samples at maximum concentrations of 2,300 $\mu g/m^3$and 6,400 $\mu g/m^3$, respectively. The detected concentrations of Freon 12 were generally higher than Freon 11, and the observed concentrations generally appear to be evenly distributed across the footprint of the entire subject property and within State Street. No RWQCB ESL or ambient air DTSC-SL is available for either Freon 11 or Freon 12[8]. The maximum detected concentration of Freon 12 is well below the soil vapor screening level (100,000 $\mu g/m^3$) calculated from the U.S. Environmental Protection Agency (U.S. EPA), Region 9, resident ambient air Regional Screening Level (RSL)[9,10]. Based on the available data, the concentrations of Freon appear to be widespread across the subject property and vicinity, and are not at concentrations of concern.

---

[8] California Department of Toxic Substances Control (DTSC), Human and Ecological Risk Office (HERO), 2015. *Human Health Risk Assessment (HHRA) Note, HERO HHRA Note Number: 3, DTSC-modified Screening Levels (DTSC-SLs)*. October. Soil gas screening levels can be derived from ambient air DTSC-SLs using the procedure outlined in HERO HHRA Note Number 3 and DTSC, 2011. *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance)*. October.

[9] USEPA Region 9 Regional Screening Level (RSL) Summary Table, November 2015.

[10] The soil gas screening level for Freon 12 was derived from the DTSC,2011 equation $\alpha = C_{indoor}/C_{soil\ gas}$, where α = the attenuation factor (0.001 for a future residential structure; DTSC, 2011); C_{indoor} = indoor air concentration ($\mu g/m^3$); and $C_{soil\ gas}$ = soil gas concentration ($\mu g/m^3$). Setting C_{indoor} equal to the ambient air RSL (100 $\mu g/m^3$) and solving for $C_{soil\ gas}$ yields a residential soil gas screening level for Freon 12 of 100,000 $\mu g/m^3$. No ambient air RSL is available for Freon 11. However, note that the Resident Soil RSL for Freon 11 (i.e., the Noncarcinogenic Screening Level (SL) derived using the Noncancer Hazard Index [HI]) is over 260 times higher than the Resident Soil RSL for Freon 12. This indicates that Freon 12 has a greater Noncancer HI than Freon 11. Given this relatively greater HI, a soil gas screening level for Freon 11 would likely be of greater magnitude than the 100,000 value for Freon 12.

Proposed Development

The initial development concept consists of demolition of the Nation's building, including the removal of the existing utilities, and removal of all surface coverings on the remainder of the property. Asbestos and lead paint that may be present at the Nation's building will be property abated, if needed, prior to demolition. The site will then be regraded for foundation preparation and utility installation. In addition, soils will be excavated from the northwestern portion of the site to construct subgrade parking lots beneath the commercial retail/residential buildings[11].

The redevelopment will consist of a mixed residential/retail project with 157 residential dwelling units and approximately 21,000 square feet of retail area. Approximately 50% of the residences will be on-grade townhomes, the rest are podium townhomes and flats. The surrounding area will contain roadways with associated landscaping.

In order to mitigate for the potential intrusion of VOCs identified in soil vapor beneath the subject property adjacent to State Street, a vapor barrier consisting of an impermeable membrane will be installed beneath portions of the retail and residential spaces to mitigate the potential for subsurface vapors from entering the building. A sub-slab ventilation system will also be installed beneath the vapor barrier. The ventilation system will be passive (i.e., venting will occur via natural processes, without powered blowers). The location and design of the vapor mitigation systems will be provided in a separate document.

EXCAVATION PROCEDURES

The specific equipment and means to implement the soil excavation will be at the discretion of the selected excavation contractor; though it is anticipated the work will be conducted using conventional earthmoving equipment (track- or tire-mounted excavators). Based on the existing analytical data, the anticipated excavation extents will be marked on the ground surface. A grid system will be set up to overlay the excavation footprint that utilizes a standard point as the origin. The grid system will be utilized to accurately locate various aspects of the project such as potential utility lines and verification soil samples. Prior to excavation, any existing hardscape (i.e., asphalt pavement, concrete foundations and footings) overlying the anticipated excavation area will be removed and stockpiled in the vicinity of the excavation.

[11] KTGY, 2015. *100% Design Development Drawings, State Street Center On-Grade, Fremont, California.* November 30.

Based on previous sampling results, soil will be excavated over an approximately "L" shaped area measuring approximately 3,050 square feet to a depth of approximately 6 feet bgs. The extent of excavation may change based on the thickness and distribution of subsurface concrete debris observed in the vicinity of the planned excavation, and verification sample results The location of the planned excavation is shown on Plate 2.

The excavated soil will be visually inspected for signs of contamination (e.g., discoloration, etc.). The excavated soil will be field screened for VOCs with a photoionization detector (PID). If PID readings above background are observed, soil samples will be collected and submitted to the project laboratory for VOC analysis using U.S. EPA Test Method 8260B. The PID will also be used to monitor the potential presence of VOCs in the breathing space. The horizontal and vertical limits of the planned soil removal will be adjusted to the extent practicable, based on the results of the verification soil sampling (discussed further below), as well as field observations and field screening results.

The excavation will be left open pending receipt of the soil verification analytical results (see below for details of verification sampling), and a temporary fence will be installed around the excavation to limit access. Upon completion of excavation activities and verification that the limits of the excavation meet the removal action cleanup goals, the excavation will be backfilled with imported fill material to match the existing grade. Specific procedures will be developed by a geotechnical engineering firm retained by FSSC after selection of the remedial contractor and identification of the source of import material. Field density testing will be conducted by the geotechnical engineer in accordance with ANSI/ASTM/ 1557 to verify the soil has met the specified compaction requirements. If the field density tests indicate the tested soil does not meet specified requirements, the soil will be re-compacted and retested until the minimum requirements are met.

Verification Sampling

To verify that excavation activities have successfully removed VOC concentrations in excess of the RWQCB residential ESLs, verification soil matrix samples will be collected from the excavation sidewalls and bottom. Soil samples will be collected from the excavation as follows:

- Verification soil samples will be collected from the midpoint of excavation sidewalls at a frequency of approximately one sample per 20 linear feet of sidewall. Bottom samples will be collected from the excavation, beneath the concrete debris. Approximately one bottom soil sample will be collected for every 400 square feet of excavation bottom;

- At each sampling location, a sample will be obtained directly from a freshly exposed surface of the bottom and/or sidewall of the excavation. Where the excavation is deeper than 4 feet bgs, it may be necessary to collect verification soil samples from intact soil within the excavator bucket. A final determination of sampling technique will be made after assessing actual site conditions during excavation;

- To reduce the potential for cross-contamination between sampling locations, the excavator bucket will be thoroughly cleaned prior to initiating work and between each sampling location; and

- Samples will be collected in accordance with U.S. EPA Test Method 5035 using Terracore™ samplers.

Following sample collection, the sample containers will be labeled for identification and immediately placed in a chilled, thermally insulated cooler containing bagged ice. The samples will be transported under chain-of-custody protocol to a California state-certified laboratory. The verification soil samples will be analyzed for VOCs using U.S. EPA Test Method 8260.

Soil Management

Soil stockpile locations will be determined prior to initiation of remedial actions. A tentative stockpile staging area is shown on Plate 2. Based on field conditions and the construction schedule, the location of the soil stockpiles may change. Contaminated soils will be segregated from construction debris encountered during excavation activities. The stockpiles will be constructed with polyethylene plastic sheeting (10 mil minimum thickness) beneath and above the soil to prevent runon/runoff and fugitive dust emissions. Stockpiled soil will be covered and secured at the end of each day.

Once contaminated soil has been stockpiled, soils will be sampled for waste characterization purposes. The soil sampling procedures and analytical program for the soils are as follows:

- For stockpiled soil characterization, one discrete soil sample will be collected per 100 cubic yards (cy) of excavated soil for soil quantities up to 1,000 cy. For soil quantities greater than 1,000 cy, additional soil samples (i.e., above the ten samples already collected) will be collected at a frequency of one discrete soil sample per 500 cy. Landfill disposal facility requirements for sampling may be in addition to these sample collection frequencies;

- Soil samples (for non-VOC analysis) will be collected using a pre-cleaned hand trowel and transferred into laboratory-supplied glass containers or stainless-steel tubes, as appropriate. Soil samples submitted for analysis by U.S. EPA Test Method 8260B will be collected in accordance with U.S. EPA Test Method 5035 using Terracore™ samplers;

- Following soil sample collection, the containers will be labeled for identification and immediately placed in a chilled, thermally insulated cooler containing bagged ice or blue ice. The cooler containing the samples will then be delivered under chain-of-custody protocol to a state-certified laboratory; and

- The discrete samples collected from the soil stockpiles will be submitted for laboratory analysis for one or more compounds, based on observations, screening results, and/or the known site use history in the vicinity of the suspect soil. Analyses may be conducted for VOCs, petroleum hydrocarbons, metals, and/or other compounds as required by the landfill for waste characterization purposes.

Transportation and Disposal Plan for Soil

The following activities will be performed as part of the offsite disposal plan: (1) completing soil profiling with the offsite disposal facility; (2) completing the waste manifest forms and documenting truck load volumes and/or weights; and (3) transportation of soil from the site to a permitted disposal facility. The environmental consultant will work with the construction contractor/manager to support waste acceptance evaluations, including collecting and directing laboratory analysis of soil samples in accordance with the criteria provided by the potential disposal facilities.

Following acceptance of the excavated soil at an appropriate disposal facility (more than one facility may be required), the soil will be loaded into licensed haul trucks (end-dumps or transfers) and transported off the site following appropriate California and federal waste manifesting procedures. The waste manifest documentation will be provided to the truck driver hauling the soil offsite.

As each truck is filled, an inspection will be made to verify that the soil and solid waste is securely covered and that the tires of the haul trucks are reasonably free of accumulated soil prior to leaving the site. Soil residue on the excavator tracks/tires and truck tires will be removed using a combination of wet and dry methods. During dry conditions, soil residues will be removed by dry brushing with a stiff-bristled broom and/or wire brush. Soil that cannot be removed by this procedure will be removed from equipment by washing with high-pressure hot water in a prepared decontamination area. During wet conditions, high-pressure hot water washing will be used in a prepared decontamination area to remove

material residues and mud from the tracks and tires of equipment. Water generated during decontamination activities will be contained for analysis and appropriate disposal/recycling.

The work areas will be kept clean and free of excessive soil or debris. A street sweeper will be made available, as needed, to keep the loading area and haul roads clean. The soils will be wetted, as necessary, to reduce the potential for dust generation during loading and transportation activities.

Haul routes from the subject property will use surface streets to access the closest suitable freeway on-ramp. Truck traffic travelling along this surface street route will pass through commercial and light industrial areas only. No residential areas will be entered. Once on the freeway, the exact truck route will be dependent on the location of the applicable disposal facility. Specific haul routes from the subject property to the selected landfill sites will be determined once appropriate facilities have been identified for the excavated soil.

Dust Control

Depending upon the soil and weather conditions during excavation, there is a potential to have a nuisance dust condition. Water will be applied to the work area where soil is being disturbed on an as needed basis to mitigate the potential for dust generation. Dust level monitoring of air will be conducted to evaluate the potential exposure to site personnel and to offsite downwind receptors.

The objective of the following dust control measures is to have no visible dust emissions. Dust control measures include the following:

Active construction areas will be watered at least twice daily;

- All trucks hauling soil, sand, and other loose materials will be covered, or will be required to maintain at least 2 feet of freeboard;
- On all unpaved access roads, parking areas, and staging areas, apply water three times daily, or apply non-toxic soil stabilizers as necessary to control dust;
- All paved access roads, parking areas, and staging areas will be swept daily (with water sweepers); and

- Track-out from the site may not exceed 25 feet, and if visible soil material is carried onto adjacent public streets, streets will be swept daily (with water sweepers). Track-out of loose materials will be controlled using gravel pads and/or rumble strips installed to prevent tracking of mud on to public roadways. These features will be installed at all egress points to the site.

Stockpile management practices discussed in above will be used to control fugitive odor or dust emissions in the stockpile staging area. In addition, to complement air monitoring efforts that may be conducted under the Health and Safety Plan (discussed further below), dust monitoring may be implemented to evaluate the effectiveness of dust control measures.

Decontamination Procedures

Equipment used for soil excavation and loading (including heavy equipment and truck tires) will be cleaned before leaving the site. It is expected that the majority of soil can be removed using mechanical methods (e.g., scraping and dry brushing). Cleaning with water should only be performed as needed, because of the generation of additional waste requiring management. During soil excavation and loading, the work areas will be kept reasonably clean and free of excessive soil or debris. Care will be exercised to minimize the potential for tracking any contaminated soil out of the work area.

Stormwater Management

A storm water pollution prevention plan (SWPPP) to address monitoring and mitigation of potential surface stormwater impacts during construction will be prepared under separate cover (by others) as part of general construction permitting and planning; as such, it is not a part of the Work Plan. A copy of the SWPPP will be filed with the California State Water Resources Control Board (SWRCB).

Worker Health and Safety Training

In addition to following the Work Plan, each contractor will work under the guidance of a site-specific health and safety plan (HASP) and injury and illness prevention plan (IIPP). The purpose of these documents is to provide general guidance to the work hazards that may be encountered during each phase of site construction activities, including potential chemicals of concern that may be encountered on-site. The HASP will be prepared in accordance with California Occupational Safety and Health Administration (CAL-OSHA) Construction Safety Orders within Title 8 of the California Code of Regulations (CCR). All environmental consultants and contractors working on-site implementing this Work Plan are required to be 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER)-trained. However, at the discretion of the construction contractor/manager,

in consultation with the environmental consultant, the information gathered during the field screening protocol discussed below may be used as the basis for downgrading from the requirement to be 40-hour HAZWOPER-trained.

To the extent feasible, the presence of airborne contaminants will be evaluated through the use of sampling equipment. It is anticipated that the PID along with colorimetric detector tubes will serve as the primary instruments for personal exposure monitoring for organic vapors. However, it should be noted, that the HASP may also require personal air sampling for VOCs to properly characterize the potential for exposure to site personnel during excavation activities.

SOIL MANAGEMENT CONTINGENCY PLAN

The following contingency measures will be implemented in the event that previously unknown suspect soil conditions or subsurface features (e.g., USTs) are identified during site redevelopment. Contingency measures will be conducted by HAZWOPER-trained environmental professionals and/or workers following a HASP. Preliminary assessment in the vicinity of the previously unidentified suspect soil will include confirmation that access control measures installed by the construction contractor/manager are adequate to provide necessary protection to on-site workers and the public during the evaluation phase. Confirmation will consist of visual assessment of the installed barriers as well as monitoring of the air outside the secured area.

Air sampling will be conducted around the perimeter of the secured area using a combination handheld PID meter to measure VOCs in the breathing zone and a handheld lower explosive limit (LEL)/oxygen (O_2) meter to measure concentrations of combustible gases and available oxygen. If the air sampling suggests that the control measures are improperly positioned to provide necessary protection to on-site workers, the barriers will be relocated as necessary.

The environmental consultant will conduct a preliminary assessment to determine if the previously unidentified suspect soil is considered a significant risk to human health or the environment. The preliminary assessment will be conducted as follows:

1. A soil sample will be collected from the same location and depth as the suspect sample location and 1-foot below this depth. Additional samples will also be collected at the same depths at a minimum of four step-out locations to assess soil condition around the suspect sample location. The four step-out location will be located approximately 5 feet to the north, south, east, and west of the suspect sample location. Each sample will be observed for evidence of odors and staining and screened for VOCs using a PID. Soil samples to be field screened with the PID will be placed in a re-sealable bag and after a

minimum waiting period of 30 seconds the PID probe tip will be placed near the soil to obtain a headspace reading in the bag.

2. If any of the samples show evidence of odors and staining and VOCs are detected above 10 ppmv then environmental sample(s) will be collected following the procedures discussed below. If field observations suggest that the suspect conditions are *de minimus* and: (1) do not present a threat to human health or the environment; or (2) would generally not be subject of an enforcement action if brought to the attention of appropriate governmental agencies; then PES will terminate the contingency plan process and release the suspect area to the construction contractor/manager.

If conditions in the suspect area are not considered *de minimus*, PES shall evaluate the nature and extent of the potentially chemically-affected soil. This evaluation will include collecting representative sample(s) using hand and/or mechanized equipment at an appropriate frequency determined by the environmental contractor. The suspect soil sample(s) will then be submitted to a State-certified analytical laboratory for testing in accordance with U.S. EPA-approved methods. The analytical program will be developed by the environmental contractor based on on-site historical chemical use, visual observations, and field measurements.

After the evaluation is complete, the environmental contractor shall provide the Owner and construction contractor/manager with conclusions regarding potential risks of the suspect material to human health and the environment as well as recommendations for proper removal and disposal of the affected soil.

WELL DESTRUCTION ACTIVITIES

A former irrigation well (well number 4S/1W-33D002) was identified on the site by ACWD in their letter dated October 6, 2014[12]. The well has apparently been paved over with asphalt, and ACWD has requested that the well be decommissioned prior to site redevelopment activities.

PES will attempt to locate the well at the time that utility clearance activities are conducted for the upcoming soil gas investigation slated for February 2, 2016. If these methods are not successful, then a survey of the subsurface may need to be conducted by a utility location or specialized geophysical subcontractor utilizing ground penetrating radar and more sophisticated metal detection equipment. Other techniques, such as removal of the asphalt and careful sequential scraping of thin lifts of soil from the area where the well is believed to be located may be necessary to uncover the well if the well cannot be found via the geophysical

[12] ACWD, 2015. *Water Well Located Within – PLN2015-00032, (State Street Mixed-Use Development), 39155 State St., ACWD No. 2013-0076, (ACWD Site# 0690), WC 2014-0101*. October 6.

techniques. Once the well has been located, the diameter and well casing construction will be verified. ACWD believes that the well is constructed with a steel casing, and extends to a depth of 115 feet below grade.

Prior to conducting well decommissioning activities, PES will: (1) prepare and submit the well destruction application to ACWD and pay the associated permit fees; (2) contact Underground Service Alert at least 48 hours prior to the scheduled drilling time to schedule inspections by public and private utility companies; and (3) retain a California-licensed well driller to perform the well destructions.

The irrigation well will be decommissioned in accordance with applicable State of California (California Well Standards Bulletins 74-81[13] and 74-90[14]) and ACWD regulations. PES will observe and oversee the driller's activities and document the well destruction. It is anticipated that ACWD will allow destruction of the monitoring wells using pressure grouting, as described below.

Prior to well grouting, the well will be cleaned to the original depth. All undesirable materials and obstructions that can interfere with well destruction will be removed, and the depth of the well will be verified. Once the depth has been verified, the well casing will be ripped or perforated near the surface to prevent surface water intrusion and in aquitards between aquifers to prevent interconnection of the aquifers. ACWD will instruct the driller which depth intervals require perforation based on the total well depth confirmed in the field. The well casing shall be ripped or perforated with a minimum 3/8-inch Mills Knife perforator. Once the well has been cleaned and perforated, the well will be destroyed by pressure grouting via emplacement of cement grout in the well under direct air pressure, from the bottom of the well casing to the top of casing using the tremie method. The ground surface will be completed to match the surrounding surface. Drilling spoils, if any, that are generated during the destruction of the wells will be added to existing soil stockpiles at the site for future off-site disposal, and water displaced from the well casing, if any, will be placed in the Baker tank at the site for subsequent discharge to the sanitary sewer (under permit).

In accordance with California Department of Water Resources (DWR) regulations, PES will prepare a *Well Completion Report* form for the destroyed well and submit a completed form to DWR.

[13] California Department of Water Resources (DWR), 1981. *Water Well Standards: State of California, Bulletin 74-81*. December.
[14] DWR, 1991. *California Well Standards, Bulletin 74-90 (Supplement to Bulletin 74-81)*. June.

IMPLEMENTATION REPORTING

The results of the excavation activities will be presented in an implementation report. As requested by the ACEH for all future submittals, the implementation report will include the following: (1) cross sections that show residual contamination proposed to remain at the site; (2) previous development layouts; (3) an added column to tables that indicate sample depths relative to building foundation elevation; and (4) a Gantt Chart that summarizes project timelines and goals. The purpose of the report is to describe excavation activities and to document compliance with this Work Plan. The report will provide the following information:

- A summary of removal activities and description and bases for deviations, if any, from this Work Plan;
- Limits of excavation and quantity of contaminated soil excavated;
- Results of the excavation verification sampling;
- Copies of waste manifest forms, laboratory reports, and chain-of-custody forms; and
- Recommendations, as appropriate.

The report will be presented to the ACEH for review and approval of the project.

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,

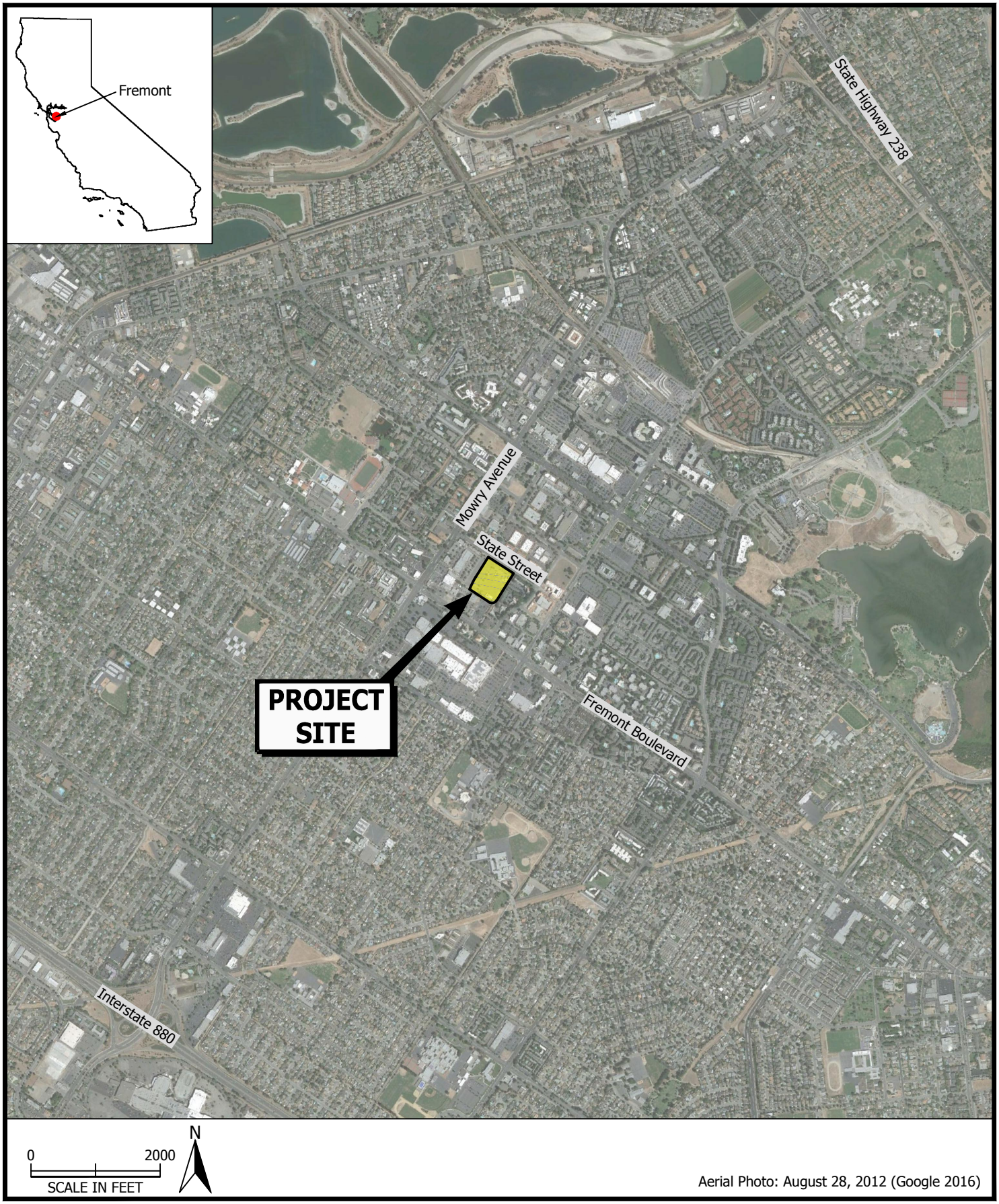
PES ENVIRONMENTAL, INC.

Justin J. Patterson
Senior Environmental Scientist

Carl J. Michelsen, P.G., C.HG.
Principal Geochemist

Attachments: Plate 1 – Site Location and Vicinity
Plate 2 – Planned Area of Excavation

ATTACHMENTS



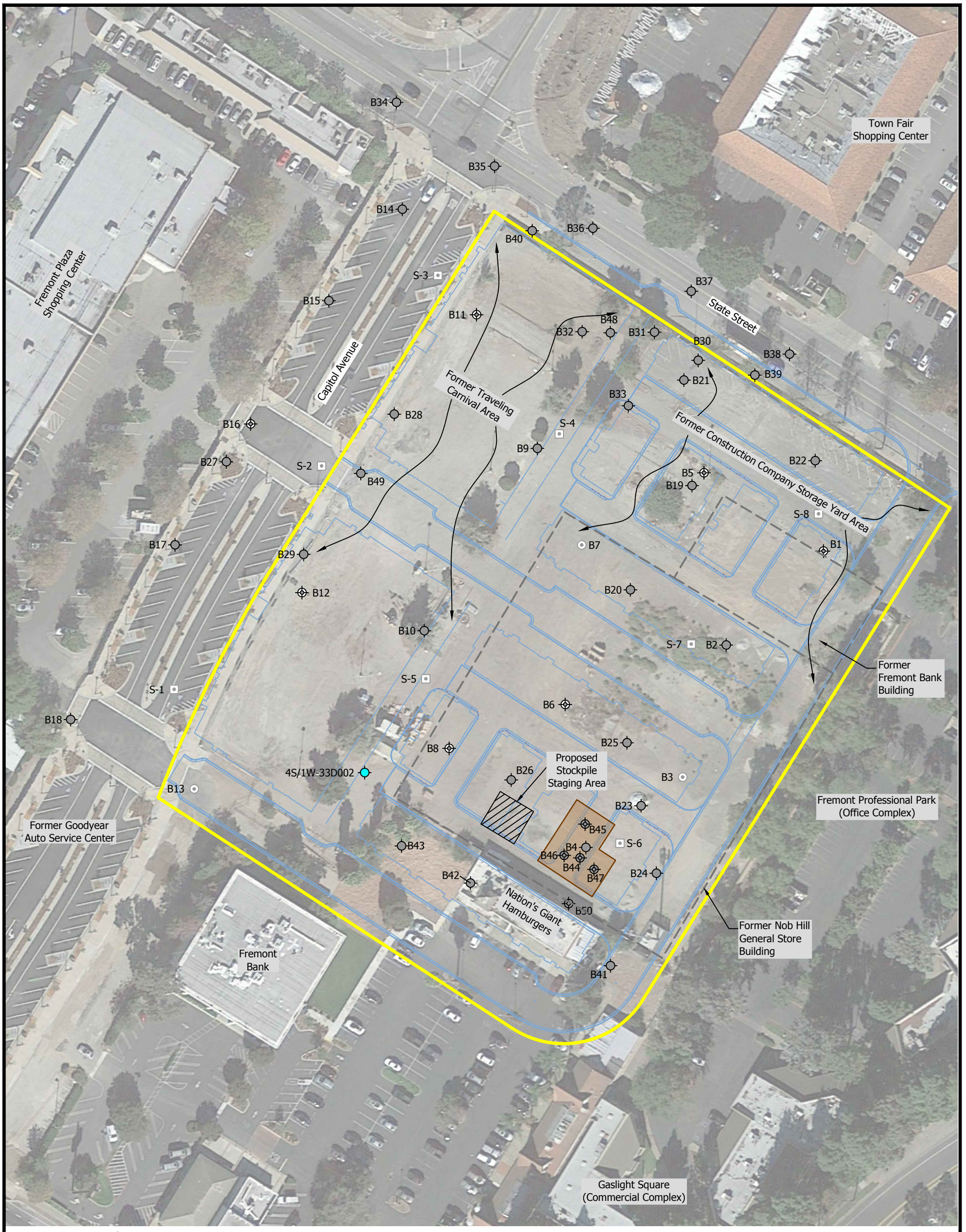
Aerial Photo: August 28, 2012 (Google 2016)

PES Environmental, Inc.
Engineering & Environmental Services

Site Location and Vicinity
Workplan for Soil Excavation
and Well Destruction
39155 and 39183 State Street
Fremont, California

PLATE
1

220.003.03.001	22000303001_SMP_1	JJP	1/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Proposed Development Plan
- Approximate Former Building Location
- B17 — Soil Vapor Sampling Location (PES)
- B6 — Soil Vapor and Soil Sampling Location (PES)
- B13 — Soil Sampling Location (PES)
- S-1 — Soil Sampling Location (ENGEO)
- 4S/1W-33D002 — Approximate Location of Irrigation Well
- Planned Area of Excavation

0 80
SCALE IN FEET

N

Aerial Photo: October 30, 2015 (Google 2016)

PES Environmental, Inc.
Engineering & Environmental Services

Planned Area of Excavation
Workplan for Soil Excavation
and Well Destruction
39155 and 39183 State Street
Fremont, California

PLATE
2

220.003.03.001	22000303001_SMP_2	JJP	1/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE