CITY OF Fremont

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By Alameda County Environmental Health 8:28 am, Mar 25, 2016

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

Transmittal
Report of Results, Supplemental Soil Vapor Investigation
39155 and 39183 State Street, Fremont, CA

Dear Mr. Detterman:

Submitted herewith for your review is the *Report of Results, Supplemental Soil Vapor Investigation, 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

MEMORANDUM

To: Ms. Denise Cunningham
Fremont State Street Center LLC

From: Justin J. Patterson
Carl J. Michelsen, P.G., C.HG.
PES Environmental, Inc.

Date: March 15, 2016

Subject: Report of Results
Supplemental Soil Vapor Investigation
39155 and 39183 State Street, Fremont, California

Project No.: 220.003.02.001

This memorandum presents the results of supplemental soil vapor testing conducted at the largely vacant property located at 39155 and 39183 State Street in Fremont, California (the subject property or site; see Plate 1). 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 Hamburgers) with associated parking and landscaping areas (Plate 2). The site consists of approximately 5.3 acres. The supplemental soil vapor investigation was conducted on behalf of Fremont State Street Center LLC (FSSC), who plan 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].

We understand redevelopment plans for the site include grading and soil excavation for utilities and construction of a mixed residential/retail project with 157 residential dwelling units and approximately 21,000 square feet of retail area. Approximately 50 percent of the residences will be on-grade townhomes, the rest are podium townhomes and flats.

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

Prior subsurface investigations identified the volatile organic compound (VOC) tetrachloroethylene (PCE) in soil vapor samples collected on the site at locations adjacent to and within State Street[2]. The soil vapor appears to be the result of discharges of PCE into the sanitary sewer and/or storm drain by a prior dry cleaning establishment, Norge Cleaners, located to the northwest at 39067 State Street within the adjacent Fremont Plaza Shopping Center (Plate 2).

In a memorandum dated April 17, 2015, PES discussed the source of the PCE release[3]. The memorandum identified that Norge Cleaners operated a nearby dry cleaning business beginning in 1969 and ending in 1996 (27 years) and used and stored PCE during operations. Previously, it was common practice to dispose of PCE-containing waste to the sewer. Consequently, it is possible that the PCE release occurred throughout the timeframe of Norge Cleaner's operations; however, no specific dates of release have been established at this time.

The sewer lateral at the former Norge Cleaners drains to State Street. Based on a video survey of the sewer line within State Street, it was established that there are tree roots in the pipe joints, and there is an apparent sag at the location were elevated PCE concentrations were identified in soil vapor samples collected within State Street. These defects represent a preferential pathway for PCE laden wastewaters to have migrated from the sewer pipe at some point in the past into the sewer backfill and surrounding native soils. Disposal of PCE wastewater at Norge Cleaners and leakage from the sewer represents the best explanation for the presence of elevated PCE concentrations in soil vapor samples collected within State Street and on the subject property. As documented in the letter from the Alameda County Water District (ACWD) to the current property owner, the City of Fremont, the site is not considered by the ACWD to be the source of the contamination[4].

At a November 19, 2015 meeting with the Alameda County Department of Environmental Health (ACEH; the lead agency for the subject property), 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.

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[2] PES Environmental, Inc. (PES), 2015. *Report of Results, Subsurface Investigation, 39155 and 39183 State Street, Fremont, California*. February 12.

[3] PES, 2015. *Source of VOCs in Soil Vapor, 39155 and 39183 State Street, Fremont, California*. April 14.

[4] Alameda County Water District (ACWD), 2015. *Contamination Detected at 39144 and 39183 State Street, Fremont (ACWD Site #690)*. May 13.

Based on the planned redevelopment of the subject property, and in response to the ACEH request, PES developed a work plan to conduct additional sampling within the State Street right of way, along the northeast property boundary, and within the footprint of planned elevators on the northwestern portion of the site, dated December 15, 2015[5]. The work plan was conditionally approved by ACEH on January 14, 2016[6].

A separate work plan has been prepared by PES and submitted to ACEH for approval, to address excavation and removal of elevated concentrations of benzene in soil vapor and related concrete debris on the southern portion of the site and to outline procedures to locate and destroy water well number 4S/1W-33D002[7].

The objectives of the current investigation were as follows: (1) to further evaluate the temporal changes, if any, in soil vapor concentrations in the vicinity of the sewer line that runs down the center of State Street and along the northeastern property boundary; (2) to collect soil vapor data from within the planned footprints of elevators in the two commercial retail/residential buildings; and (3) establish baseline conditions prior to development. In addition, PES attempted to locate the water well so it could be properly destroyed prior to redevelopment activities.

SCOPE OF WORK

This supplemental soil vapor investigation was conducted on February 2 and 3, 2016 and included completing 10 borings (B51 through B60) for soil vapor sample collection. The approximate locations of the borings are shown on Plate 2. The pre-field activities, sampling methods, analytical testing methods, and analytical results are discussed below. Drilling and sampling activities were conducted under the direction of a California-registered geologist.

Field Preparation Activities

PES prepared and submitted borehole drilling permit applications to the ACWD. A copy of the drilling permit is included as Attachment A to this report. As required by ACEH and ACWD, a workplan for the soil and soil vapor sampling was submitted to both agencies for approval. As mentioned previously, comments on the workplan were received from ACEH

[5] PES, 2015. *Work Plan for Supplemental Soil Vapor Investigation, 39155 and 39183 State Street, Fremont, California*. December 15.

[6] Alameda County Environmental Health (ACEH), 2016. *Conditional Work Plan Approval; Site Cleanup Program Case No. R00003176 and Geotracker Global ID T10000007102, Fremont Plaza Shopping Center, 39155 and 39183 State Street, Fremont, CA, 94538*. January 14.

[7] PES, 2016. *Work Plan for Soil Excavation and Well Destruction, 39155 and 39183 State Street, Fremont, California*. January 29.

and the workplan was conditionally approved prior to the investigation. In addition, ACWD was notified prior to beginning drilling activities so that an inspector could be present for grouting activities.

PES contacted Underground Service Alert at least 48 hours prior to the start of drilling activities. C. Cruz Sub-Surface Locators, Inc. (C. Cruz) of Milpitas, California, a private utility locating company, was retained to clear each boring location for subsurface utilities or other features. Additionally, PES coordinated with TEG – Northern California, Inc. (TEG) of Rancho Cordova, California, a licensed drilling contractor possessing a valid C-57 California water well contractor's license, to schedule the drilling, sampling, and mobile laboratory services. The existing site-specific Health and Safety Plan was revised prior to the investigation. Several borings were advanced along State Street and in the sidewalk adjacent to the site. Accordingly, PES contacted the City of Fremont, and was able to renew the encroachment permit used during a prior investigation in 2015. In addition, PES retained a traffic control subcontractor to perform flagging and lane closure services.

Well Location Activities

A former water well (well number 4S/1W-33D002) was identified by ACWD as being located on the site in their letter dated October 6, 2014[8]. The well has apparently been paved over with asphalt, and ACWD requested that the well be decommissioned prior to site redevelopment activities. The ACWD letter includes a well location map that reportedly shows the approximate location of the well on the southwestern portion of the site. The map indicates that the location of the well has not been "field verified."

PES obtained a copy of the Well Completion Report (WCR) for well 4S/1W-33D002 from the Department of Water Resources. A copy of the WCR is included as Attachment B. The WCR information is limited to a well log that is largely blank. The log shows the soil lithology to a depth of 118 feet, the drilling method is listed as "boring," and the driller is listed as "Nunes." No other information is included. Based on the WCR's naming of the well, the well is located within the 40-acre "D" tract which is located in the northwest corner of Section 33, of Township 4S/Range 1W. The WCR provides no information regarding the specific location of the well within the 40-acre tract.

[8] 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.

PES reviewed available historical documents provided by Environmental Data Resources, Inc. (EDR) of Shelton, Connecticut for the subject property. Available historical records indicate that the site was originally developed as cultivated farmland from at least 1939 through 1966. The site was redeveloped in 1966 with a 62,000 square foot building (drugstore) and associated asphalt-paved parking lot throughout the remainder of the property. A review of the aerial photos from the years 1939, 1946, 1948, and 1966 showed no indication of an irrigation well located on the subject property.

During the recent sampling event, PES attempted to locate the well at the time the utility clearance activities were conducted (February 2 and 3, 2016). C. Cruz conducted an extensive search utilizing metal detection equipment in an area roughly 50 feet by 50 feet centered at the reported location of the well as indicated on the well location map provided by ACWD. A single subsurface anomaly was identified on February 2, 2016. A hole was excavated using hand tools to a depth of approximately 8-inches below grade at this location (the depth achievable with hand tools). No indications of the well were identified. During the second day of field work, the location was scanned again, and the subsurface anomaly was no longer identified. The metallic component that caused the previously identified anomaly must have been excavated and removed. No further subsurface anomalies were identified.

PES contacted Mr. Howard Salamanca, the well ordinance Supervisor for ACWD to discuss our findings. Mr. Salamanca did not require further actions by PES and agreed that sufficient due diligence activities were completed. He indicated that after further internal discussion it is likely that ACWD would follow up with a letter allowing water service to proceed and requiring the well to be destroyed, should it found during construction.

Sampling and Analytical Procedures

Under subcontract to PES, TEG utilized a truck-mounted direct-push drilling rig to advance the borings to depths ranging from 6 to 25 feet below ground surface (bgs). Six (6) borings were advanced in the vicinity of the sewer line, in the adjacent sidewalk, and along the northeastern property boundary. These samples were collected adjacent to prior boring locations with elevated PCE concentrations, and were collected at depths that coincide with the sampling depths of the prior borings and the depth of the sanitary sewer at the respective locations. Soil vapor borings B51 through B56 were each advanced approximately three feet northwest of the prior boring locations. In addition, four (4) soil vapor samples were collected in the western portion of the subject property within the footprint of planned elevators. The soil vapor samples were collected at a depth of 25 feet below grade (i.e., 5 feet below the proposed future elevator sump bottom elevation).

Soil vapor sampling was performed in accordance with the most current guidance document: *Advisory - Active Soil Gas Investigations* (*Advisory*), published by the California Environmental Protection Agency (Department of Toxic Substances Control [DTSC], California Regional Water Quality Control Board – Los Angeles Region, and RWQCB – San Francisco Region), dated July 2015. Prior to sampling, PES verified that no significant rainfall event (of greater than 0.5 inches, as described in the *Advisory*) had occurred within a 5–day period of the soil vapor sampling event.

Soil vapor samples were collected by installing a 1-inch diameter, hollow, stainless-steel soil vapor probe to the required sampling depth. The probes were equipped with a hardened, reverse-threaded steel tip. The probe was driven using the hydraulic direct-push rig. A hydrated bentonite seal was placed around the rods to minimize the potential for ambient air entering the sample. Upon reaching the desired depth, a continuous length of inert 1/4-inch outer diameter polypropylene Nylaflow® tubing was inserted down the center of the probe and threaded onto the sampling port. The probe was then raised approximately 4 inches to expose the soil vapor sampling ports.

To allow for the subsurface to equilibrate to representative conditions following probe placement with the direct-push method, the soil vapor sampling was conducted after a two-hour equilibration period.

Leak testing was conducted during the collection of soil vapor samples to evaluate the integrity of the sample and the potential for atmospheric leakage of ambient air. Leak testing was performed using a gaseous leak check compound, 1,1-Difluoroethane (1,1-DFA), utilizing a shroud in accordance with Section 4.2.2.2 and Appendix C of the *Advisory*. As shown on Table 1, 1,1-DFA was not detected above the laboratory reporting limit (10,000 micrograms per cubic meter [$\mu g/m^3$]) in any of the samples. In addition, an under-shroud leak check concentration is collected once per day to confirm that the leak check concentrations exceed the 10,000,000 $\mu g/m^3$ threshold set by TEG. As such, the leak check compound detection limit (10,000 $\mu g/m^3$) for the samples is well below 5% of the shroud concentration (500,000 $\mu g/m^3$), the maximum acceptable leakage value recommended in the *Advisory*. In other words, there is no indication of leakage during sampling and the sample results are considered valid.

After reaching the specified sampling depth and installing the soil gas sampling equipment as described above, soil vapor was withdrawn from the inert tubing using a syringe connected via a three-way valve. The purge volumes of the sampling tubing and void within the bottom of the exposed portion of the soil gas probes were calculated. As per the July 2015 DTSC guidance, three purge volumes were removed before sampling.

Soil vapor samples were analyzed by TEG's on-site mobile laboratory (California-certified for the specified analyses) for VOCs by U.S. Environmental Protection Agency (EPA) Test Method 8260B. In addition, oxygen concentrations were measured by the mobile laboratory at each of the soil vapor borings utilizing a thermal conductivity detector.

To reduce the potential for cross-contamination between sampling locations, downhole drilling and sampling equipment were thoroughly cleaned prior to initiating work and between sampling locations. Sampling equipment was washed in a dilute Alconox (or equivalent) solution, rinsed with potable water, and final rinsed with distilled water between each sampling location. Direct-push drilling equipment was decontaminated with a high-pressure hot water wash between sampling locations. Upon completion of sampling activities, each borehole was grouted to the surface with neat cement in accordance with ACWD requirements and with the oversight of the ACWD.

ANALYTICAL RESULTS

A copy of the laboratory analytical report is presented as Attachment C. The analytical results for the soil vapor samples are summarized in Table 1. For completeness, the prior soil vapor testing results are also provided, including soil sample analytical results summarized on Table 2 and Table 3.

As indicated on Table 1, several VOCs were identified during this soil vapor investigation. However, only PCE and chloroform were detected above the newly published Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) Tier 1 environmental screening levels (ESLs) for soil gas in a residential land use setting[9]. As requested by ACEH, a column has been added to the table that lists the approximate sample depth relative to the future building foundation elevation, where applicable.

To further evaluate the data, a site-specific vapor intrusion screening level (e.g., Tier 2 screening levels) for chloroform and PCE (220 $\mu g/m^3$ and 1,260 $\mu g/m^3$, respectively) were calculated for the residential land use scenario based on the observed subsurface soil conditions (clay soils) and using the Department of Toxic Substances Control (DTSC) vapor intrusion model.[10]

[9] RWQCB, 2016. Tier 1 ESLs. February. http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml.

[10] DTSC, 2014. Department of Toxic Substance Control, Vapor Intrusion Screening Model - Soil Gas. December. The default soil type was adjusted to reflect the site-specific soil type (clay) that is present within the top 5 feet of the site.

The concentration of PCE in each of the samples on the northeastern portion of the site and within State Street and the adjacent sidewalk were approximately the same or less than the prior sample results. The maximum concentration of PCE detected in the soil vapor samples collected within State Street adjacent to the sewer line, and on the northeastern portion of the site was 15,000 $\mu g/m^3$ in boring B52. This value is less than what was previously identified in the adjacent boring B38 (23,000 $\mu g/m^3$). In addition, PCE was previously identified in boring B21 (located within the footprint of the future residential buildings closest to State Street) at a concentration of 8,500 $\mu g/m^3$. The concentration of PCE identified in boring B56 (adjacent to boring B21) was 1,300 $\mu g/m^3$.

As shown on Table 1, PCE and chloroform were identified in two of the four samples collected on the western portion of the subject property within the footprint of planned elevators. The maximum concentrations of PCE and chloroform identified on the northwest portion of the site at a depth of 25 feet bgs was 570 $\mu g/m^3$ and 190 $\mu g/m^3$, respectively. These concentrations are below their respective site-specific vapor intrusion screening levels.

Oxygen concentrations measured in the ten soil gas samples collected from borings B51 through B60, ranged from 9.2 to 20 percent oxygen by volume. As mentioned previously, TEG utilized the leak check compound 1,1-DFA during the investigation. The leak check compound was not detected at or above the laboratory reporting limit in any samples collected during the investigation.

As requested by ACEH, cross sections have been prepared to depict residual contamination, if any, proposed to remain at the site after redevelopment activities. The cross sections are provided in Attachment D.

DISCUSSION OF RESULTS AND CONCLUSIONS

Based on the results of the investigation described herein, the concentration of PCE in soil vapor in the vicinity of the sewer line that runs down the center of State Street and along the northeastern property boundary are either approximately the same or less than prior sample results. These results establish a baseline condition prior to development and indicate that concentrations of PCE remain approximately the same or have decreased over time. Concentrations of PCE and chloroform identified in the soil vapor samples collected within the planned footprints of elevators in the two commercial retail/residential buildings are below the site-specific vapor intrusion screening levels. A plan for mitigating the potential vapor intrusion risk due to the remnant VOCs in soil gas is in preparation.

Attachments: Table 1 – Summary of Soil Vapor Analytical Results
Table 2 – Summary of Analytical Results for Soil – Metals and Pesticides
Table 3 – Summary of Analytical Results for Soil – VOCs and TPH
Plate 1 – Site Location and Vicinity
Plate 2 – Site Plan and Sample Locations
A – ACWD Drilling Permits
B – Well Completion Report
C – Laboratory Analytical Report
D – Cross Sections

TABLES

Table 1
Summary of Soil Vapor Analytical Results
39155 and 39183 State Street
Fremont, California

Sample Location	Date Sampled	Sample Number	Sample Depth (feet bgs)	Sample Depth (feet below future building foundation elevation)	Purge Volume	PCE (µg/m³)	Benzene (µg/m³)	Toluene (µg/m³)	Ethyl-benzene (µg/m³)	m,p-Xylene (µg/m³)	o-Xylene (µg/m³)	Freon 11 (µg/m³)	Freon 12 (µg/m³)	Chloroform (µg/m³)	1,1-DFA (µg/m³)	Percent Oxygen
On-Site																
B1	10/28/2014	B1-SV	5.0	4.6	3	< 100	< 80	< 200	< 100	< 200	< 100	< 100	< 100	< 100	< 10,000	--
B2	10/28/2014	B2-SV	5.0	4.4	3	< 100	< 80	< 200	< 100	< 200	< 100	**120**	**1,900**	< 100	< 10,000	--
B4	10/27/2014	B4-SV	5.0	3.3 e	1	< 100	**320**	**1800**	< 100	**360**	**140**	< 100	**1,700**	**160**	< 10,000	--
				3.3 e	3	< 100	**480**	**1500**	**160**	**520**	**190**	< 100	**2,300**	**160**	< 10,000	--
				3.3 e	5	< 100	**510**	**780**	**230**	**690**	**260**	< 100	**2,100**	< 100	< 10,000	--
B5	10/27/2014	B5-SV	5.0	4.7	3	**300**	< 80	< 200	< 100	< 200	< 100	< 100	**1,000**	< 100	< 10,000	--
B6	10/28/2014	B6-SV	5.0	5.7	3	< 100	**97**	< 200	< 100	< 200	< 100	< 100	**240**	< 100	< 10,000	--
B8	10/27/2014	B8-SV	5.0	3.6	3	< 100	< 80	< 200	< 100	< 200	< 100	**1,600**	**6,400**	< 100	< 10,000	--
B9	10/28/2014	B9-SV	5.0	-7.0 f	3	< 100	< 80	< 200	< 100	< 200	< 100	**110**	< 100	< 100	< 10,000	--
B10	10/28/2014	B10-SV	5.0	-6.8 f	3	< 100	< 80	< 200	< 100	< 200	< 100	**370**	**1,400**	< 100	< 10,000	--
B11	10/28/2014	B11-SV	5.0	-6.4 f	3	< 100	< 80	< 200	< 100	< 200	< 100	< 100	**410**	< 100	< 10,000	--
B12	10/28/2014	B12-SV	5.0	-7.0 f	3	< 100	< 80	< 200	< 100	< 200	< 100	**1,100**	**4,100**	< 100	< 10,000	--
B14	10/28/2014	B14-SV	5.0	NA	3	< 100	< 80	< 200	< 100	< 200	< 100	< 100	**390**	< 100	< 10,000	--
B15	10/28/2014	B15-SV	5.0	NA	3	< 100	< 80	< 200	< 100	**420**	**150**	< 100	**1,800**	< 100	< 10,000	--
B16	10/28/2014	B16-SV	5.0	NA	3	**550**	< 80	< 200	< 100	< 200	< 100	**160**	**2,300**	< 100	< 10,000	--
B17	10/28/2014	B17-SV	5.0	NA	3	< 100	< 80	< 200	**220**	**1100**	**350**	**460**	**1,900**	< 100	< 10,000	--
B18	10/28/2014	B18-SV	5.0	NA	3	< 100	< 80	< 200	< 100	< 200	< 100	< 100	**210**	< 100	< 10,000	--
B19	12/10/2014	B19-SV	10.0	9.7	3	**330**	< 80	< 200	< 100	< 200	< 100	< 100	**1,500**	< 100	< 10,000	--
B20	12/10/2014	B20-SV	5.0	4.8	3	< 100	< 80	< 200	< 100	< 200	< 100	**320**	**3,200**	< 100	< 10,000	--
B21	12/10/2014	B21-SV	5.0	5.3	3	**8,500**	< 80	< 200	< 100	< 200	< 100	**150**	**2,000**	< 100	< 10,000	--
B22	12/10/2014	B22-SV	5.0	5.6	3	**110**	< 80	**210**	< 100	< 200	< 100	< 100	**400**	< 100	< 10,000	--
B23	12/10/2014	B23-SV	10.0	9.1 e	3	< 100	< 80	< 200	< 100	< 200	< 100	**590**	**2,400**	< 100	< 10,000	--
B24	12/10/2014	B24-SV	5.0	NA	3	< 100	< 80	< 200	< 100	< 200	< 100	**730**	**1,600**	< 100	< 10,000	--
B25	12/10/2014	B25-SV	5.0	5.4	3	< 100	< 80	< 200	< 100	< 200	< 100	**480**	**2,900**	< 100	< 10,000	--
B26	12/10/2014	B26-SV	5.0	3.2	3	< 100	< 80	< 200	< 100	< 200	< 100	**2,300**	**4,800**	< 100	< 10,000	--
B27	12/10/2014	B27-SV	10.0	NA	3	**430**	< 80	< 200	< 100	< 200	< 100	**230**	**3,900**	< 100	< 10,000	--
B28	12/10/2014	B28-SV	5.0	-6.9 f	3	< 100	< 80	< 200	< 100	< 200	< 100	**220**	**4,800**	< 100	< 10,000	--
B29	12/10/2014	B29-SV	5.0	-6.8 f	3	< 100	< 80	< 200	< 100	< 200	< 100	**290**	**2,300**	< 100	< 10,000	--
B30	1/30/2015	B30-SV	5.0	5.3	3	**1,700**	< 80	< 200	< 100	< 200	< 100	< 100	**1,400**	< 100	< 10,000	--
B31	1/30/2015	B31-SV	5.0	NA	3	**640**	< 80	< 200	< 100	< 200	< 100	< 100	**1,200**	< 100	< 10,000	--
B32	1/30/2015	B32-SV	5.0	-6.7 f	3	< 100	< 80	< 200	< 100	< 200	< 100	< 100	**410**	< 100	< 10,000	--
B33	1/30/2015	B33-SV	5.0	5.0	3	< 100	< 80	< 200	< 100	< 200	< 100	< 100	< 100	< 100	< 10,000	--
B41	9/21/2015	B41-SV	5.0	NA	3	< 100	< 80	< 200	**280**	**1200**	**340**	< 100	< 100	< 100	< 10,000	--
B42	9/21/2015	B42-SV	5.0	4.5	3	< 100	< 80	< 200	**110**	**410**	< 100	< 100	< 100	< 100	< 10,000	--
B43	9/21/2015	B43-SV	5.0	3.6	3	< 100	< 80	< 200	**120**	**420**	**100**	< 100	< 100	< 100	< 10,000	--
B44	9/21/2015	B44-SV	5.0	3.3 e	3	< 100	< 80	< 200	< 100	< 200	< 100	< 100	< 100	< 100	< 10,000	**21**
B45	9/21/2015	B45-SV	5.0	3.2 e	3	< 100	**88**	< 200	**130**	**270**	**140**	**240**	**2,700**	< 100	< 10,000	**21**
B46	9/21/2015	B46-SV	5.0	3.2 e	3	< 100	**91**	< 200	< 100	< 200	< 100	**1,400**	**1,000**	< 100	< 10,000	**14**
B47	9/21/2015	B47-SV	5.0	3.4	3	< 100	**710**	**400**	< 100	**260**	**100**	**200**	**330**	< 100	< 10,000	**15**
B48	9/21/2015	B48-SV	13.0	1.4 f	3	**150**	< 80	< 200	< 100	< 200	< 100	< 100	**1,000**	< 100	< 10,000	--
B48-dup	9/21/2015	B48-SV	13.0	1.4 f	3	**200**	< 80	< 200	< 100	< 200	< 100	**130**	**1,200**	< 100	< 10,000	--
B49	9/21/2015	B49-SV	13.0	NA	3	< 100	< 80	< 200	< 100	< 200	< 100	**460**	**3,200**	< 100	< 10,000	--
B50	9/21/2015	B50-SV	10.0	8.8 e	3	< 100	< 80	< 200	< 100	< 200	< 100	**690**	**420**	< 100	< 10,000	**21**
B55	2/2/2016	B55-SV	5.0	5.3	3	**1,100**	< 80	< 200	< 100	< 200	< 100	< 100	**200**	< 100	< 10,000	**19**
B56	2/2/2016	B56-SV	5.0	5.3	3	**1,300**	< 80	< 200	< 100	< 200	< 100	< 100	**120**	< 100	< 10,000	**20**
B57	2/2/2016	B57-SV	25.0	5.0 p	3	< 100	< 80	< 200	< 100	< 200	< 100	**110**	**240**	< 100	< 10,000	**9.2**
B58	2/2/2016	B58-SV	25.0	5.0 p	3	< 100	< 80	< 200	< 100	< 200	< 100	**830**	**3,000**	< 100	< 10,000	**11**
B59	2/3/2016	B59-SV	25.0	5.0 p	3	**140**	< 80	< 200	< 100	< 200	< 100	**120**	**1,700**	**190**	< 10,000	**10**
B59-dup	2/4/2016	B59-SV	25.0	5.0 p	3	**140**	< 80	< 200	< 100	< 200	< 100	**120**	**1,700**	**180**	< 10,000	**11**
B60	2/3/2016	B60-SV	25.0	5.0 p	3	**570**	< 80	< 200	< 100	< 200	< 100	< 100	**970**	**160**	< 10,000	**9.4**
Off-Site																
B34	1/30/2015	B34-SV	9.0	NA	3	**680**	< 80	< 200	< 100	< 200	< 100	< 100	< 100	< 100	< 10,000	--
B35	1/30/2015	B35-SV	9.0	NA	3	**350**	< 80	< 200	< 100	< 200	< 100	< 100	< 100	< 100	< 10,000	--
B36	1/30/2015	B36-SV	9.0	NA	3	**700**	< 80	< 200	< 100	< 200	< 100	< 100	**130**	< 100	< 10,000	--
B37	1/30/2015	B37-SV	9.0	NA	3	**5,000**	< 80	< 200	< 100	< 200	< 100	< 100	**470**	< 100	< 10,000	--
B38	1/30/2015	B38-SV	9.0	NA	3	**23,000**	< 80	< 200	< 100	< 200	< 100	< 100	**170**	< 100	< 10,000	--
B39	1/30/2015	B39-SV	6.0	NA	3	**2,900**	< 80	< 200	< 100	< 200	< 100	< 100	**100**	< 100	< 10,000	--
B40	1/30/2015	B40-SV	8.75	NA	3	**220**	< 80	< 200	< 100	< 200	< 100	< 100	**230**	< 100	< 10,000	--
B51	2/2/2016	B51-SV	6.0	NA	3	**3,400**	< 80	< 200	< 100	< 200	< 100	< 100	**130**	< 100	< 10,000	**14**
B51-dup	2/3/2016	B51-SV	6.0	NA	3	**2,900**	< 80	< 200	< 100	< 200	< 100	< 100	**120**	< 100	< 10,000	**13**
B52	2/2/2016	B52-SV	9.0	NA	3	**15,000**	< 80	< 200	< 100	< 200	< 100	< 100	**110**	< 100	< 10,000	**18**
B53	2/2/2016	B53-SV	9.0	NA	3	**4,600**	< 80	< 200	< 100	< 200	< 100	< 100	**290**	< 100	< 10,000	**17**
B54	2/2/2016	B54-SV	9.0	NA	3	**670**	< 80	< 200	< 100	< 200	< 100	< 100	< 100	< 100	< 10,000	**17**
Site-Specific Vapor Intrusion Screening Level for Residential Land Use (DTSC, 2014) [1]						1,260	160	NC	NC	NC	NC	NC	NC	220	NC	NE
Residential land use ESL [2]						240	48	160,000	560	52,000	52,000	NE	NE	61	NE	NE
Commercial/Industrial land use ESL [2]						2,100	420	1,300,000	4,900	440,000	440,000	NE	NE	530	NE	NE

Notes:

Detections are shown in bold.

Results equal to or exceeding site-specific vapor intrusion screening level for residential land use (benzene, chloroform, and PCE only) or residential ESL (all other compounds and off-site samples) are shaded. For samples collected at and in the vicinity of B4, the standard residential ESL was used for comparison because the soils in this area are not clay rich and use of the site-specific screening level is not appropriate.

feet bgs: feet below ground surface.

µg/m³: micrograms per cubic meter.

PCE: Tetrachloroethene.

Freon 11: Trichlorofluoromethane.

Freon 12: Dichlorodifluoromethane.

1,1-DFA: 1,1-Difluoroethane (Leak Check Compound)

e: Sample boring lies outside of a planned building footprint, depth is estimated based on proposed depth of foundation for future adjacent building.

f: Proposed building foundation elevation is unknown, sample depth is relative to proposed finished floor elevation.

p: Sample depth relative to proposed elevator sump bottom elevation

A negative sample depth indicates that the sample was collected above the future building foundation elevation, and will be excavated during construction.

< 100: not detected at or above the indicated laboratory reporting limit.

1. DTSC, 2014. Department of Toxic Substance Control, Vapor Intrusion Screening Model - Soil Gas. December. Default soil type adjusted to reflect site-specific soil type (clay) in top 5 feet at site.
2. ESL = February 2016 Regional Water Quality Control Board, San Francisco Bay Region (SFRWQCB) Environmental Screening Levels (ESLs), Tier 1 Vapor Summary, Subslab/Soil Gas Vapor Intrusion: Human Health Risk Screening Levels (Table SG-1), Residential and Commercial/Industrial Exposure.

--: Not Analyzed

NA: Not Applicable

NE: Not established.

NC: Not calculated

Table 2
Summary of Analytical Results for Soil - Metals & Pesticides
39155 and 39183 State Street
Fremont, California

Sample Location	Sample Identification	Sample Depth (Feet bgs)	Sample Depth (feet below building foundation elevation)	Date Collected	Metals		Pesticides						
					Arsenic (mg/Kg)	Lead (mg/Kg)	Endrin (µg/Kg)	DDD (µg/Kg)	DDE (µg/Kg)	DDT (µg/Kg)	Dieldrin (µg/Kg)	Heptachlor epoxide (µg/Kg)	alpha-Chlordane (µg/Kg)
B1	B1-1.0-2.0	1.0-2.0	0.6	10/27/2014	**5.3**	**5.1**	< 3.3	< 3.3	< 3.3	< 3.3	< 1.7	< 1.7	< 1.7
	B1-3.0-4.0	3.0-4.0	2.6	10/27/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
B3	B3-1.0-2.0	1.0-2.0	0.7	10/27/2014	**5.8**	**8.9**	**24 C**	**94 #**	**650**	**22**	< 1.7	< 1.7	**7.0**
	B3-3.0-4.0	3.0-4.0	2.7	10/27/2014	NA	NA	< 3.3	< 3.3	**28 #**	**18 #**	< 1.7	**1.8**	< 1.7
B5	B5-1.0-2.0	1.0-2.0	0.7	10/27/2014	**5.3**	**5.3**	< 3.3	< 3.3	< 3.3	< 3.3	< 1.7	< 1.7	< 1.7
	B5-3.0-4.0	3.0-4.0	2.7	10/27/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
B6	B6-1.0-2.0	1.0-2.0	1.7	10/28/2014	**8.2**	**13**	**48**	**86 #**	**430**	**89**	**2.1 C #**	< 1.8	**4.9**
	B6-3.0-4.0	3.0-4.0	3.7	10/28/2014	NA	NA	< 3.3	< 3.3	< 3.3	< 3.3	< 1.7	< 1.7	< 1.7
B7	B7-1.0-2.0	1.0-2.0	0.8	10/28/2014	**7.3**	**9.7**	**24 C**	**61 #**	**320**	**75**	< 1.7	< 1.7	< 1.7
	B7-3.0-4.0	3.0-4.0	2.8	10/28/2014	NA	NA	< 3.3	< 3.3	< 3.3	< 3.3	< 1.7	< 1.7	< 1.7
B8	B8-1.0-2.0	1.0-2.0	-0.4	10/28/2014	**7.8**	**10**	**37**	**87 #**	**850 C**	**27**	**3.5 C #**	< 1.7	**9.6**
	B8-3.0-4.0	3.0-4.0	1.6	10/28/2014	NA	NA	< 8.5	< 8.5	**260 #**	**19 #**	**9.3 #**	< 17	< 17
B11	B11-1.0-2.0	1.0-2.0	-8.5 f	10/29/2014	**4.3**	**5.3**	**27 C**	**6.1 C #**	**670 C**	**130**	< 1.7	< 1.7	**5.4**
	B11-3.0-4.0	3.0-4.0	-10.5 f	10/29/2014	NA	NA	< 3.3	< 3.3	< 3.3	< 3.3	< 1.7	< 1.7	< 1.7
B12	B12-1.0-2.0	1.0-2.0	-9.0 f	10/29/2014	**4.3**	**7.7**	< 33	< 33	**460**	**100**	< 17	< 17	< 17
	B12-3.0-4.0	3.0-4.0	-11.0 f	10/29/2014	NA	NA	< 3.3	< 3.3	< 3.3	< 3.3	< 1.7	< 1.7	< 1.7
B13	B13-1.0-2.0	1.0-2.0	NA	10/29/2014	**5.6**	**11**	< 17	< 17	**54**	< 17	< 17	< 17	< 8.5
	B13-3.0-4.0	3.0-4.0	NA	10/29/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
B16	B16-1.0-2.0	1.0-2.0	NA	10/29/2014	**4.7**	**5.3**	< 3.3	< 3.3	**21**	**7.7**	< 1.7	< 1.7	< 1.7
	B16-3.0-4.0	3.0-4.0	NA	10/29/2014	NA	NA	NA	NA	NA	NA	NA	NA	NA
Soil Tier 1 ESL [1]					0.067	80	0.65	2,700	1,900	1,900	0.17	0.42	480
Residential shallow soil ESL [2]					0.067	80	21,000	2,700	1,900	1,900	38	67	480
Commercial/Industrial shallow soil ESL [2]					0.31	320	290,000	12,000	8,500	8,500	170	300	2,200
Background Concentration [3]					11 [5]	11.43 [6]	NE	NE	NE	NE	NE	NE	NE
TTLC values [4]					500	1,000	200	1,000	1,000	1,000	8,000	4.7	2,500

Notes:

Detections are shown in bold.

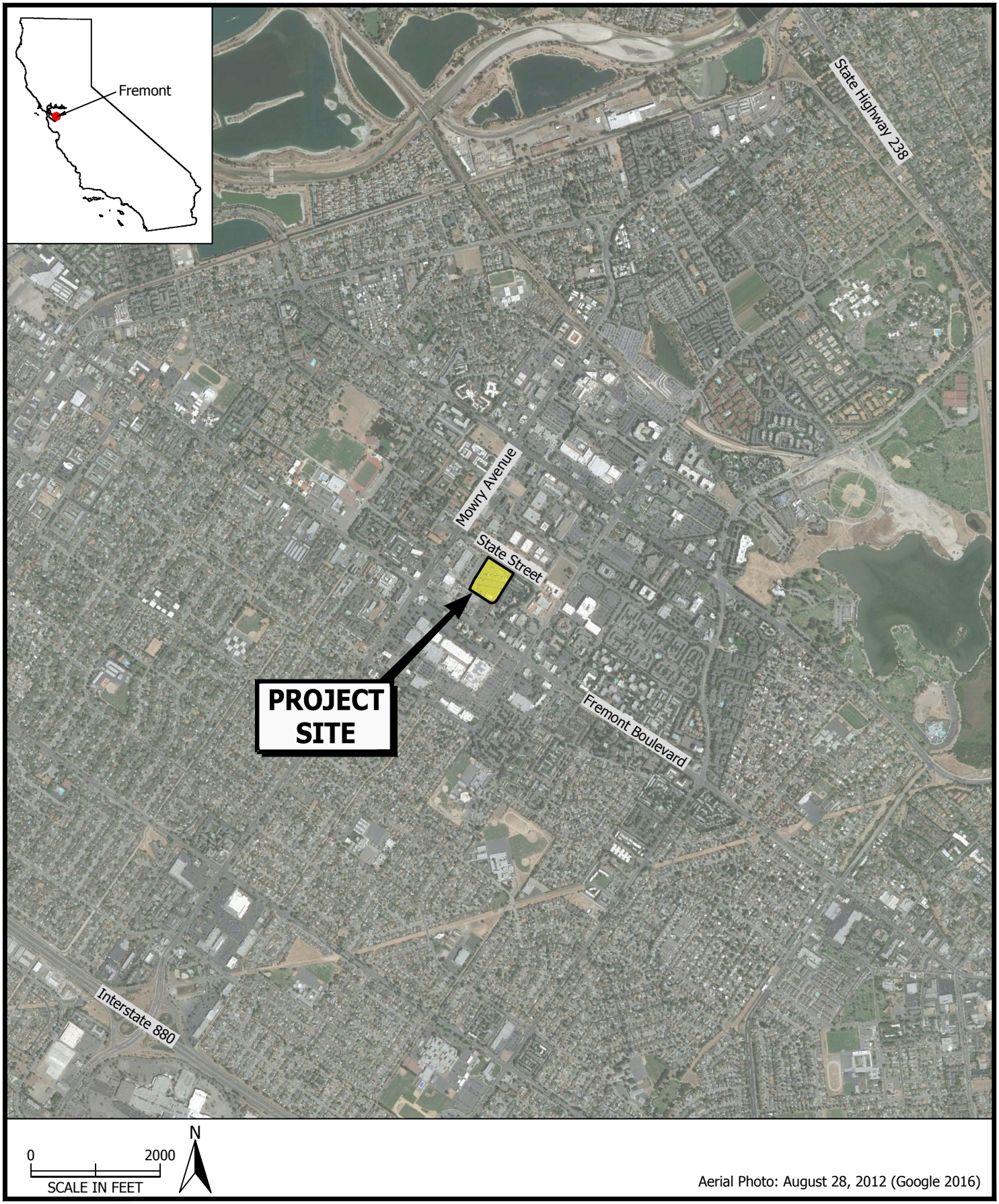
Results equal to or exceeding residential ESL and/or background concentrations are shaded.
Total Metals by U.S. EPA Test Methods 6010B and 7471A.
Pesticides by U.S. EPA Test Methods 8081A.
Feet bgs: Feet below ground surface.
DDD: dichlorodiphenyldichloroethane
DDE: dichlorodiphenyldichloroethylene
DDT: dichlorodiphenyltrichloroethane
mg/Kg: Milligrams per Kilogram.
µg/Kg: Micrograms per Kilogram.
e: Sample boring lies outside of a planned building footprint, depth is estimated based on proposed depth of foundation for future adjacent building.
f: Proposed building foundation elevation is unknown, sample depth is relative to proposed finished floor elevation.
A negative sample depth indicates that the sample was collected above the future building foundation elevation, and will be excavated during construction.
< 3.3 : Not detected at or above the specified laboratory reporting limit.
Only metals and pesticides detected in one or more soil sample are presented on this table.
NA: Not Analyzed.
C: Presence confirmed, but RPD between columns exceeds 40%.
#: CCV drift outside limits; average CCV drifts within limits per method requirements.
1. Soil Tier 1 ESL = February 2016 Regional Water Quality Control Board, San Francisco Bay Region (SFRWQCB) Environmental Screening Levels (ESLs).
2. ESL = February 2016 Regional Water Quality Control Board, San Francisco Bay Region (SFRWQCB) Environmental Screening Levels (ESLs), Shallow Soil Exposure Scenario (Lowest of Tables S-1 and S-4), Residential and Commercial/Industrial Exposure.
3. Dylan Durengé, 2011. Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region. December.
4. Christina Scott, 1991. Background Metal Concentrations in Soils in Northern Santa Clara County, California. December.
TTLC: Total Threshold Limit Concentration
NA: Not Applicable

Table 3
Summary of Analytical Results for Soil - VOCs & TPH
39155 and 39183 State Street
Fremont, California

Sample Location	Sample Identification	Sample Depth (Feet bgs)	Sample Depth (feet below building foundation elevation)	Date Collected	VOCs	Total Petroleum Hydrocarbons			
					Acetone (µg/Kg)	TPH-d (mg/Kg)	TPH-d* (mg/Kg)	TPH-mo (mg/Kg)	TPH-mo* (mg/Kg)
B1	B1-1.0-2.0	1.0-2.0	0.6	10/27/2014	< 16	NA	NA	NA	NA
	B1-3.0-4.0	3.0-4.0	2.6	10/27/2014	NA	NA	NA	NA	NA
B3	B3-1.0-2.0	1.0-2.0	0.7	10/27/2014	**14**	NA	NA	NA	NA
	B3-3.0-4.0	3.0-4.0	2.7	10/27/2014	NA	NA	NA	NA	NA
B5	B5-1.0-2.0	1.0-2.0	0.7	10/27/2014	< 14	NA	NA	NA	NA
	B5-3.0-4.0	3.0-4.0	2.7	10/27/2014	< 18	NA	NA	NA	NA
B6	B6-1.0-2.0	1.0-2.0	1.7	10/28/2014	< 16	NA	NA	NA	NA
	B6-3.0-4.0	3.0-4.0	3.7	10/28/2014	< 13	NA	NA	NA	NA
B7	B7-1.0-2.0	1.0-2.0	0.8	10/28/2014	< 13	NA	NA	NA	NA
	B7-3.0-4.0	3.0-4.0	2.8	10/28/2014	NA	NA	NA	NA	NA
B8	B8-1.0-2.0	1.0-2.0	-0.4	10/28/2014	< 15	NA	NA	NA	NA
	B8-3.0-4.0	3.0-4.0	1.6	10/28/2014	NA	NA	NA	NA	NA
B11	B11-1.0-2.0	1.0-2.0	-8.5 f	10/29/2014	< 14	NA	NA	NA	NA
	B11-3.0-4.0	3.0-4.0	-10.5 f	10/29/2014	NA	NA	NA	NA	NA
B12	B12-1.0-2.0	1.0-2.0	-9.0 f	10/29/2014	< 14	NA	NA	NA	NA
	B12-3.0-4.0	3.0-4.0	-11.0 f	10/29/2014	NA	NA	NA	NA	NA
B13	B13-1.0-2.0	1.0-2.0	NA	10/29/2014	< 18	NA	NA	NA	NA
	B13-3.0-4.0	3.0-4.0	NA	10/29/2014	NA	NA	NA	NA	NA
B16	B16-1.0-2.0	1.0-2.0	NA	10/29/2014	< 15	NA	NA	NA	NA
	B16-3.0-4.0	3.0-4.0	NA	10/29/2014	< 16	NA	NA	NA	NA
B44	B44S-1.0-2.0	1.0-2.0	-0.7 e	9/21/2015	**130**	**190**	**140**	**1,200**	**850**
	B44S-3.0-4.0	3.0-4.0	-1.3 e	9/21/2015	< 46	**49**	**42**	**140**	**130**
B45	B45S-1.0-2.0	1.0-2.0	0.8 e	9/21/2015	< 35	**25**	**18**	**130**	**100**
	B45S-3.0-4.0	3.0-4.0	1.2 e	9/21/2015	< 45	**30**	**23**	**94**	**72**
B46	B46S-1.0-2.0	1.0-2.0	0.8 e	9/21/2015	< 46	**48**	**41**	**190**	**170**
	B46S-3.0-4.0	3.0-4.0	1.2 e	9/21/2015	< 39	**59**	**47**	**180**	**150**
B47	B47S-1.5-2.5	1.5-2.5	0.6	9/21/2015	< 44	**170**	**130**	**1,400**	**840**
	B47S-3.5-4.5	3.5-4.5	1.4	9/21/2015	< 38	**43**	**31**	**140**	**110**
B50	B50S-9.0-10.0	9.0-10.0	7.8	9/21/2015	< 40	**1.5**	< 0.99	< 49	< 49
				Soil Tier 1 ESL (1)	500	240	240	100	100
				Residential shallow soil ESL (2)	500,000	240	240	100	100
				Commercial/Industrial shallow soil ESL (2)	1,000,000	1,000	1,000	500	500

Notes:
Detections are shown in bold.
Results equal to or exceeding residential ESL are shaded.
VOCs: Volatile organic compounds by U.S. EPA Test Method 8260B.
TPH-d: Total petroleum hydrocarbons quantified as diesel.
TPH-mo: Total petroleum hydrocarbons quantified as motor oil.
Feet bgs: Feet below ground surface.
*** =** Analysis performed with silica gel cleanup
µg/Kg: Micrograms per Kilogram.
e: Sample boring lies outside of a planned building footprint, depth is estimated based on proposed depth of foundation for future adjacent building.
f: Proposed building foundation elevation is unknown, sample depth is relative to proposed finished floor elevation.
A negative sample depth indicates that the sample was collected above the future building foundation elevation, and will be excavated during construction.
< 16 : Not detected at or above the specified laboratory reporting limit.
NA : Not Analyzed.
Only VOCs detected in one or more soil sample are presented on this table. Total petroleum hydrocarbons quantified as gasoline were not detected above the laboratory reporting limit.
1. Soil Tier 1 ESL = February 2016 Regional Water Quality Control Board, San Francisco Bay Region (SFRWQCB) Environmental Screening Levels (ESLs).

PLATES

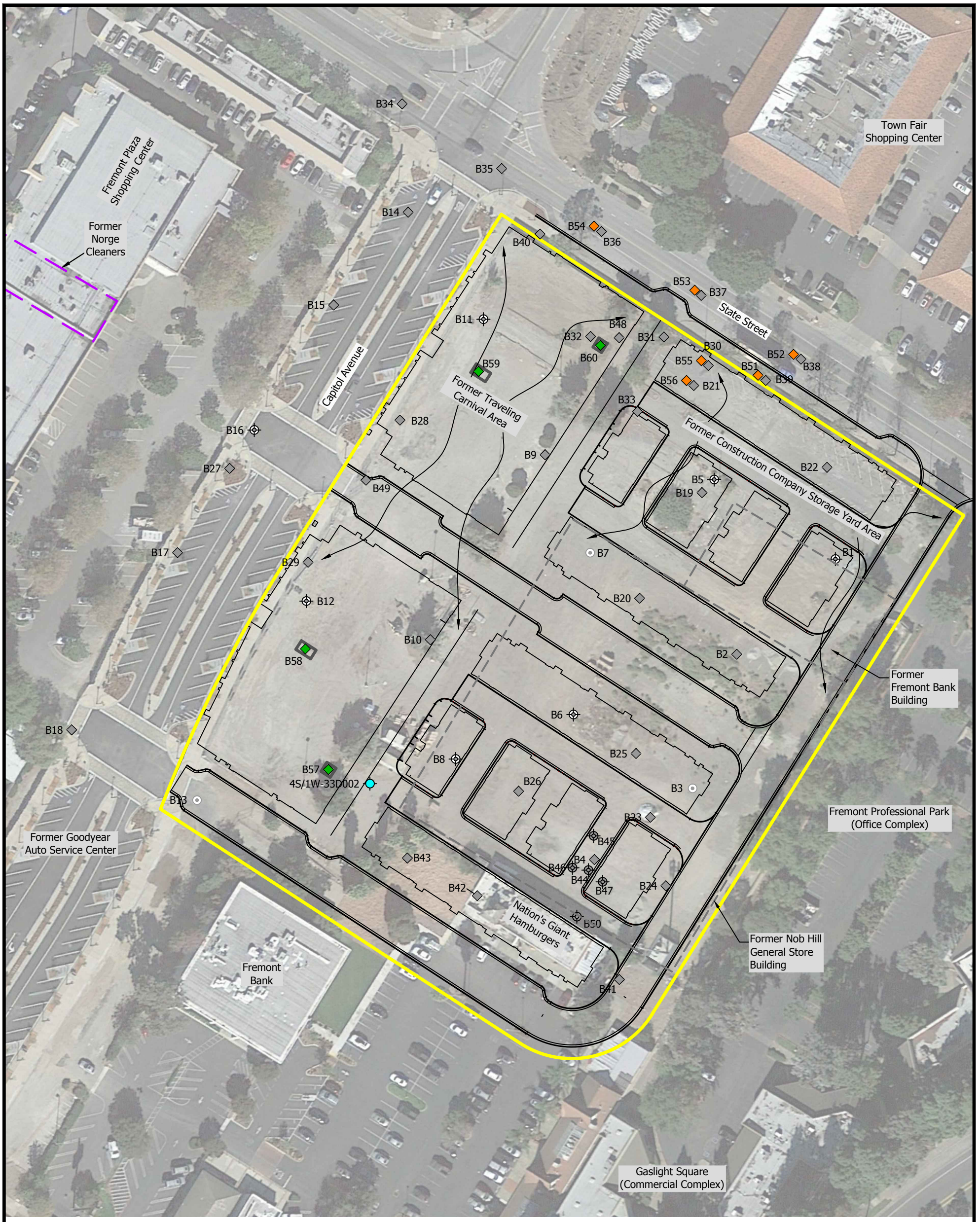


PES Environmental, Inc.
Engineering & Environmental Services

Site Location and Vicinity
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
1

220.003.03.003	22000303003_SSVI_1	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

- Approximate Property Boundary
- Proposed Development Plan
- Approximate Former Building Location
- 4S/1W-33D002 — Approximate Location of Irrigation Well

Prior Investigation

- B17 — Soil Vapor Sampling Location (PES)
- B6 — Soil Vapor and Soil Sampling Location (PES)
- B13 — Soil Sampling Location (PES)

Current Investigation

- B53 — Soil Vapor Sample Location
- B57 — Soil Vapor Sample Location within planned elevator pit

0 80 SCALE IN FEET

N

Aerial Photo: October 30, 2015 (Google 2016)

PES Environmental, Inc.
Engineering & Environmental Services

Site Plan and Sample Locations
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE 2

220.003.03.003	22000303003_SSVI_2	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

ATTACHMENT A

ACWD DRILLING PERMITS

ALAMEDA COUNTY WATER DISTRICT
43885 South Grimmer Blvd. • P.O. Box 5110
Fremont, CA 94537-5110
Permitting & Scheduling (510) 668-4460

APPLICATION FOR DRILLING PERMIT

ACWD ORDINANCE NO. 2010-01

Application Received Date: 12/17/15 By: PM | Permit Issued Date: 1/28/16 | Permit Expiration Date: 3/28/16 | Job No. 1450 | Permit No. 2016-0017 | Well No. N/A

JOB ADDRESS: 39155 and 39183 State Street, Fremont, CA 94537

PROPERTY OWNER
NAME: SummerHill Homes
ADDRESS: 3000 Executive Parkway, Suite 450, San Ramon, CA 94583
TELEPHONE: 925-244-7500

CONSULTING ENGINEER
NAME: Carl Michelsen - PES Environmental, Inc.
ADDRESS: 1682 Novato Boulevard, Suite 100, Novato, CA 94947
TELEPHONE: 415-899-1600 RG/CEG/RCE NO. PG 5172

DRILLING CONTRACTOR
NAME: TEG - Northern California
ADDRESS: 11350 Monier Park, Rancho Cardova, CA 95742
E-MAIL ADDRESS: henry@tegncal.com
TELEPHONE: 916-853-8010 STATE LIC. NO. 706568

When properly signed

THIS APPLICATION IS A VALID PERMIT

to perform only work described below at the given job address, in accordance with ACWD Ordinance No. 2010-01 and all other applicable laws and regulations. Discontinuation of work may result in revocation of permit. ***Permittee must schedule the work in advance with ACWD.*** *ACWD's approval of drawings, designs, specifications, work plans, reports or incidental work and materials shall not relieve the permittee of responsibility for the technical adequacy of the work. Except for special circumstances, all work to be inspected must be performed within ACWD work hours – 7:00 a.m. to 4:30 p.m., Monday through Friday.*

PLEASE CHECK TYPE OF PROPOSED WORK

Each well or other excavation requires a separate permit application form unless otherwise indicated. Only one specific type of work can be checked per permit application.

WELLS	EXPLORATORY HOLES	OTHER EXCAVATIONS
☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION	☒ CONSTRUCT./DESTRUCT.	☐ CONSTRUCTION ☐ REPAIR ☐ DESTRUCTION
☐ Water Well	*Multiple exploratory holes of the same type may be grouped together on the same permit application form.*	☐ Cathodic Protection Well ☐ Inclinometer
Monitoring Well:		☐ Vibrating Wire Piezometer ☐ Elevator Shaft
☐ Chemical Investigation		*Multiple other excavations of the same type may be grouped together on the same permit application form for the following:*
☐ Injection Well (for Chemical Cleanup)	☐ Chemical Investigation	
☐ Geotechnical Investigation	☐ Injection Boreholes	☐ Cleanup Site Excavation(s) ☐ Wick Drains
☐ Geothermal Heat Exchange Well	☒ Soil Vapor Sampling	☐ Shaft, Tunnel, or Directional Borehole (s) ☐ Support Piers, Piles, or Caissons
☐ Dewatering Well *(Multiple dewatering wells may be grouped together on the same permit application form)*	☐ Geotechnical Investigation	
Quantity:	Quantity: 10	☐ Other: Quantity:

DESCRIPTION OF PROPOSED WORK:
Using a direct-push drilling rig, advance 10 borings to depths of 5 ~~or 10~~ to 8 and 13 feet below grade to collect soil vapor samples.

TOTAL ESTIMATED COST $

PERMIT CONDITIONS:
Exploratory Boreholes to be backfilled from bottom of borehole to surface with neat cement.

FEES: ☒ Private ☐ City ☐ Governmental Agency

GUARANTEE OF PERFORMANCE: ☐ Cash Deposit ☐ Bond

REFUND: Amount $ Reason:

FEES/ DEPOSIT: Date Received 12/17/15 Estimated Amount $ 850-
Check No. 52498 Actual Amount $ 850-
Cash Difference $ 0

ACWD SITE NO. ~~1005~~ 690
APPROVED FOR SCHEDULING BY: SZ DATE: 1/20/2016 APPROVED BY: H. Solomon DATE: 1/28/16

I hereby agree to comply with all conditions of this permit in accordance with ACWD Ordinance No. 2010-01 and to furnish the District a completed copy of D.W.R. Drillers Report (form 188) within sixty (60) days after completion as well as any chemical testing results within thirty (30) days after completion.

Title: Principal Geochemist Signature: Carl J. Michelsen Date: December 16, 2015

Representing: PES Environmental, Inc. Name (printed): Carl Michelsen

ATTACHMENT B

WELL COMPLETION REPORT

STATE OF CALIFORNIA - CALIFORNIA NATURAL RESOURCES AGENCY
EDMUND G. BROWN JR., *Governor*

DEPARTMENT OF WATER RESOURCES
NORTH CENTRAL REGION OFFICE
3500 INDUSTRIAL BOULEVARD
WEST SACRAMENTO, CA 95691

February 9, 2016

Mr. Carl Michelsen
PES Environmental
1682 Novato Boulevard, Suite 100
Novato, CA 94947

Dear Mr. Michelsen:

In response to your request, enclosed is a copy of the Well Completion Report for the well for the following location:

39155 and 39183 State Street, Fremont, CA; Alameda County
WCR: 01-2536
The well was located using the following: State Well Number.

If you need additional information or have any questions, please contact Steven Reichmuth at (916) 376-9612 or fax (916) 376-9676.

Sincerely,

Jeremiah Shaffer

Jeremiah Shaffer, P.E., Chief
Groundwater Supply Assessment and
Special Studies Section

Enclosures

REGION

COUNTY

NEAR

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

BASIN

DWR No. 4S/1W-33D2 B & M

OTHER Nos.

WELL LOG

01-2536

LOCATION

OWNER [redacted] ADDRESS

DRILLED BY Nunes. ADDRESS

DRILLING METHOD Boring GRAVEL PACKED DATE COMPLETED

SIZE OF CASING DEPTH STRUCK WATER AT

PERFORATIONS SIZE No.

WATER LEVEL BEFORE PERFORATING AFTER

TEST DATA: DISCHARGE G. P. M. DRAWDOWN FT. HOURS RUN

OTHER DATA AVAILABLE: WATER LEVEL RECORD ANALYSIS

SURFACE ELEV. DATUM SOURCE OF INFORMATION

DEPTH	ELEV. OF BOTTOM OF STRATUM	MATERIAL	THICK-NESS	SP. YIELD %	
0 - 18		soil			
43		dry gravel			
50		clay			
69		gravel			
81		clay			
114		gravel			
118		clay			

FOR FIELD COPIES USE ALTERNATE LINES

LOG OBTAINED BY DATE SHEET 1 OF

FORM 263

ATTACHMENT C

LABORATORY ANALYTICAL REPORT

17 February 2016

Mr. Justin Patterson
PES Environmental, Inc.
1682 Novato Blvd., Suite 100
Novato, CA 94947

SUBJECT: DATA REPORT - PES Environmental, Inc. Project # 220.003.02.001
39155 State Street, Fremont, California

TEG Project # 60202F

Mr. Patterson:

Please find enclosed a data report for the samples analyzed from the above referenced project for PES Environmental. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 24 analyses on 12 soil vapor samples.

-- 12 analyses on soil vapors for selected volatile organic hydrocarbons by EPA method 8260B.

-- 12 analyses on soil vapors for oxygen by GC/TCD.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

TEG appreciates the opportunity to have provided analytical services to PES Environmental on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak
Director, TEG-Northern California

PES Environmental, Inc.
Project # 220.003.02.001
39155 State Street
Fremont, California

TEG Project #60202F

Analyses of SOIL VAPOR
Oxygen in percent by Volume

SAMPLE NUMBER	SAMPLE DEPTH (feet)	PURGE VOLUME	COLLECTION DATE	COLLECTION TIME	Oxygen %
Probe Blank			2/02/16	10:30	20
Probe Blank			2/05/16	10:50	21
B51	6.0	3	2/02/16	11:06	14
B51 dup	6.0	3	2/02/16	11:06	13
B52	9.0	3	2/02/16	12:14	18
B53	9.0	3	2/02/16	12:59	17
B54	9.0	3	2/02/16	13:26	17
B55	5.0	3	2/02/16	13:57	19
B56	5.0	3	2/02/16	14:27	20
B57	25.0	3	2/02/16	15:04	9.2
B58	25.0	3	2/02/16	15:11	11
B59	25.0	3	2/05/16	10:53	10
B59 dup	25.0	3	2/05/16	10:53	11
B60	25.0	3	2/05/16	11:49	9.4
				Reporting Limit:	1.0

'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Ms. Stephanie Clark

teg

PES Environmental, Inc.
Project # 220.003.02.001
39155 State Street
Fremont, California

TEG Project #60202F

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		Probe Blank	Probe Blank	B51	B51 dup	B52
SAMPLE DEPTH (feet):				6.0	6.0	9.0
PURGE VOLUME:				3	3	3
COLLECTION DATE:		2/02/16	2/05/16	2/02/16	2/02/16	2/02/16
COLLECTION TIME:		10:30	10:08	11:06	11:06	12:14
DILUTION FACTOR:	RL	1	1	1	1	1
Dichlorodifluoromethane	100	nd	nd	130	120	110
Vinyl Chloride	100	nd	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	nd
1,1-Dichloroethene	100	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd
Benzene	80	nd	nd	nd	nd	nd
Trichloroethene	100	nd	nd	nd	nd	nd
Toluene	200	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd
Tetrachloroethene	100	nd	nd	3400	2900	15000
Ethylbenzene	100	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		86%	87%	84%	85%	86%
Surrogate Recovery (Toluene-d8)		101%	98%	96%	92%	100%
Surrogate Recovery (1,4-BFB)		90%	82%	85%	82%	87%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Ms. Stephanie Clark

11350 Monier Park Place, Rancho Cordova, CA 95742 • Phone (916) 853-8010 • Fax (916) 853-8020

PES Environmental, Inc.
Project # 220.003.02.001
39155 State Street
Fremont, California

TEG Project #60202F

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		B53	B54	B55	B56	B57
SAMPLE DEPTH (feet):		9.0	9.0	5.0	5.0	25.0
PURGE VOLUME:		3	3	3	3	3
COLLECTION DATE:		2/02/16	2/02/16	2/02/16	2/02/16	2/02/16
COLLECTION TIME:		12:59	13:26	13:57	14:27	15:04
DILUTION FACTOR:		1	1	1	1	1
	RL					
Dichlorodifluoromethane	100	290	nd	200	120	240
Vinyl Chloride	100	nd	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd	nd
Trichlorofluoromethane	100	nd	nd	nd	nd	110
1,1-Dichloroethene	100	nd	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd	nd
Chloroform	100	nd	nd	nd	nd	nd
1,1,1-Trichloroethane	100	nd	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd	nd
Benzene	80	nd	nd	nd	nd	nd
Trichloroethene	100	nd	nd	nd	nd	nd
Toluene	200	nd	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd	nd
Tetrachloroethene	100	4600	670	1100	1300	nd
Ethylbenzene	100	nd	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		85%	83%	84%	87%	82%
Surrogate Recovery (Toluene-d8)		96%	97%	95%	94%	95%
Surrogate Recovery (1,4-BFB)		84%	85%	88%	91%	82%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Ms. Stephanie Clark

11350 Monier Park Place, Rancho Cordova, CA 95742 • Phone (916) 853-8010 • Fax (916) 853-8020

PES Environmental, Inc.
Project # 220.003.02.001
39155 State Street
Fremont, California

TEG Project #60202F

EPA Method 8260B VOC Analyses of SOIL VAPOR in micrograms per cubic meter of Vapor

SAMPLE NUMBER:		B58	B59	B59 dup	B60
SAMPLE DEPTH (feet):		25.0	25.0	25.0	25.0
PURGE VOLUME:		3	3	3	3
COLLECTION DATE:		2/02/16	2/05/16	2/05/16	2/05/16
COLLECTION TIME:		15:11	10:53	10:53	11:49
DILUTION FACTOR:	RL	1	1	1	1
Dichlorodifluoromethane	100	3000	1700	1700	970
Vinyl Chloride	100	nd	nd	nd	nd
Chloroethane	100	nd	nd	nd	nd
Trichlorofluoromethane	100	830	120	120	nd
1,1-Dichloroethene	100	nd	nd	nd	nd
1,1,2-Trichloro-trifluoroethane	100	nd	nd	nd	nd
Methylene Chloride	100	nd	nd	nd	nd
trans-1,2-Dichloroethene	100	nd	nd	nd	nd
1,1-Dichloroethane	100	nd	nd	nd	nd
cis-1,2-Dichloroethene	100	nd	nd	nd	nd
Chloroform	100	nd	190	180	160
1,1,1-Trichloroethane	100	nd	nd	nd	nd
Carbon Tetrachloride	100	nd	nd	nd	nd
1,2-Dichloroethane	100	nd	nd	nd	nd
Benzene	80	nd	nd	nd	nd
Trichloroethene	100	nd	nd	nd	nd
Toluene	200	nd	nd	nd	nd
1,1,2-Trichloroethane	100	nd	nd	nd	nd
Tetrachloroethene	100	nd	140	140	570
Ethylbenzene	100	nd	nd	nd	nd
1,1,1,2-Tetrachloroethane	100	nd	nd	nd	nd
m,p-Xylene	200	nd	nd	nd	nd
o-Xylene	100	nd	nd	nd	nd
1,1,2,2-Tetrachloroethane	100	nd	nd	nd	nd
1,1 Difluoroethane (leak check)	10000	nd	nd	nd	nd
Surrogate Recovery (DBFM)		88%	88%	88%	87%
Surrogate Recovery (Toluene-d8)		96%	99%	100%	94%
Surrogate Recovery (1,4-BFB)		84%	83%	86%	86%

'RL' Indicates reporting limit at a dilution factor of 1
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab
Analyses performed by: Ms. Stephanie Clark

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PES Environmental, Inc.
Project # 220.003.02.001
39155 State Street
Fremont, California

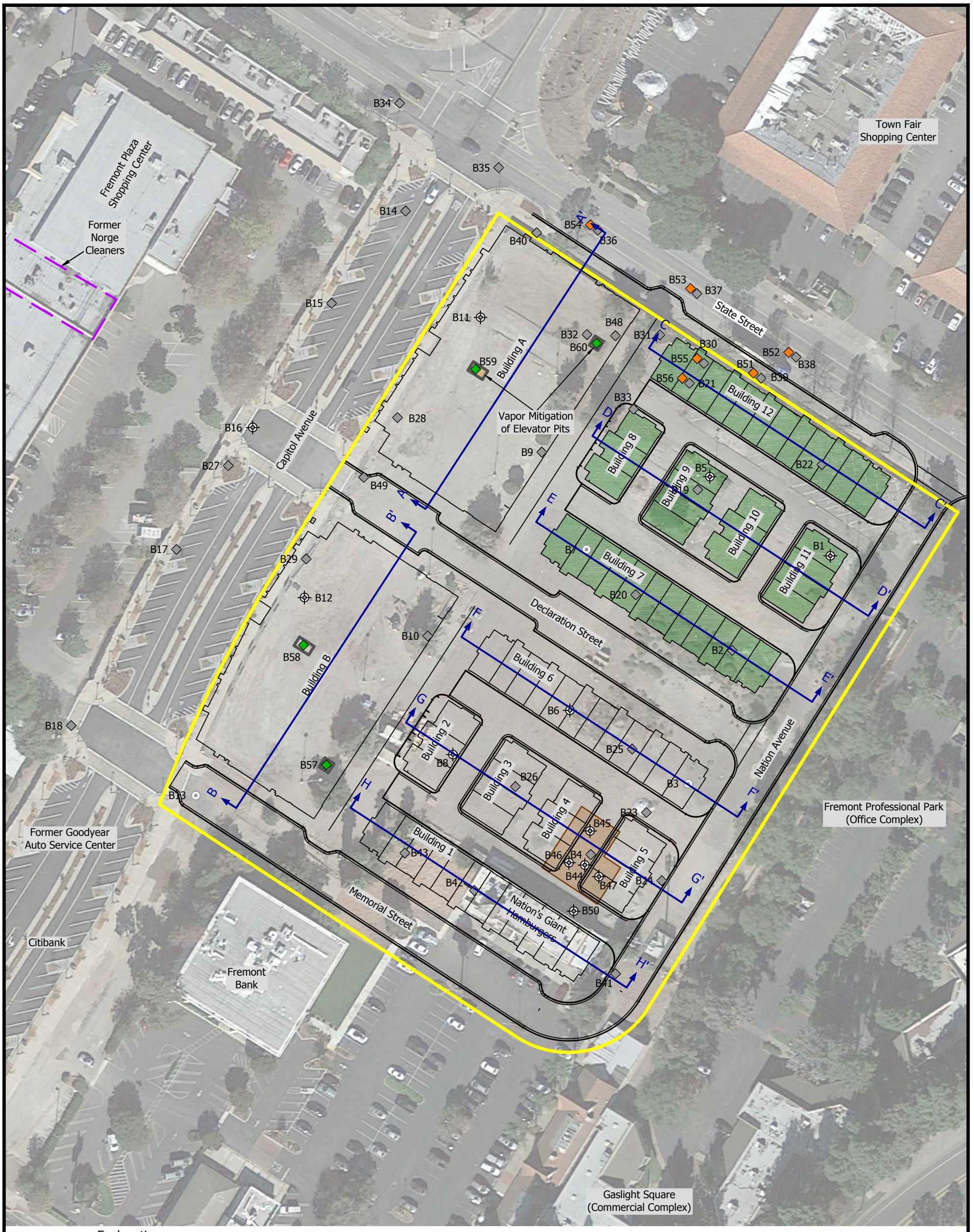
TEG Project #60202F

CALIBRATION DATA - Daily Calibration Check Compounds (GC/MS)

	Vinyl Chloride	1,1 DCE	Chloroform	1,2 DCP	Toluene	Ethylbenzene
Midpoint	10.0	10.0	10.0	10.0	10.0	10.0
Continuing Calibration - Midpoint						
2/02/16	8.7	8.3	10.0	10.2	9.9	9.5
	87%	83%	100%	102%	99%	95%
2/05/16	8.8	8.5	9.0	9.6	9.5	10.7
	88%	85%	90%	96%	95%	107%

ATTACHMENT D

CROSS SECTIONS



Explanation

- Approximate Property Boundary
- B17 — Soil Vapor Sampling Location (PES)
- B6 — Soil Vapor and Soil Sampling Location (PES)
- B13 — Soil Sampling Location (PES)
- B53 — Soil Vapor Sample Location
- B57 — Soil Vapor Sample Location within planned elevator pit
- A A' — Cross-Section Location (Arrows show direction of view)
- Planned Area of Excavation
- Vapor Mitigation Areas for Slab-On-Grade Townhomes
- Vapor Mitigation Areas for Below Grade Parking Elevator Pits

0 80
SCALE IN FEET

N

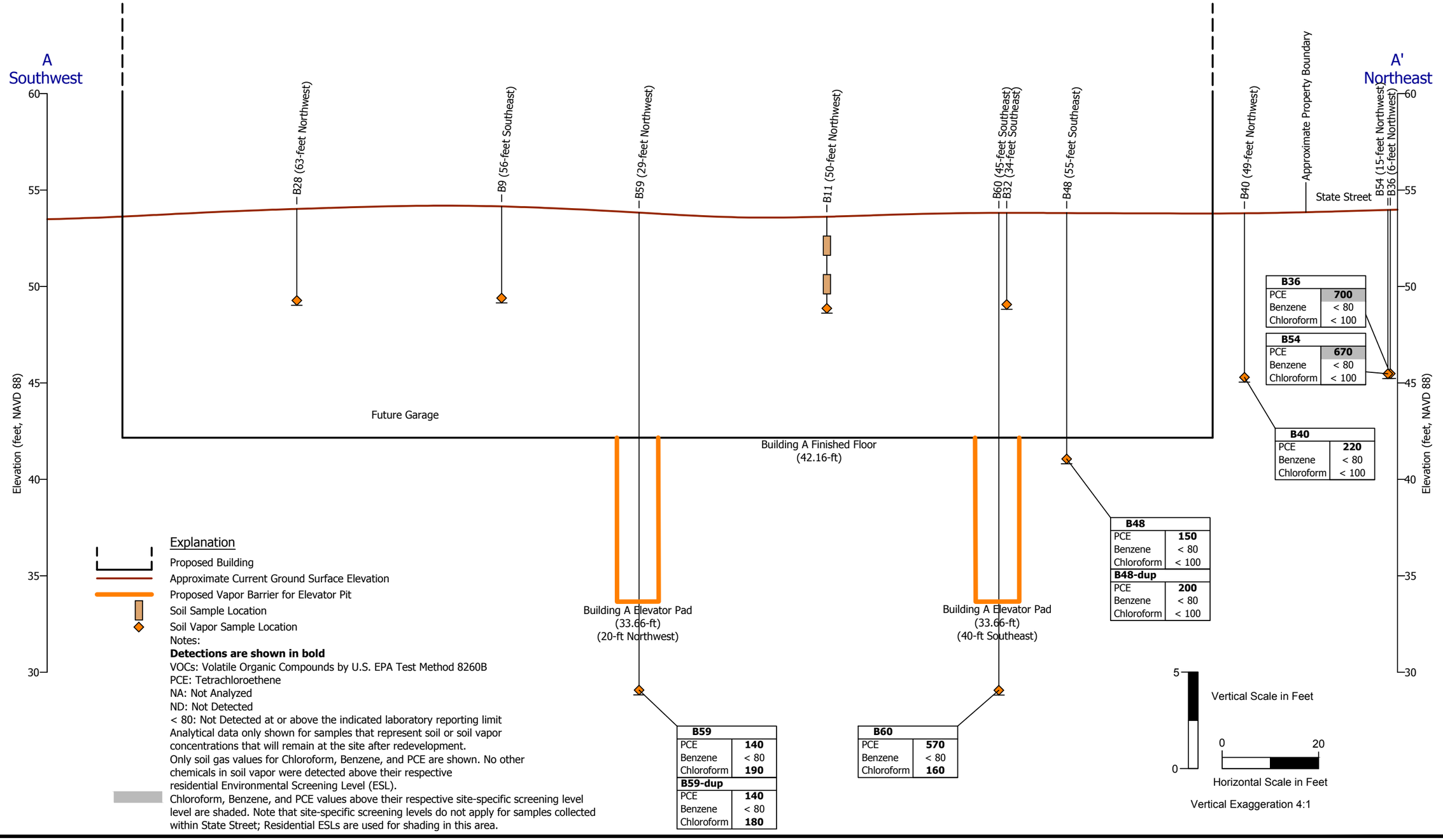
Aerial Photo: October 30, 2015 (Google 2016)

PES Environmental, Inc.
Engineering & Environmental Services

Site Plan and Cross Section Locations
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D1

220.003.03.003	22000303003_D1	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Explanation

Proposed Building

Approximate Current Ground Surface Elevation

Proposed Vapor Barrier for Elevator Pit

Soil Sample Location

Soil Vapor Sample Location

Notes:

Detections are shown in bold

VOCs: Volatile Organic Compounds by U.S. EPA Test Method 8260B

PCE: Tetrachloroethene

NA: Not Analyzed

ND: Not Detected

< 80: Not Detected at or above the indicated laboratory reporting limit

Analytical data only shown for samples that represent soil or soil vapor concentrations that will remain at the site after redevelopment.

Only soil gas values for Chloroform, Benzene, and PCE are shown. No other chemicals in soil vapor were detected above their respective residential Environmental Screening Level (ESL).

Chloroform, Benzene, and PCE values above their respective site-specific screening level level are shaded. Note that site-specific screening levels do not apply for samples collected within State Street; Residential ESLs are used for shading in this area.

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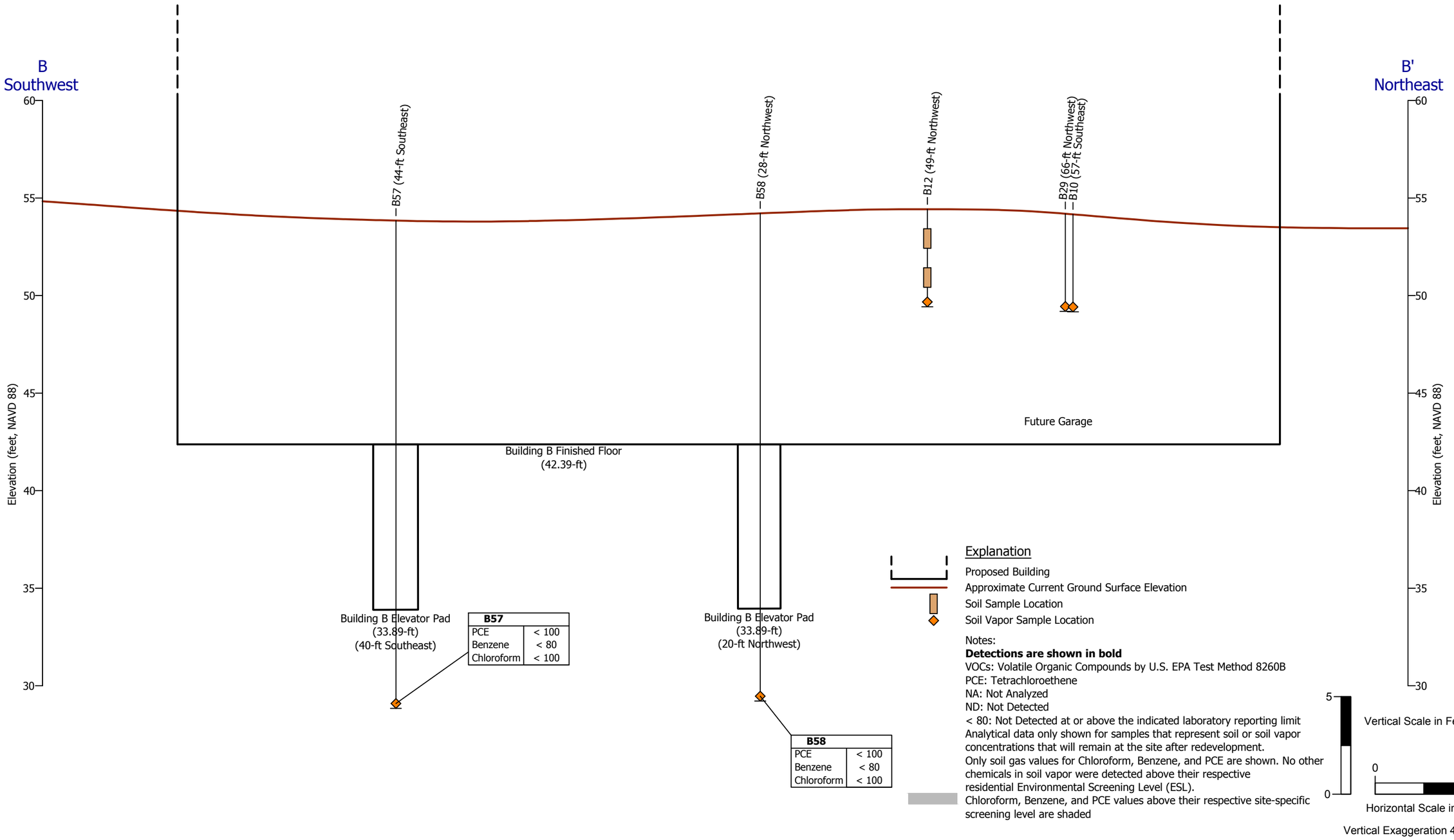
Cross Section A-A'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D2

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



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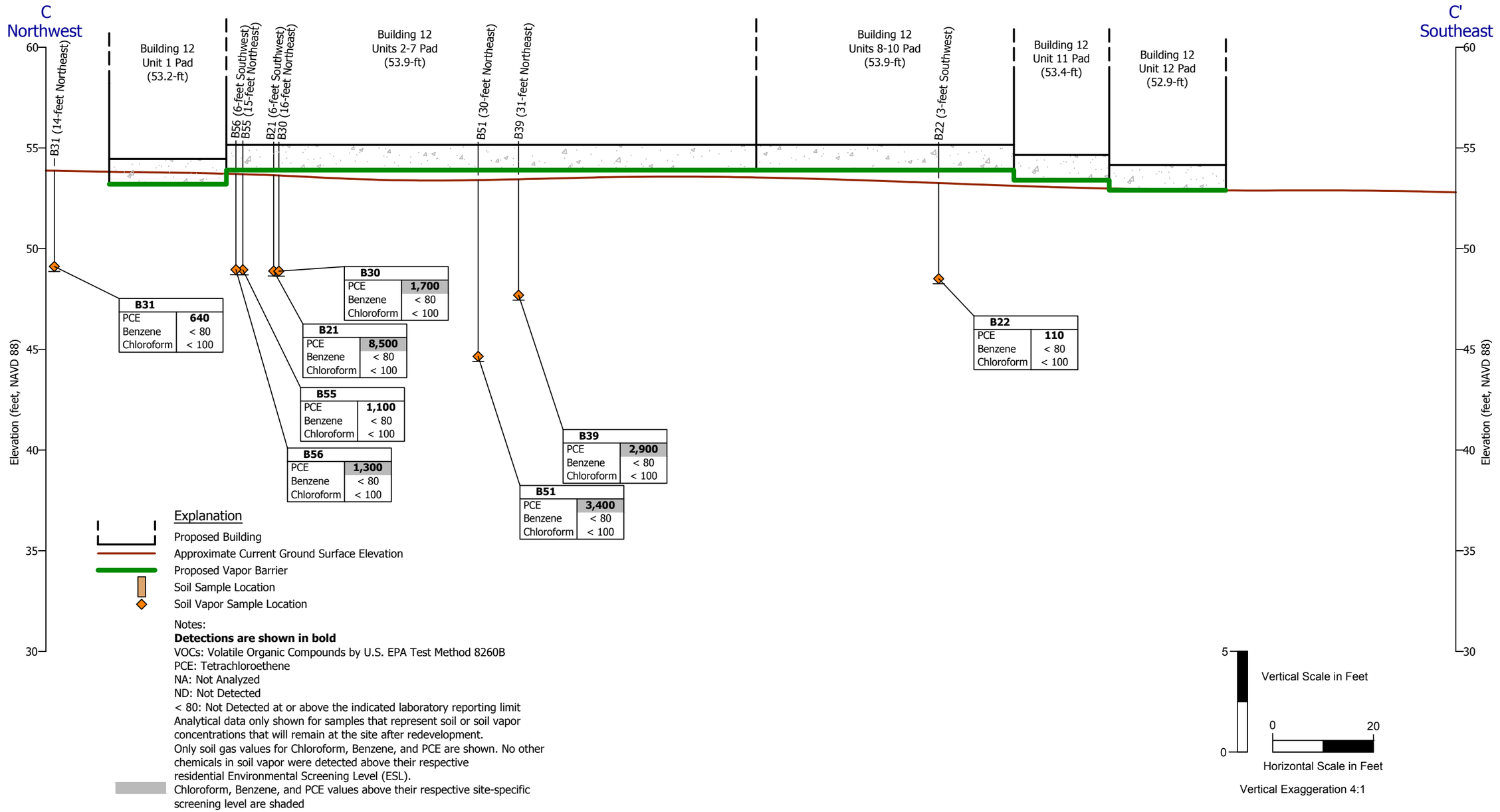
Cross Section B-B'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D3

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



Notes:
Detections are shown in bold
VOCs: Volatile Organic Compounds by U.S. EPA Test Method 8260B
PCE: Tetrachloroethene
NA: Not Analyzed
ND: Not Detected
< 80: Not Detected at or above the indicated laboratory reporting limit
Analytical data only shown for samples that represent soil or soil vapor concentrations that will remain at the site after redevelopment.
Only soil gas values for Chloroform, Benzene, and PCE are shown. No other chemicals in soil vapor were detected above their respective residential Environmental Screening Level (ESL).
Chloroform, Benzene, and PCE values above their respective site-specific screening level are shaded

PES Environmental, Inc.
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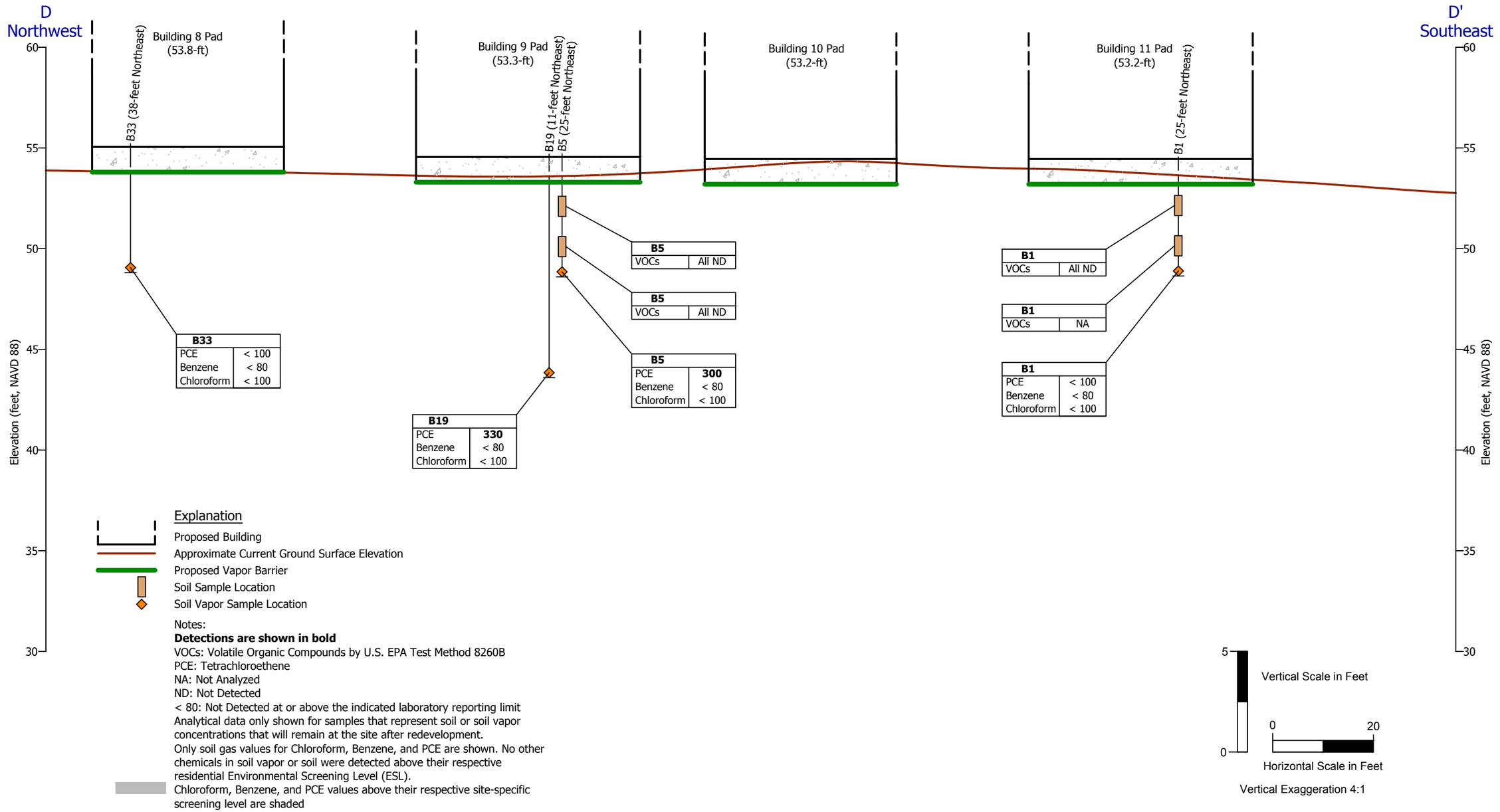
Cross Section C-C'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D4

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

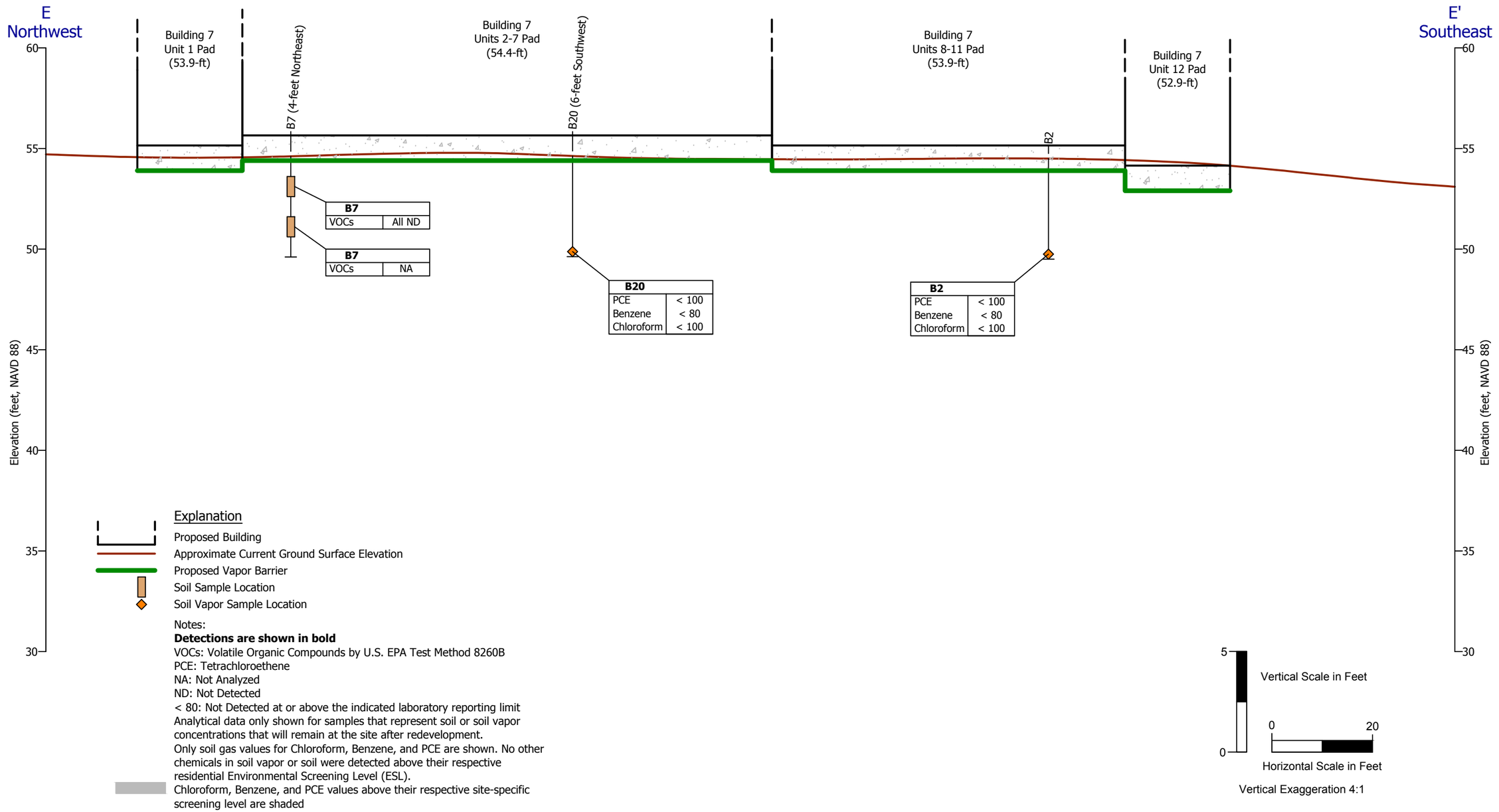


PES Environmental, Inc.
Engineering & Environmental Services

Cross Section D-D'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D5

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



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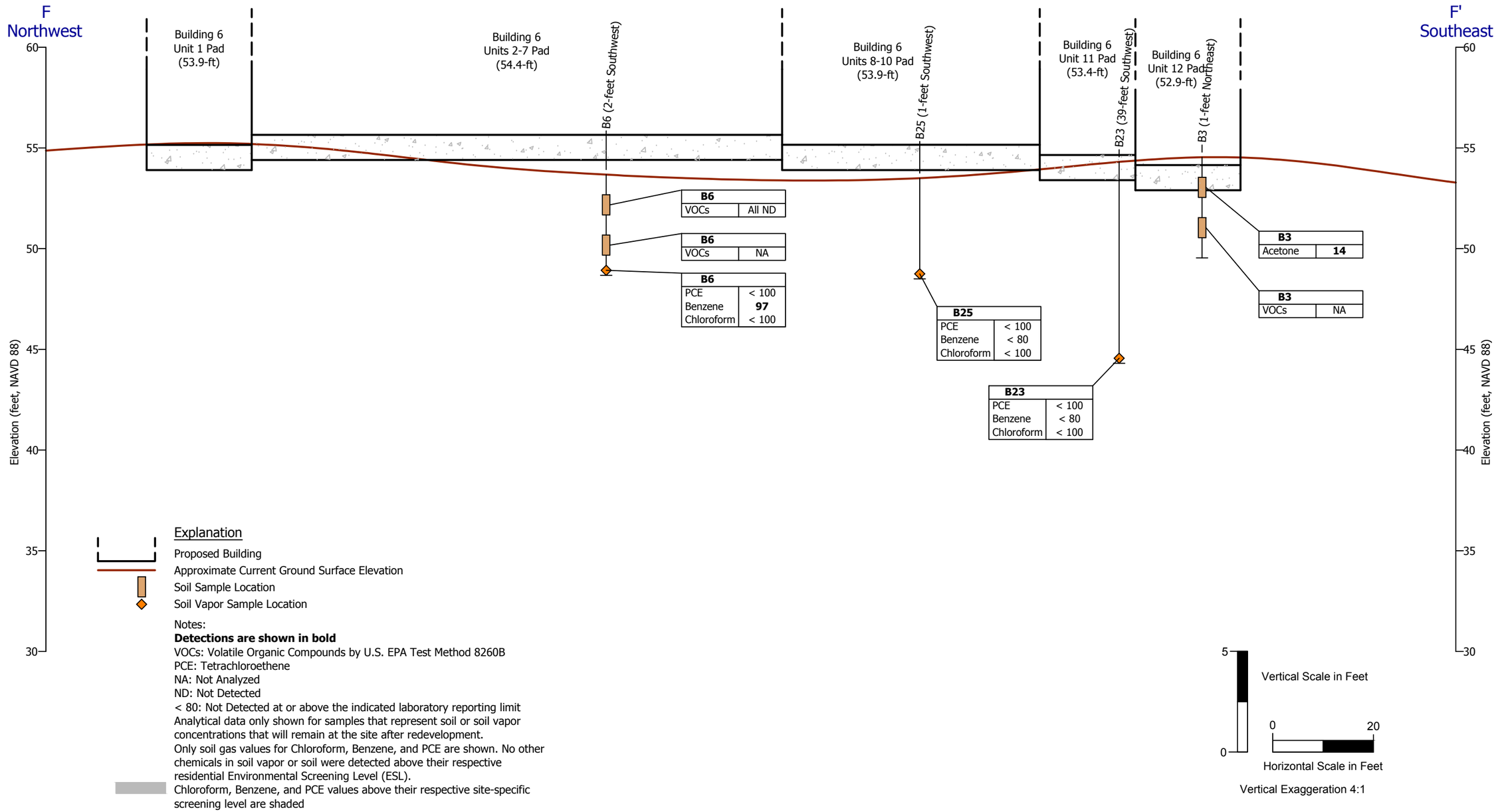
Cross Section E-E'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D6

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



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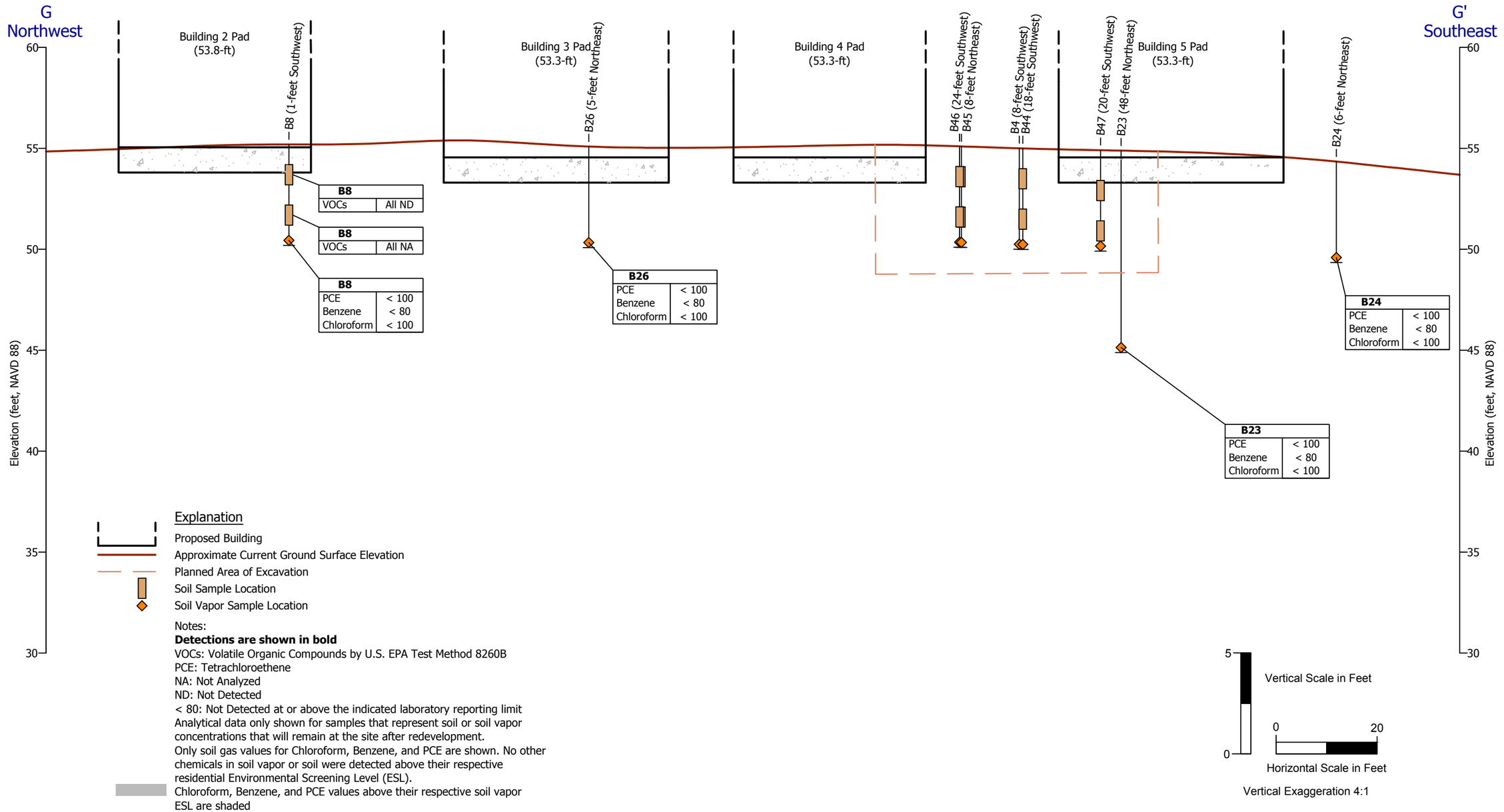
Cross Section F-F'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D7

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE

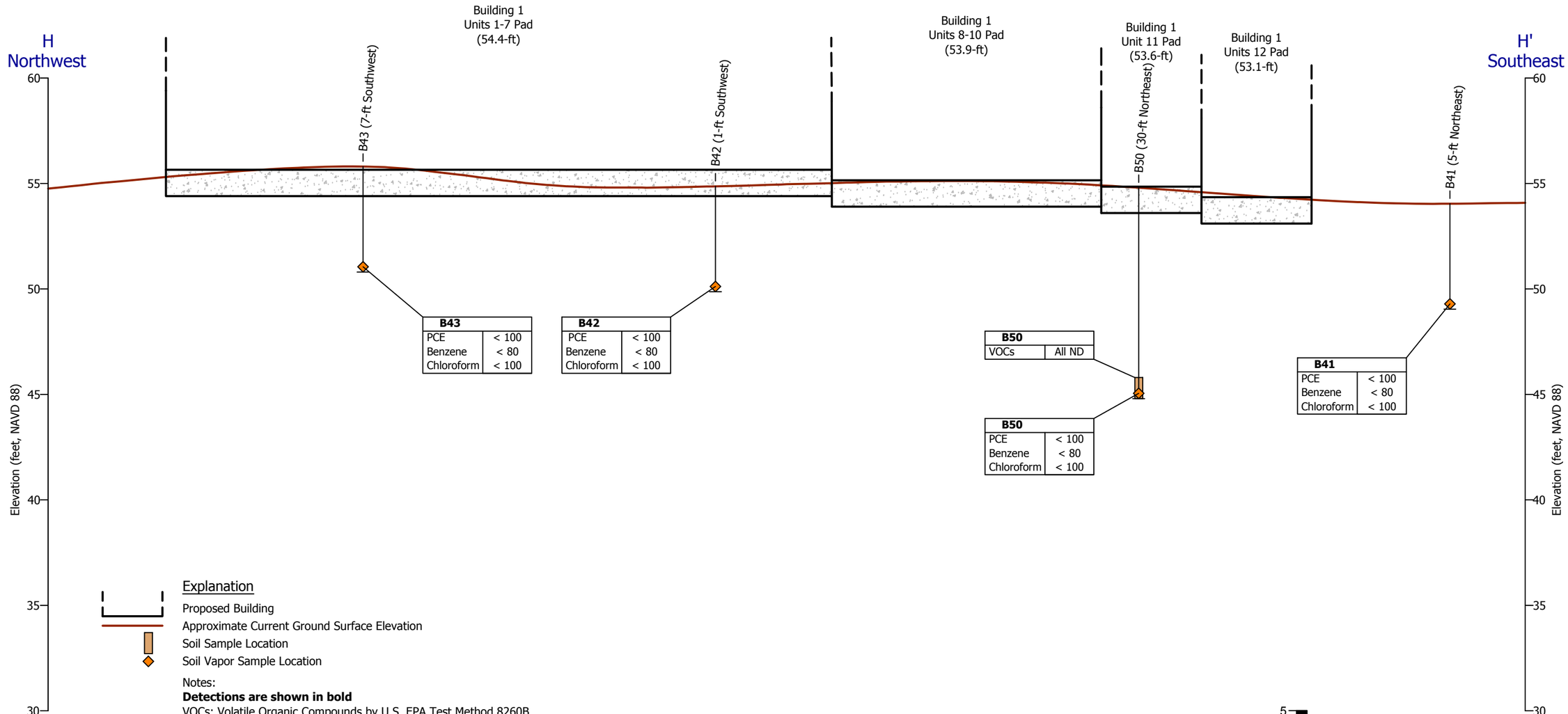


PES Environmental, Inc.
Engineering & Environmental Services

Cross Section G-G'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D8

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE



PES Environmental, Inc.
Engineering & Environmental Services

Cross Section H-H'
Supplemental Soil Vapor Investigation
39155 and 39183 State Street
Fremont, California

PLATE
D9

220.003.03.003	22000303003_D2-9	CJM	3/16
JOB NUMBER	DRAWING NUMBER	REVIEWED BY	DATE