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STATE OF WASHINGTON  
**DEPARTMENT OF ECOLOGY**

Northwest Region Office

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April 7, 2025

Levi Fernandes  
SoundEarth Strategies  
2811 Fairview Ave E  
Suite 2000  
Seattle, WA 98102  
([lfernandes@soundearthinc.com](mailto:lfernandes@soundearthinc.com))

**Re: Technical assistance for the following contaminated Site**

**Site name:** Avtech Corp  
**Site address:** 3400 Wallingford Ave N, Seattle, WA 98103  
**Facility/Site ID:** 71755531  
**Cleanup Site ID:** 12131  
**VCP Project ID:** NW2739

Dear Levi Fernandes:

On March 5, 2024, the Washington State Department of Ecology (Ecology) received your request for a written opinion regarding the sufficiency of your independent cleanup of the Avtech Corp facility (Site), under the [Voluntary Cleanup Program](#) (VCP).<sup>1</sup> This letter provides our opinion and analysis. We provide this opinion under the authority of the [Model Toxics Control Act](#)<sup>2</sup> (MTCA), chapter [70A.305](#)<sup>3</sup> RCW. This technical assistance is provided under the requirements of WAC [173-340-515](#)<sup>4</sup>(5).

### Issue presented and opinion

Does the proposed work plan *Supplemental Subsurface Investigation Work Plan*, dated March 5, 2025 (*March 2025 SSIWP*) meet the stated objectives with respect to Site data gaps?

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<sup>1</sup> <https://ecology.wa.gov/Spills-Cleanup/Contamination-cleanup/Voluntary-Cleanup-Program>

<sup>2</sup> <https://apps.ecology.wa.gov/publications/SummaryPages/9406.html>

<sup>3</sup> <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305>

<sup>4</sup> <https://app.leg.wa.gov/WAC/default.aspx?cite=173-340&full=true#173-340-515>

**Yes.** Ecology has determined that the proposed subsurface investigations are likely to resolve the data gaps associated with remaining impacts to soil and soil vapor at the Site.

## Site description

This opinion applies to the Site described here. The Site is defined by the nature and extent of contamination associated with the following releases.

- Tetrachloroethene (PCE), trichloroethene (TCE), lead, gasoline- (TPH-G) and diesel-range (TPH-D) petroleum hydrocarbons, benzene, toluene, ethylbenzene, toluene (collectively BTEX), and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) in soil.
- TCE in groundwater.

**Enclosure A** includes a Site description, history, and diagrams, as currently known to Ecology.

Note that releases from multiple sites can affect a parcel of real property. At this time, Ecology has no information indicating other sites have affected the parcels associated with this Site.

## Basis for our opinion

Ecology bases this opinion on information in the documents listed in **Enclosure B**.

You can request these documents by filing a [public records request](#).<sup>5</sup> For help making a request, contact the Public Records Officer at [recordsofficer@ecy.wa.gov](mailto:recordsofficer@ecy.wa.gov) or call (360) 407-6040.

Before making a request, check whether the documents are available on the [Site webpage](#).<sup>6</sup>

This opinion is void if anything in the documents is materially false or misleading.

## Analysis of the cleanup

Based on our review of the *March 2025 SSIWP*, Ecology has determined the following about your cleanup.

- **Soil confirmation sampling.**

Ecology concurs with your proposed evaluation of historical contaminated soils in the south-central portion of 3400 Wallingford Avenue N and in the 34<sup>th</sup> St N right-of-way (ROW). Soil samples have not been collected from this area since 2014, which is prior to the operation of the soil vapor extraction (SVE) system.

Samples collected in 2019 from P1 to P3 in the central portion of 3400 Wallingford Ave N indicate that the SVE system was effective in remediating TCE in soil in this portion of

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<sup>5</sup> <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

<sup>6</sup> <https://apps.ecology.wa.gov/cleanupsearch/site/12131>

the Site (see **Enclosure A, Figure 5**). Your proposed borings are well situated to evaluate the current soil conditions in residual contaminated areas in and near 34<sup>th</sup> St N after the SVE system operation.

- **Soil Vapor Sampling.**

Ecology concurs with your proposal for collection of composite soil vapor samples from the SVE system manifold. The sample will be collected from the influent of the SVE system less than 24 hours after the system has been restarted. Ecology recommends including the results of this sample along with recent samples collected from soil and groundwater at the Site in an updated conceptual Site model.

Ecology's [Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action](#), revised March 2022<sup>7</sup>, discusses the requirements for addressing the vapor intrusion (VI) pathway. Specifically, section 3.6 discusses the requirements for ruling out vapor intrusion through a Tier 1 VI evaluation.

- **Reporting.**

Following the completion of the activities described in the *March 2025 SS/WWP*, Ecology recommends including the results in a brief technical memo. After Ecology has reviewed the memo, it will be beneficial for us to meet with you to discuss the options for cleanup at the Site.

Site data were last uploaded to Ecology's Electronic Information Management (EIM) database in August 2017. Please continue to upload Site data to EIM as they are available. Help and guidance on submitting data to EIM is available on the [EIM Templates & Guidance](#)<sup>8</sup> webpage.

## **Limitations of the opinion**

### **Opinion does not settle liability with the state**

Liable persons are strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the release or releases of hazardous substances at the Site. This opinion doesn't resolve or alter a person's liability to the state or protect liable persons from contribution claims by third parties.

To settle liability with the state and obtain protection from contribution claims, a person must enter into a consent decree with Ecology under RCW [70A.305.040](#)(4).<sup>9</sup>

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<sup>7</sup> <https://apps.ecology.wa.gov/publications/SummaryPages/0909047.html>

<sup>8</sup> <https://apps.ecology.wa.gov/eim/help/HelpDocuments>

<sup>9</sup> <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.040>

### **Opinion does not constitute a determination of substantial equivalence**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you performed is substantially equivalent. Courts would make that determination. See RCW [70A.305.080](https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.080)<sup>10</sup> and WAC [173-340-545](https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340-545).<sup>11</sup>

### **State is immune from liability**

The state, Ecology, and its officers and employees are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing this opinion. See RCW [70A.305.170](https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.170)(6).<sup>12</sup>

### **Contact us for more information**

Thank you for choosing to clean up your Site under the VCP. After addressing our comments, you may request another review of your cleanup activities. If you have any questions about this opinion, please contact me at 206-459-6287 or [david.unruh@ecy.wa.gov](mailto:david.unruh@ecy.wa.gov). We look forward to receiving your next submittal or report.

Sincerely,



David Unruh

VCP Site Manager

Toxics Cleanup Program, NWRO

Enclosures (2):        A – Site description, history, and diagrams  
                              B – Basis for the opinion: Reviewed documents list

cc:        Scott Koppelman, AMLI Residential Partners ([SKoppelman@amli.com](mailto:SKoppelman@amli.com))  
         Ecology Project File

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<sup>10</sup> <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.080>

<sup>11</sup> <https://apps.leg.wa.gov/WAC/default.aspx?cite=173-340-545>

<sup>12</sup> <https://app.leg.wa.gov/RCW/default.aspx?cite=70A.305.170>

## Enclosure A

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Site description, history, and diagrams

This section provides Ecology's understanding and interpretation of Site conditions and is the basis for the opinions expressed in the body of the letter.

## Site

The Site is defined by releases of the following in Seattle, King County, Washington:

- PCE, TCE, lead, TPH-G, TPH-D, BTEX, and cPAHs into the soil.
- TCE into the groundwater.

The Site is located on the north and south sides of N 34<sup>th</sup> Street between Burke Ave N and Wallingford Ave N, and consists of the following six parcels (Property, **Figure 1; Figure 2**):

- 408330-6695 (3422 Burke Avenue N; Parcel 1);
- 408330-6660 (3421 Wallingford Avenue N; Parcel 2);
- 408330-6670 (3400 Wallingford Avenue N; Parcel 3);
- 408330-7105 (3325 Wallingford Avenue N; Parcel 4);
- 408330-7160 (3320 Wallingford Avenue N; Parcel 5); and
- 408330-7155 (3320 Wallingford Avenue N; Parcel 6).

The three parcels north of N 34<sup>th</sup> Street (Parcel 4083306660, 4083306670, and 4083306695) are collectively known as the North Block. The three parcels south of N 34<sup>th</sup> Street (Parcel 4083307105, 4083307155, and 4083307160) are collectively known as the South Block (**Figure 2**). The Property consists of both the North and South Blocks.

According to MTCA, the Site is defined as all areas where contamination has come to be located. Based on currently available Site investigation data, the Site includes the Property, 1801 N 34<sup>th</sup> Street (King County Parcel no. 4083307170, immediately north of Parcel 5), N 34<sup>th</sup> Street, and Burke Avenue N. The Site boundary is not currently completely defined based on the most recent groundwater sampling data.

## Area and Property Description

The Site is located in a mixed commercial and residential area in Seattle. The Property is bounded to the south by office buildings, to the east by Burke Avenue N, to the west by Wallingford Avenue N, and to the north by apartment buildings and N 35<sup>th</sup> Street. 1801 N 34<sup>th</sup> Street property is located between Parcel 5 and N 34<sup>th</sup> Street and is currently used by a restaurant (Varsity Inn) and retail services (**Figure 2**).

The North and South Block of the Property are both developed with two multi-story residential buildings with one level of underground parking. The use of surrounding properties includes the following:

- Multi-family residences are located to the north.
- Mixed-use commercial and residential buildings are located to the west.

- A building contractor and marine supply store are located to the east.
- Office buildings are located to the south.

## **Property History and Current Use**

The Property was first developed in the early 1900s with four single-family residences. A two-story concrete factory building (Building 2; **Figure 2**) was constructed on the North Block of the Property in 1909. From the 1909 to the 1940s, Building 2 operated as a shoe manufacturer. From the 1950s to the 1960s, Building 2 was in use as a commercial bakery. An aviation electronics manufacturer (Avtech) occupied Building 2 from 1974 to 2011.

Two furniture workshop buildings were constructed on the South Block in the 1930s, with an additional single-story warehouse constructed in 1965. Avtech occupied the South Block buildings from the 1980s to 2011.

Avtech ceased operations by 2011, and the Property remained vacant until the buildings were demolished in 2014. The Property was redeveloped with four multi-story multi-family residential buildings with an underground parking structure in 2016.

## **Sources of Contamination**

Documented chemical wastes generated during aviation electronics manufacturing operations at the Property included PCE, TCE, acetone, toluene, ammonium hydroxide, xylenes, methyl isobutyl ketone, varnish, nitric acid, paint etcher, Freon, ethanol, and hydraulic oil. Chemical wastes were reportedly removed regularly from the Property for offsite disposal by a hazardous waste transportation company. A King County Metro sewer discharge permit for chromate plating process liquid waste was also issued for the Property.

The source of TCE contamination detected in soil and groundwater is presumed to be from solvent use, storage, and on-Property disposal at various locations on the North Block of the Property. The primary source zone is located near the former loading dock on the northeastern portion of Building 2. Other source locations include the chemical storage area, machine shop, and potential leaks from floor drains and sanitary sewer piping (**Figure 2**).

The source of small, localized cPAH contamination on the Site may be the result of airfall from the former coal gasification plant located to the south, or from incidental surface spills of oil. The localized shallow lead contamination located on the North Block may result from a release of lead-based paint at a former residence.

## **Physiographic Setting**

In general, the Seattle area sits on a complex and incomplete succession of glacial and nonglacial deposits that overlie an irregular bedrock surface. The City straddles the Seattle uplift, the Seattle fault zone, and the Seattle basin, three major bedrock structures that reflect north-south crustal shortening in the Puget Sound Lowland. The landforms and near-surface

deposits that cover much of the Seattle area include the upland glacial till that in many areas was cut into channels during glaciation by recessional melt-water.

The glacial till can display north-south axes oriented in the former ice-flow direction. Glacially overridden deposits underlie most of the uplands, whereas loosely consolidated postglacial deposits fill deep valleys and recessional melt-water channels. Soft organic-rich deposits have filled former lakes, bogs, and sloughs.

The Property is within the northern portion of the Lake Union Depression between Queen Anne Hill and the University of Washington. The Property is located on a southeast-facing hillside, with elevations ranging between 65 feet above mean sea level (amsl) on the south side of the Property to 97 feet amsl on the north.

### **Surface/Storm Water System**

Stormwater runoff on and in the vicinity of the Property disperses via sheet flow to catch basins connected to the City of Seattle stormwater system on N 34th Street. The nearest surface water body is Lake Union, located approximately 650 feet south of the Property.

### **Ecological Setting**

The Site is zoned for mixed commercial and residential use. Adjoining properties to the south, east, and west are also zoned for mixed commercial and residential use. Properties to the North are zoned for low-rise residential use. Land surfaces on the Property and adjacent properties are primarily covered by buildings, and asphalt and concrete pavement, with some small, landscaped areas.

### **Geology**

The [geologic map of the area](https://pubs.usgs.gov/of/2005/1252/)<sup>13</sup> indicates that the Site is underlain by Vashon till, a dense diamict with varying amounts of sand, silt, and gravel. The Property is underlain by fill materials placed to a maximum depth of 7 feet below ground surface (bgs). Fill materials are underlain by very dense, dry to moist silty sands with variable amounts of gravel and cobbles, and local thin sand-rich and silt-rich horizons, interpreted to be Vashon glacial till to depths of approximately 25 to 40 feet bgs. Till deposits are underlain by a dense, stratified, very moist to wet sand with varying amounts of silt and gravel, interpreted to be Vashon-age advance outwash deposits. Advance outwash deposits were encountered at the Site to the maximum explored depth of 75 feet bgs.

### **Groundwater**

From 2011 to 2015, 20 monitoring wells (MW01 through MW18, MW11D, MW16A) were installed at the Site. Among them, 8 monitoring wells (MW01, MW02, MW06, through MW10, MW16) were either decommissioned or destroyed. A total of 12 monitoring wells are currently

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<sup>13</sup> <https://pubs.usgs.gov/of/2005/1252/>



active (MW03 through MW05, MW-11 through MW15, MW16A, MW17, MW18, and MW11D). These monitoring wells were installed with 10 to 15-foot screens from 8 to 40 feet bgs. Monitoring well locations are shown on **Figure 3** and **Figure 4**.

Groundwater is present at the Site at depths ranging from 23 to 37 feet bgs, generally within Vashon advance outwash deposits. Groundwater flow is oriented roughly to the south-southeast with an average hydraulic gradient of 0.05 feet/foot (**Figure 4**). Slug tests conducted in monitoring wells MW09, MW12, and MW13 in July 2013 yielded average hydraulic conductivity estimates of 0.52 to 1.11 feet/day, which are within the hydraulic conductivity range of silty sand formation.

## **Water Supply**

Drinking water is supplied to the Property by water mains operated by the City of Seattle. Water for the City is sourced from the Cedar and Tolt River watersheds, located approximately 32 miles southeast and northeast of the Site, respectively. The Site is located approximately 7.5 miles from the closest 10-year wellhead protection zone for a municipal water supply well.

## **Release and Extent of Contamination**

### **Site conditions prior to interim remedial actions**

#### ***Soil***

Subsurface investigations identified the nature and extent of PCE and TCE in soil at the Site. Concentrations of TCE and/or PCE in subsurface soil above the Method A cleanup level were identified primarily near the former loading dock and shipping and receiving room at Building 2 (B14/MW-09, B104, SB201, SB204). TCE concentrations above the Method A cleanup level were also identified near the sanitary sewer lines (SB206, SB209); along the southern boundary of the North Block (MW-16, IW03); and in N 34<sup>th</sup> Street (B06/MW04, B-18/MW13). Soil contaminated with TCE and/or PCE ranged in depths from 9 to 35 feet bgs in vadose zone soils (**Figure 5**; **Figure 6**; **Figure 7**).

A limited area of shallow soil containing lead above the Method A cleanup level was identified near the north boundary of the North Block (P13; **Figure 5**). Two areas of shallow soil contained the cPAH (benzo(a)pyrene) above the Method A cleanup level at the Site: P10 at 0.5 feet bgs and P12 at 2 feet bgs. P10 is located south of Building 4 on the South Block. P12 is located in the southeast corner of Parcel 1 (**Figure 3**).

#### ***Groundwater***

Groundwater containing TCE concentrations exceeding the Method A cleanup level is present beneath the southern half of the North Block and has migrated south under N 34<sup>th</sup> Street to the South Block and Burke Avenue North. Prior to remedial actions, TCE concentrations in groundwater ranged from below detection limits to 290 micrograms per liter (µg/L) in well MW04 (**Figure 8**).

## Interim Remedial Actions

### *Soil and Soil Vapor*

Mass excavation of soil contaminated with PCE, TCE, cPAHs, lead, TPH-G, TPH-D, and BTEX occurred from November 2014 to February 2015 as part of redevelopment activities at the Property. A total of 5,414 tons of contaminated soil was excavated and transported off Site for disposal at a permitted facility. Excavations were conducted in the areas: A1 through A5, B, C1, C2, EX01, and EX02 (**Figure 5, Figure 9**).

Excavation areas A1 through A5 were completed on the North Block. Soil excavated in these areas contained TCE and/or PCE concentrations above Method A cleanup levels (**Figure 5**). The excavations were completed to total depths ranging from approximately 15 to 25 feet bgs, or 70 to 55 feet amsl (**Figure 6; Figure 7**). The majority of soil contaminated with TCE above Method A cleanup levels in these areas generally occurred from 10 to 17 feet bgs (approximately 75 to 65 feet amsl). A total of 53 excavation sidewall and bottom confirmation samples were collected from excavation extents. With the exception of one bottom sample, A2-65N85E-68-BTM, all confirmation samples contained PCE and TCE concentrations below the Method A cleanup levels (**Figure 5; Figure 7**).

Excavation area B was completed near the north boundary of the North Block to remove the previously identified lead contamination. The excavation was completed to approximately 4 feet bgs (approximately 92 feet amsl). All final confirmation samples contained lead concentrations below the MTCA Method A cleanup level (**Figure 5**).

Excavation areas C1 and C2 were completed on North and South Block, respectively. These excavations were to remove the previously identified cPAHs contamination. These two excavations were completed to a depth of 4 feet bgs. All confirmation samples contained no detectable concentrations of cPAHs (**Figure 5, Figure 9**).

A previously unknown area of soil containing TPH-G, BTEX, and TCE above the Method A cleanup levels in the central portion of the North Block was identified during mass excavation activities (EX01; **Figure 5**). The excavation was extended to a maximum depth of 10 feet bgs (approximately 75 feet amsl). Final excavation confirmation samples did not contain TPH-G or BTEX above Method A cleanup levels.

During excavation of the South Block, a previously unknown area of apparently contaminated soil was identified along the southern boundary of the South Block (EX02; **Figure 9**). A soil sample collected from the area with the highest field screening results returned concentrations of TPH-G, TPH-D, and BTEX below their respective Method A cleanup levels. Confirmation samples collected from the bottom and southern sidewall of the excavation did not contain TPH-G, TPH-D, or BTEX above Method A cleanup levels (**Figure 9**). Approximately 18 cubic yards of soil were excavated and transported offsite for disposal at a permitted facility.

A 250-gallon residential heating oil underground storage tank (UST) was discovered during mass excavation activities in the northeastern portion of the North Block. No field screening indications of contamination were observed in soil surrounding the UST, and confirmation and composite samples collected from the excavation limits and spoils pile did not contain TPH concentrations above Method A cleanup levels (**Figure 5**).

In March 2015, a soil vapor extraction (SVE) system was installed at the North Block. The SVE system consists of six vertical and three horizontal SVE wells (**Figure 4**). Vertical SVE wells were installed with 12-13 foot screened intervals from approximately 4-18 feet bgs (63 to 50 feet amsl). Horizontal wells were installed at an elevation of approximately 64.6 feet amsl. The SVE system began operation on January 17, 2017 and was shut down in December 2020. Effluent vapor samples were collected from the SVE system on a monthly basis in 2017 and then on a roughly quarterly basis from 2018 to July 2020. Effluent vapor samples contained TCE below the Method B screening level for unrestricted use during the entire duration of sample collection (**Figure 4**). The system removed an estimated 40 pounds of chlorinated solvents from the soil vapor by June 6, 2020.

In May 2019, soil borings P1 to P3 were advanced in the vicinity of excavation confirmation sample A265N85E-68-BTM (approximate 68 feet amsl), as well as soil boring samples SB201 and SB204 (approximately 65 feet amsl), which contained TCE above Method A cleanup level after soil excavation (**Figure 5**; **Figure 6**; **Figure 7**). Results from P1 through P3 did not contain TCE above the laboratory detection limits, indicating the SVE system successfully remediated the residual TCE concentrations to below the Method A cleanup level.

Therefore, based on the results of soil samples collected after the excavation and SVE system operation, soils containing TCE above the Method A cleanup level remained in the following areas (**Figure 5**):

- Characterization samples collected from boring IW03 at elevations of 70 and 60 feet amsl;
- Characterization samples collected from boring MW16 at elevations of 70, 60, and 55 feet amsl; and
- Characterization samples collected from boring B06/MW04 and B18/MW13 at 35 feet bgs or 50 feet amsl. These two borings are located at N 34<sup>th</sup> Street.

### ***Groundwater***

Between March 2014 and August 2016, 56 permanent injection wells were installed at the Site (IW01 to IW57; **Figure 3**; **Figure 8**). Injection wells IW01, IW02, IW04, and IW06 were decommissioned in 2015 due to their location within the excavation or damage due to construction activities.

In March 2015, a total of approximately 35,000 gallons of potassium permanganate solution was injected at low pressures into wells IW20 through IW54 to treat groundwater contaminated with TCE across the Site. Injection volumes at each well varied from 52 to 1,443

gallons, with an average of 1,010 gallons injected per well. Following this injection event, injection wells IW20 to IW25, IW27 to IW29, IW31, IW35, IW36, IW38, IW40 to IW43, IW45, IW46, IW48, IW49, and IW52 were decommissioned.

In July 2016, another injection event was conducted at the Site. A total of approximately 18,463 gallons of potassium permanganate solution and 4,000 gallons of fresh water were injected into IW03, IW04A, IW05, IW07, IW09, IW10, IW19, IW28, IW37, IW47, IW49, IW53, and IW55. An additional injection event was conducted in December 2016 at IW56 and IW57. A total of 1,980 gallons of potassium permanganate solution were injected at the two wells. In April 2019, a total of 1,325 gallons of potassium permanganate solution was injected into IW12, IW53, and IW58 to treat groundwater in the vicinity of MW05, MW12, and MW16A. In May 2021, a total of 1,440 gallons of potassium permanganate solution was injected into MW05, MW12, IW03, and IW58 to treat groundwater in the vicinity of MW05 and MW12.

Groundwater sampling was conducted to monitor the performance of injections. Results from samples collected from MW05, MW12, MW16A, MW18, and IW08 indicate a slight decrease in TCE concentrations. The most recent samples collected from wells MW05 and MW12 in December 2021 contained TCE concentrations above the Method A cleanup level and the Method B screening level for vapor intrusion (**Figure 4**). The current extent of the TCE plume in groundwater following injections is not delineated to the north, south, east, or west.

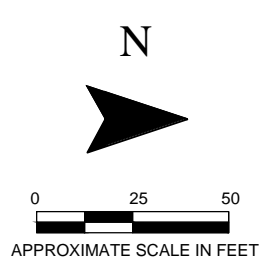
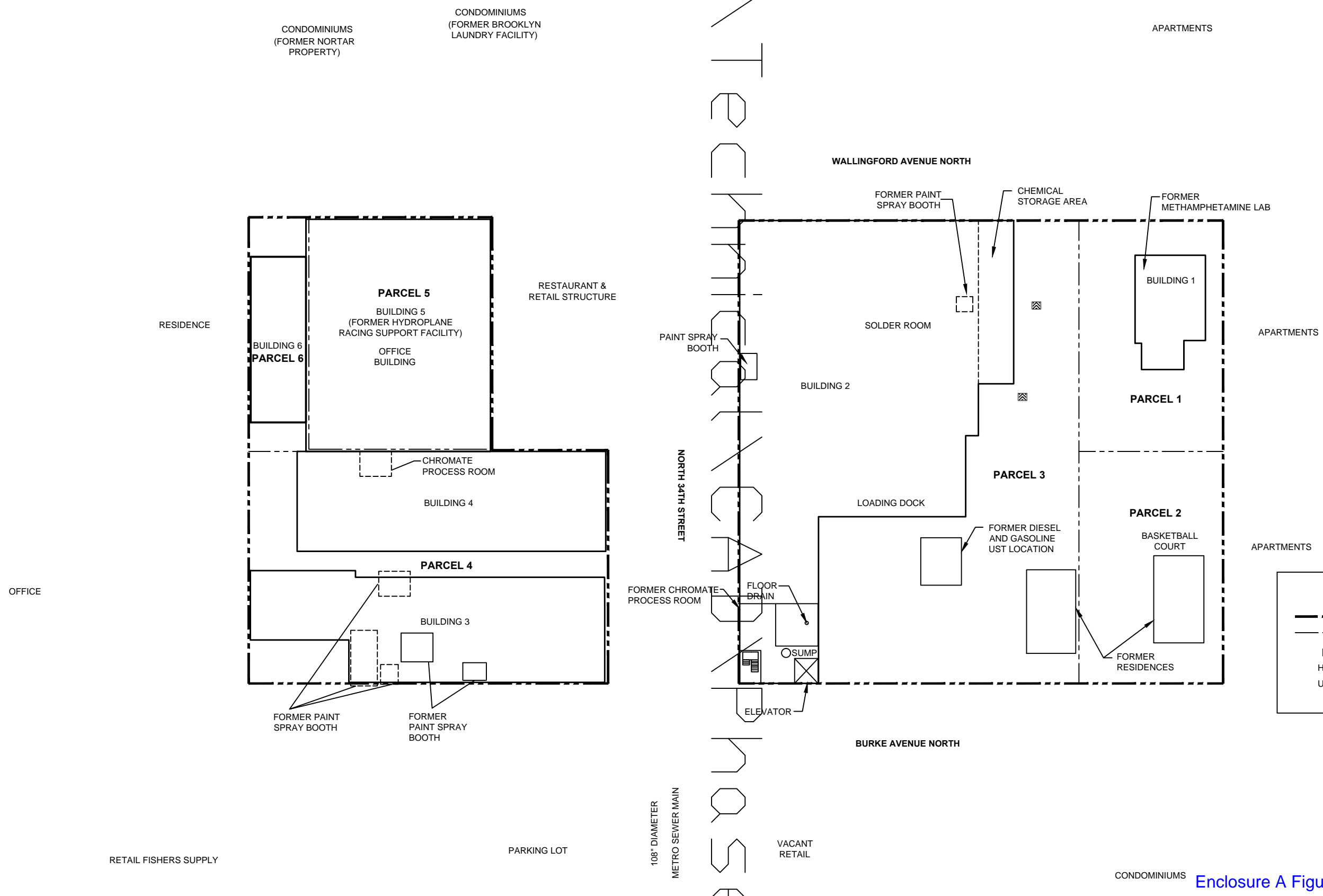
Additional injections of 10% potassium and sodium permanganate solution occurred in November 2023. A total of 1,380 gallons was injected into MW11, MW18, IW16, IW56, IW57, and IW58 (**Figure 4**). Groundwater samples were collected from MW-11 and MW-18 in February and June 2024 to monitor the effect of injections. Results from MW-11 and MW-18 showed that permanganate had a good effect on TCE concentrations. However, TCE concentrations rebounded above Method A cleanup levels in MW-11 after concentrations of magnesium dropped.



Sources: Esri, DeLorme, NAVTEQ, Toi Corp., GEBCO, USGS, FAO, NPS, NTL, Ordnance Survey, Esri Japan, ME

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7/9/2015  
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**LEGEND**

---	PROPERTY BOUNDARY
- - -	PARCEL BOUNDARY
⊠	CATCH BASIN
HSA	HOLLOW-STEM AUGER
UST	UNDERGROUND STORAGE TANK

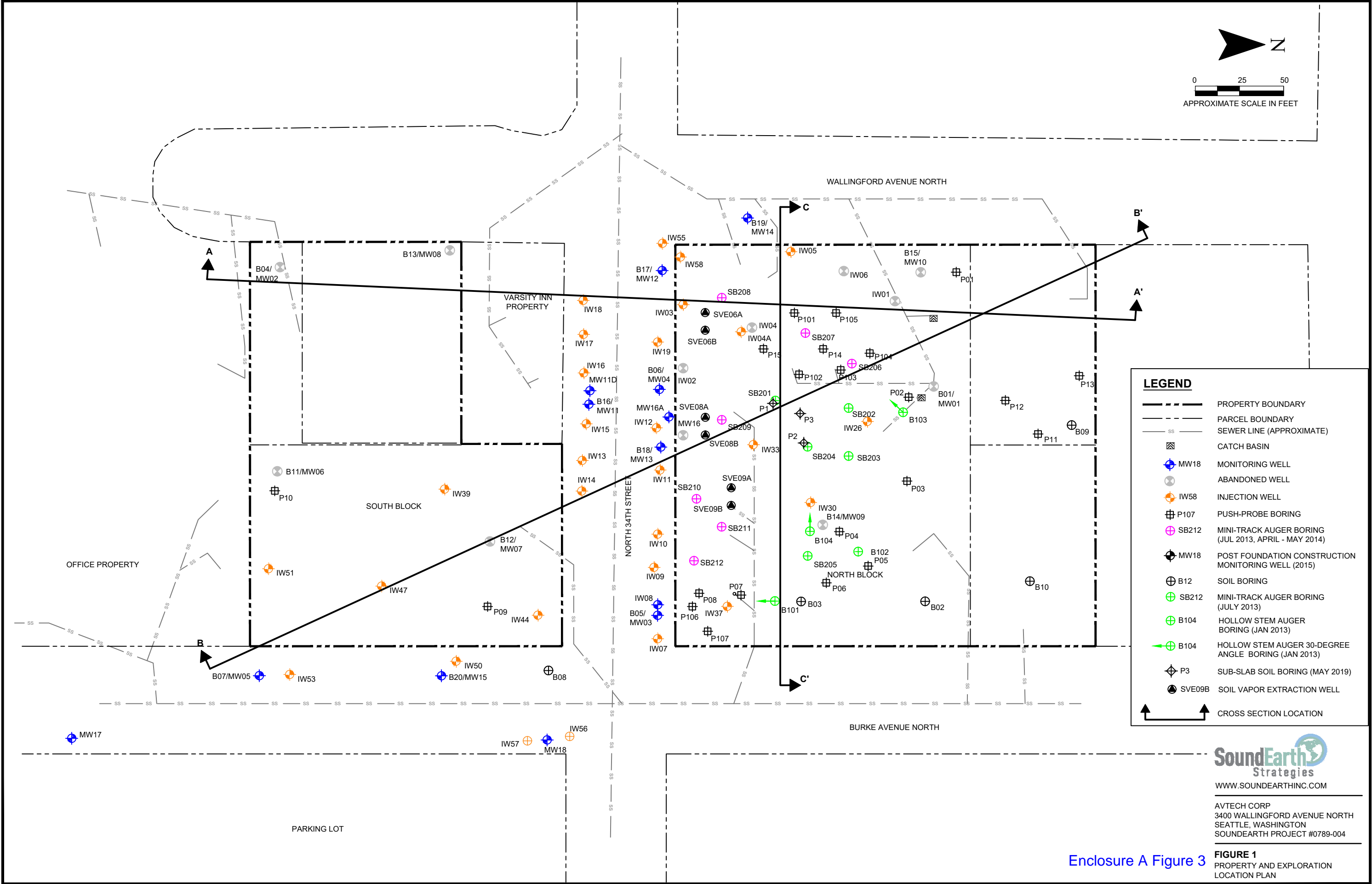
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**FIGURE 2A**  
HISTORICAL PROPERTY  
FEATURES MAP

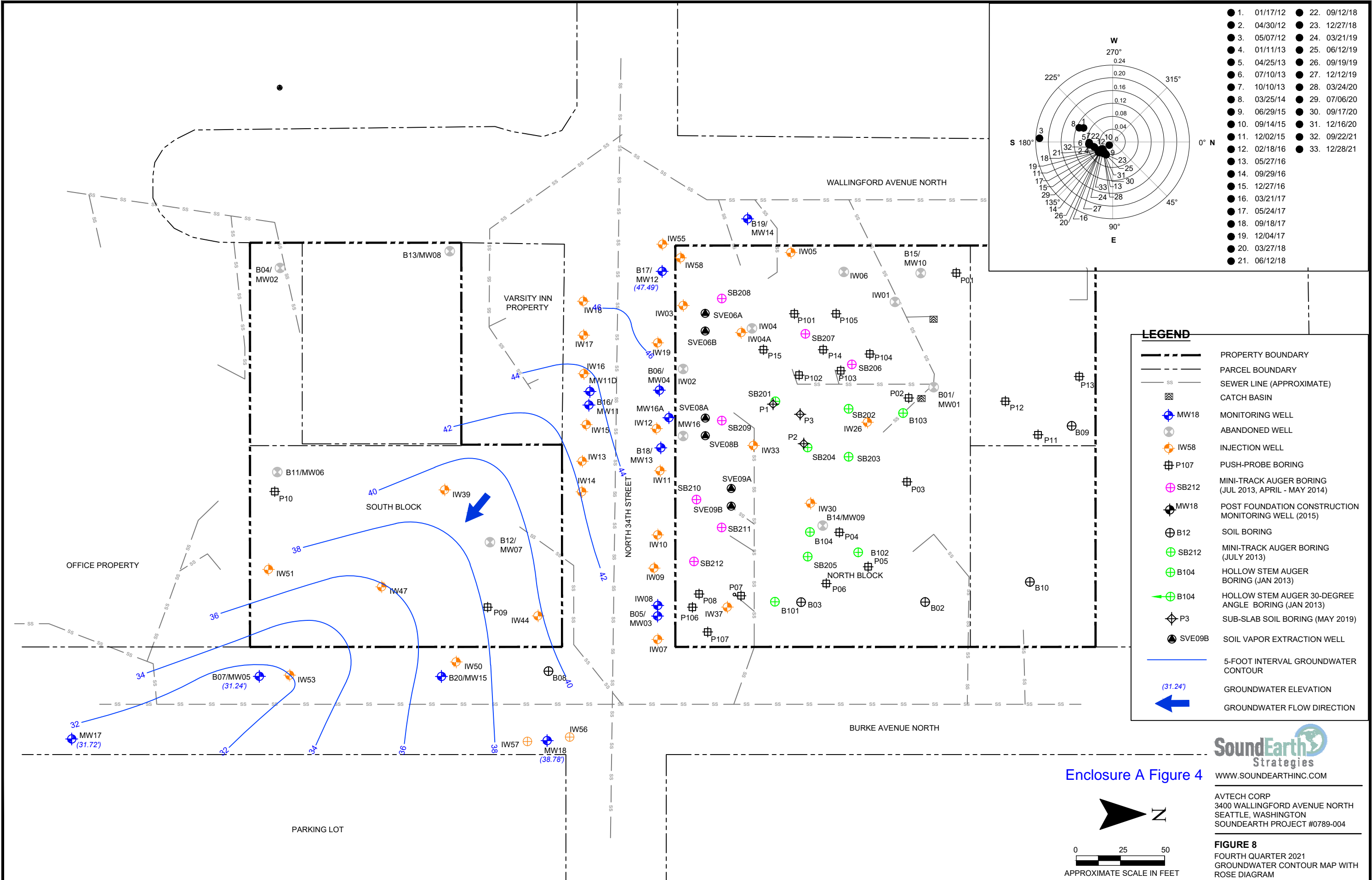
Enclosure A Figure 2



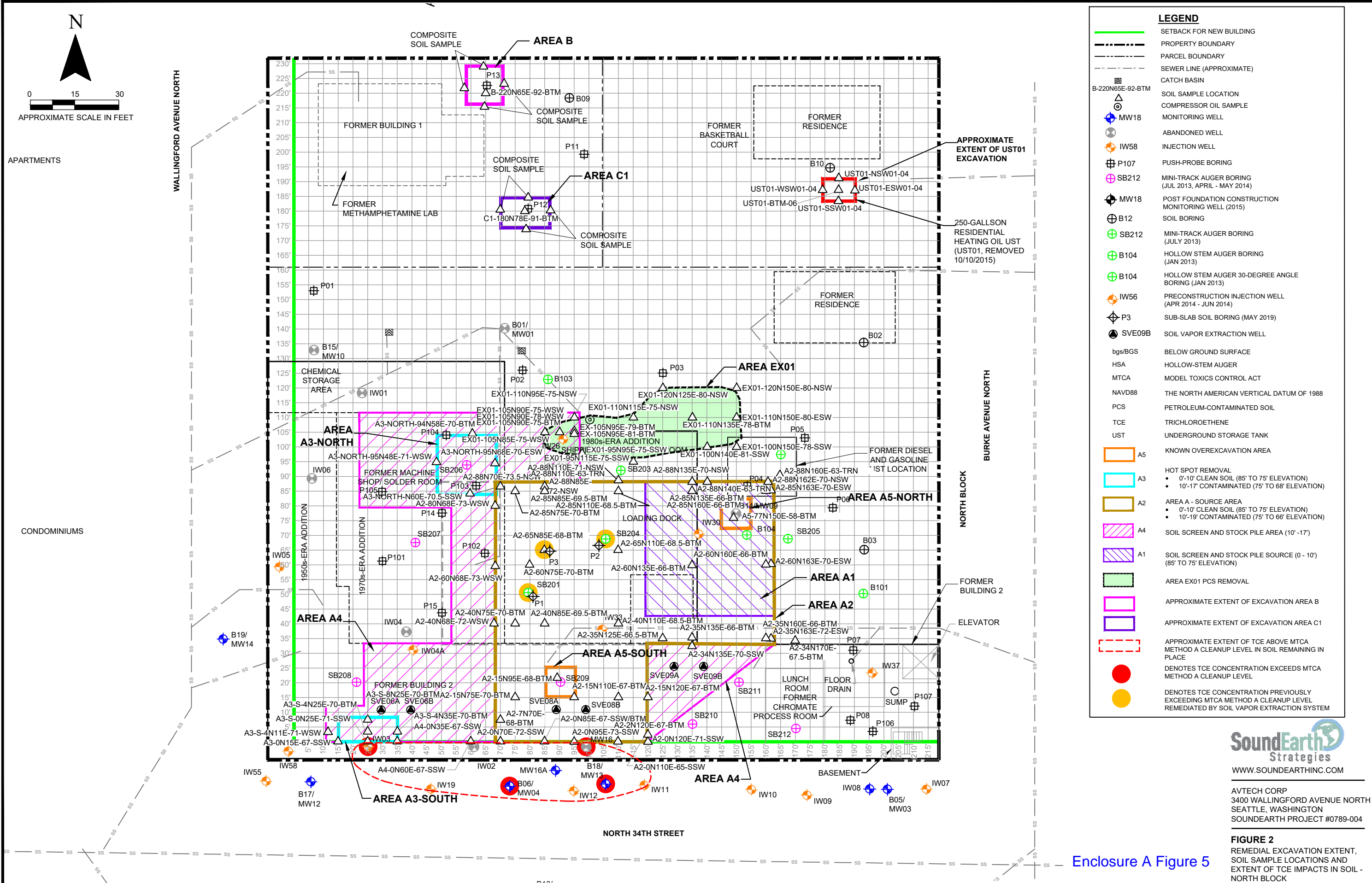


Enclosure A Figure 3

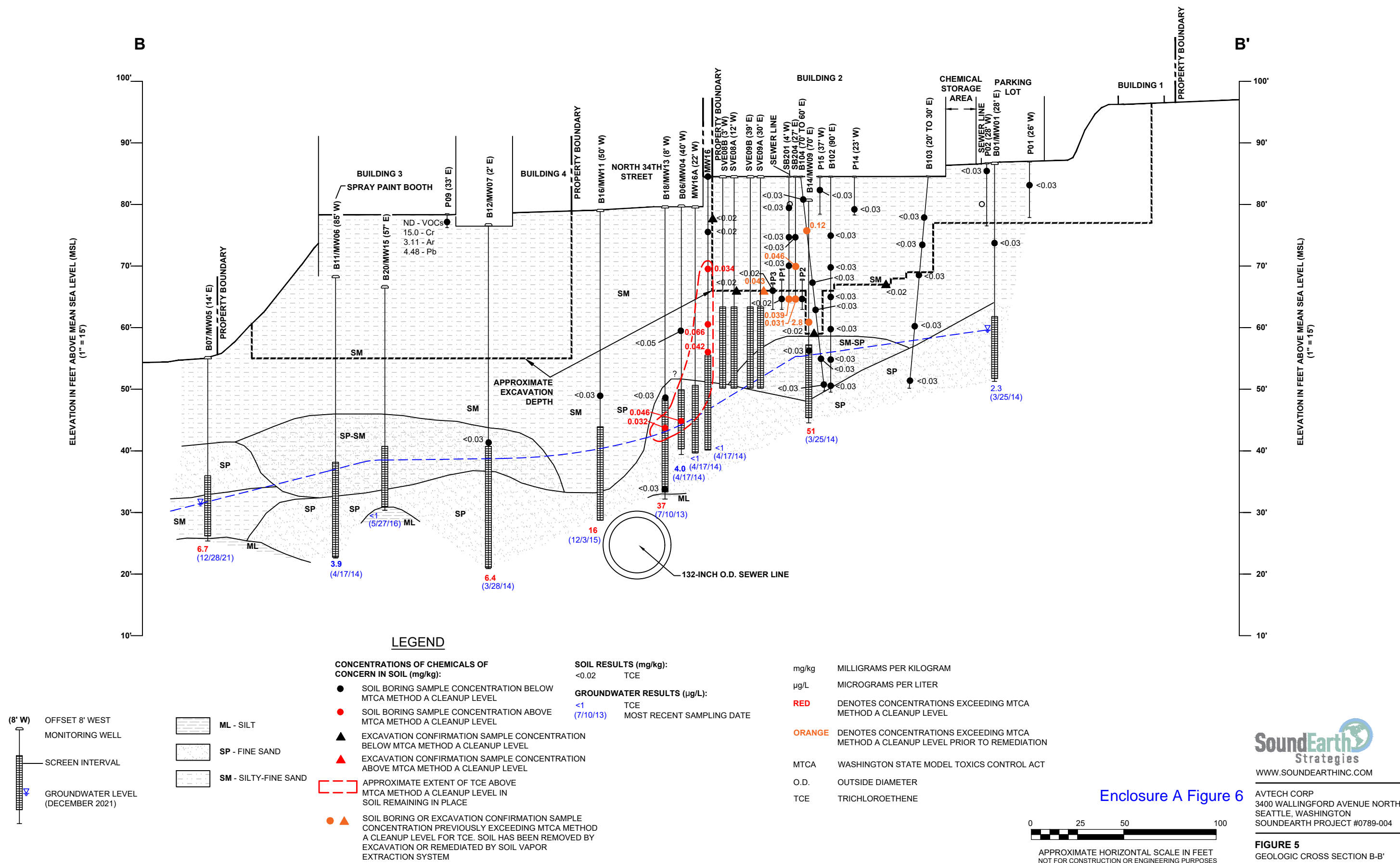
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Strategies  
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AVTECH CORP  
3400 WALLINGFORD AVENUE NORTH  
SEATTLE, WASHINGTON  
SOUNDEARTH PROJECT #0789-004

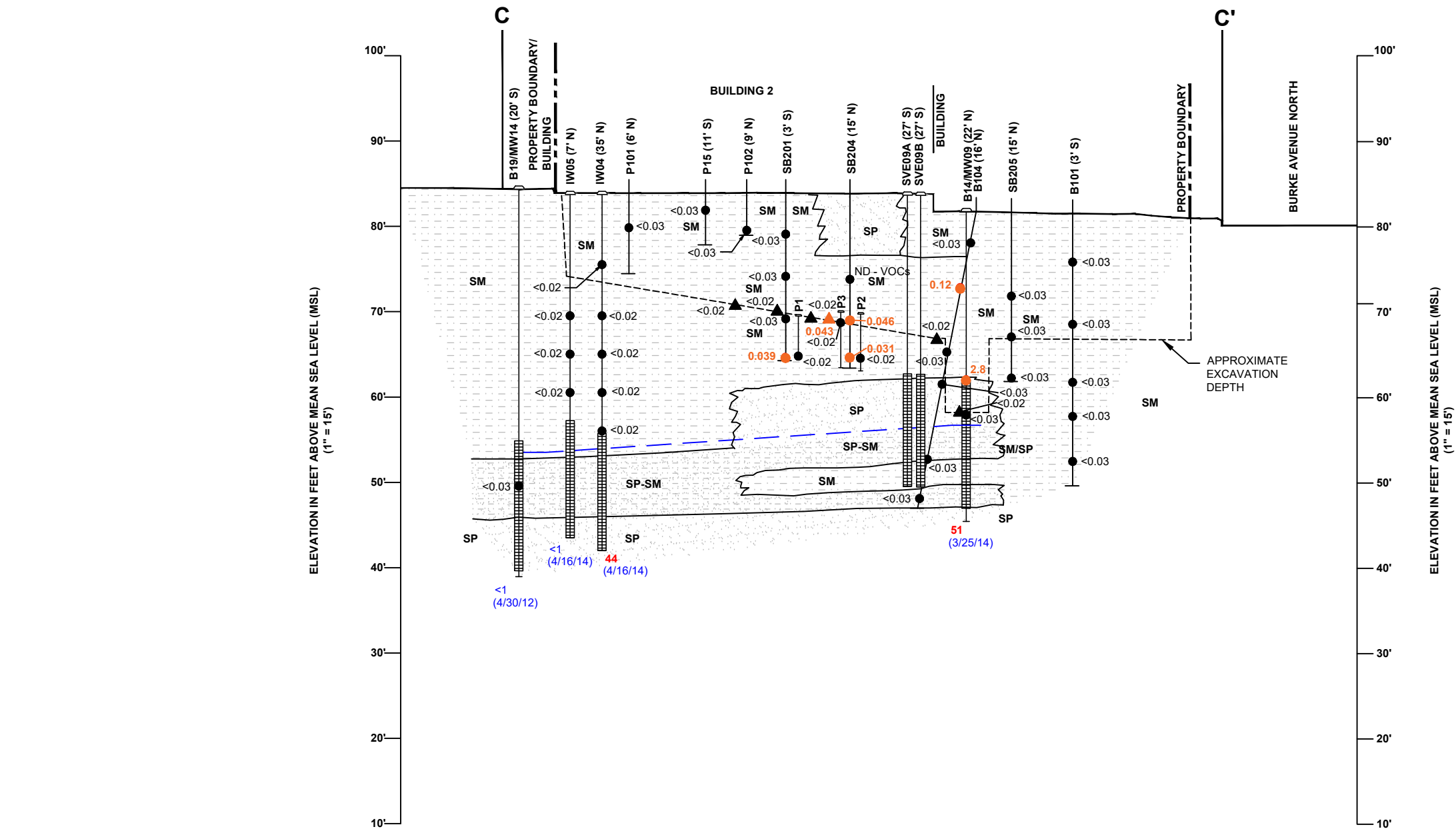






Enclosure A Figure 5





LEGEND

(6' N)  
OFFSET 6' NORTH  
MONITORING WELL  
SCREEN INTERVAL  
GROUNDWATER LEVEL  
(DECEMBER 2021)

SP - FINE SAND  
SM - SILTY-FINE SAND  
ML - INORGANIC SILTS AND  
VERY FINE SANDS, ROCK  
FLOUR, SILTY OR CLAYEY  
FINE SANDS

CONCENTRATIONS OF CHEMICALS OF  
CONCERN IN SOIL (mg/kg):  
● SOIL BORING SAMPLE CONCENTRATION BELOW  
MTCA METHOD A CLEANUP LEVEL  
▲ EXCAVATION CONFIRMATION SAMPLE  
CONCENTRATION BELOW MTCA METHOD A  
CLEANUP LEVEL  
● ▲ SOIL BORING OR EXCAVATION CONFIRMATION  
SAMPLE CONCENTRATION PREVIOUSLY  
EXCEEDING MTCA METHOD A CLEANUP LEVEL  
FOR TCE. SOIL HAS BEEN REMOVED BY  
EXCAVATION OR REMEDIATED BY SOIL VAPOR  
EXTRACTION SYSTEM

SOIL RESULTS (mg/kg):  
<0.02 TCE  
GROUNDWATER RESULTS (µg/L):  
<1 TCE  
(7/10/13) MOST RECENT SAMPLING DATE

mg/kg MILLIGRAMS PER KILOGRAM  
µg/L MICROGRAMS PER LITER  
RED DENOTES CONCENTRATIONS EXCEEDING MTCA  
METHOD A CLEANUP LEVEL  
ORANGE DENOTES CONCENTRATIONS EXCEEDING MTCA  
METHOD A CLEANUP LEVEL PRIOR TO REMEDIATION  
MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT  
TCE TRICHLOROETHENE

0 25 50 100  
APPROXIMATE HORIZONTAL SCALE IN FEET  
NOT FOR CONSTRUCTION OR ENGINEERING PURPOSES

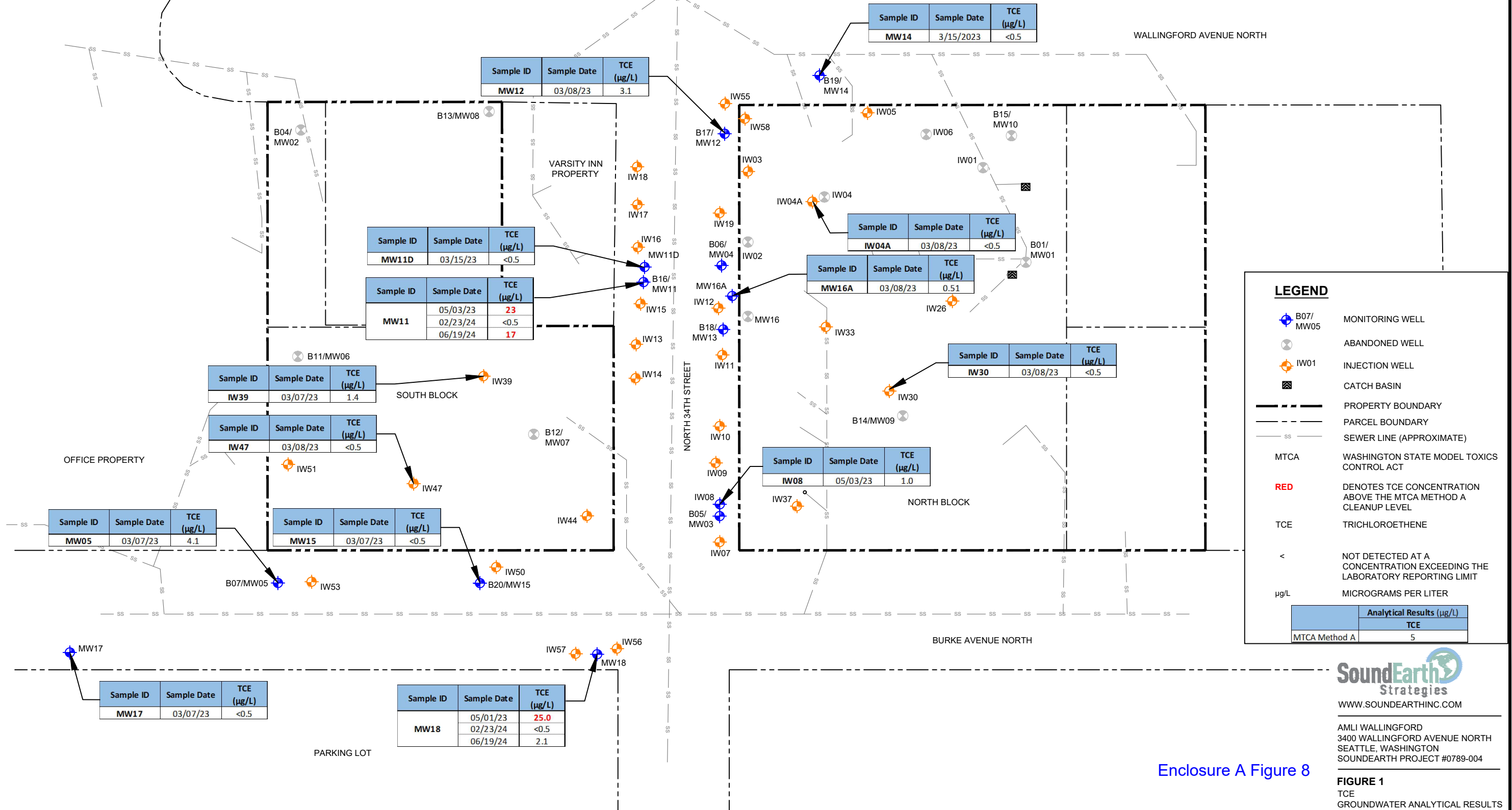
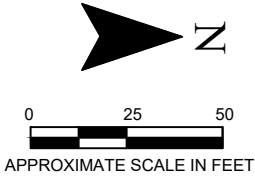
Enclosure A Figure 7

SoundEarth  
Strategies  
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AVTECH CORP  
3400 WALLINGFORD AVENUE NORTH  
SEATTLE, WASHINGTON  
SOUNDEARTH PROJECT #0789-004

FIGURE 6  
GEOLOGIC CROSS SECTION C-C'

**DRAFT**



Enclosure A Figure 8

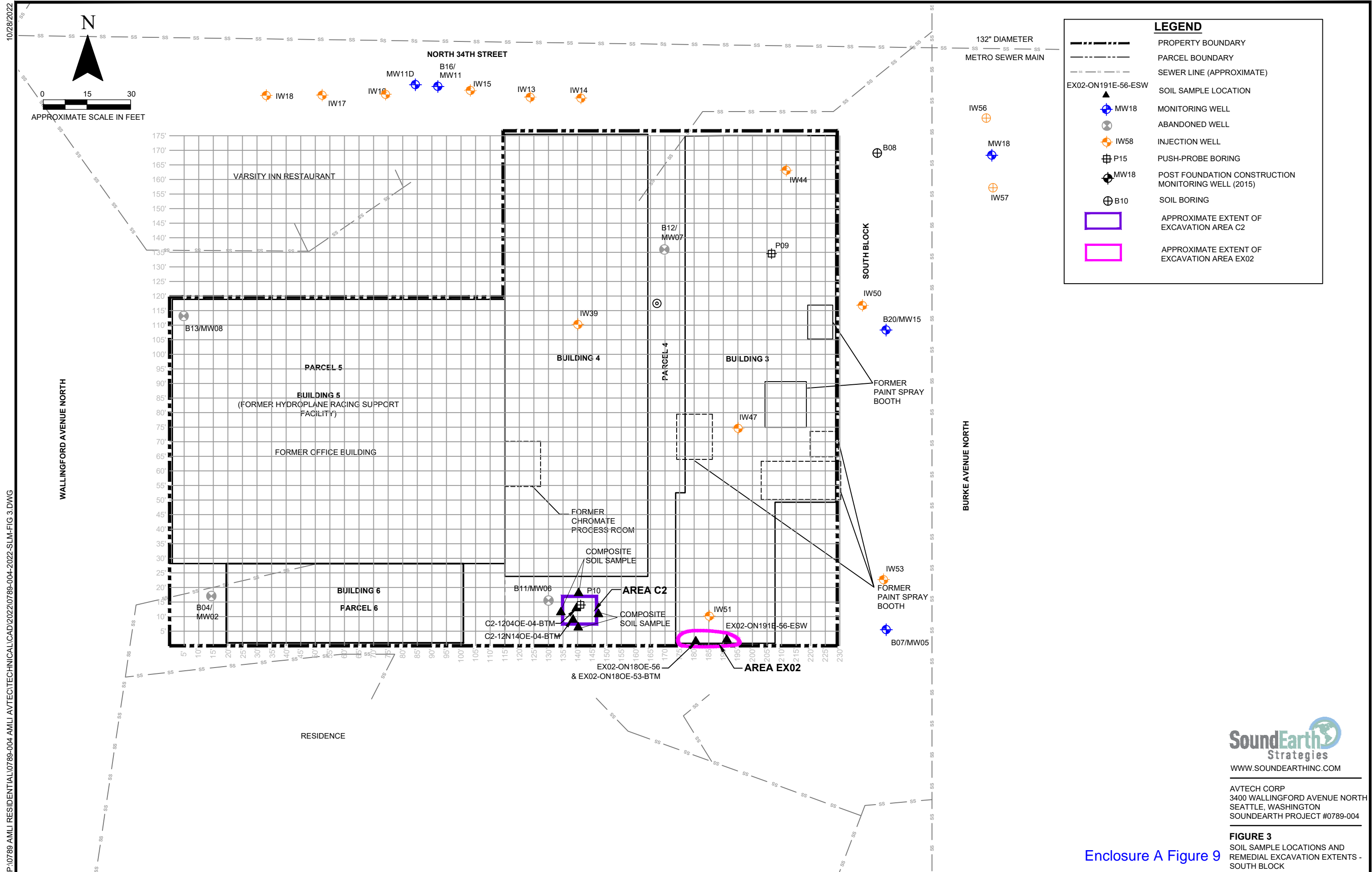


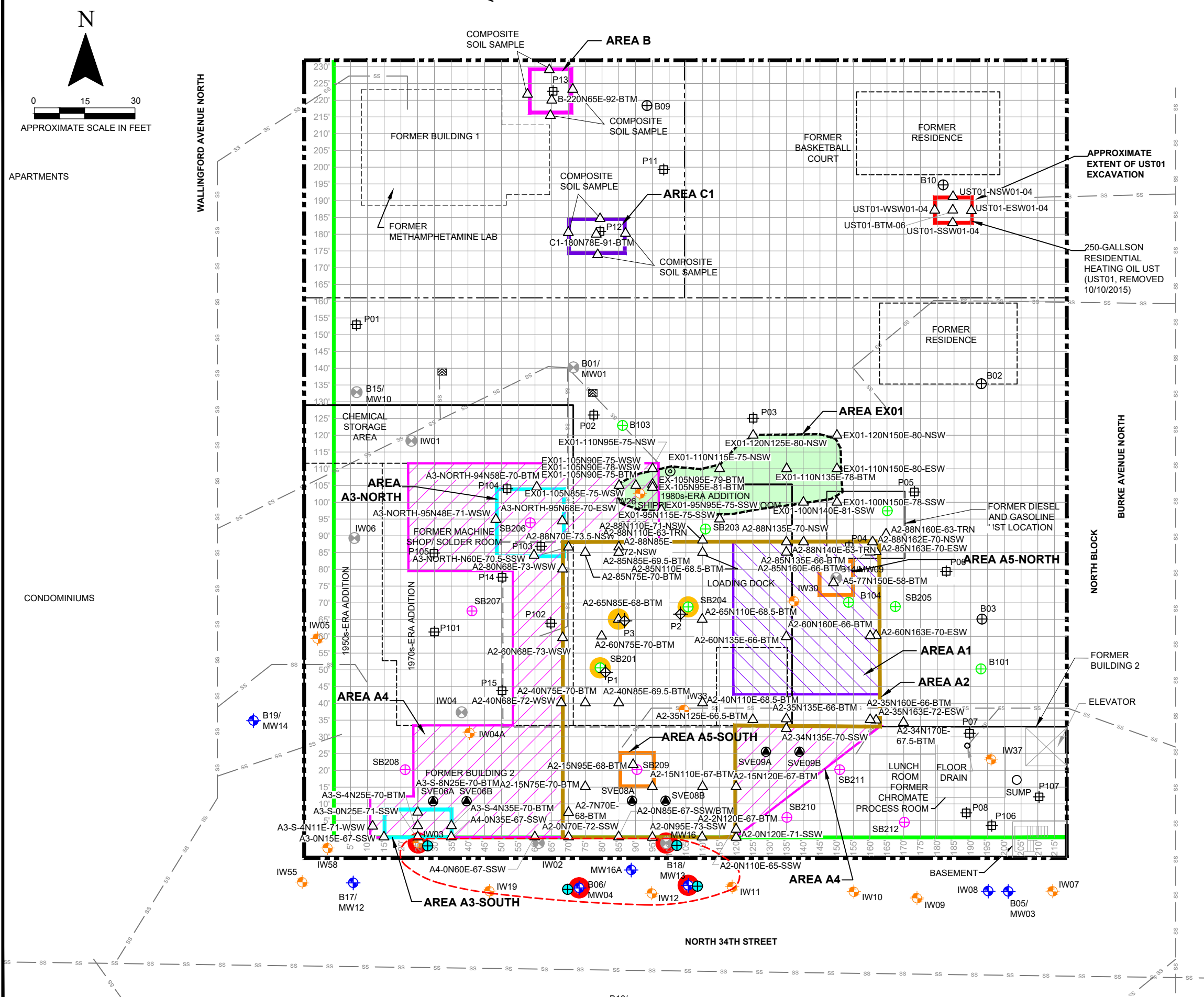
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3400 WALLINGFORD AVENUE NORTH  
SEATTLE, WASHINGTON  
SOUNDEARTH PROJECT #0789-004

**FIGURE 1**  
TCE  
GROUNDWATER ANALYTICAL RESULTS







**LEGEND**

SETBACK FOR NEW BUILDING

PROPERTY BOUNDARY

PARCEL BOUNDARY

SEWER LINE (APPROXIMATE)

CATCH BASIN

SOIL SAMPLE LOCATION

COMPRESSOR OIL SAMPLE

MONITORING WELL

ABANDONED WELL

INJECTION WELL

PUSH-PROBE BORING

MINI-TRACK AUGER BORING  
(JUL 2013, APRIL - MAY 2014)

POST FOUNDATION CONSTRUCTION  
MONITORING WELL (2015)

SOIL BORING

MINI-TRACK AUGER BORING  
(JULY 2013)

HOLLOW STEM AUGER BORING  
(JAN 2013)

HOLLOW STEM AUGER 30-DEGREE ANGLE  
BORING (JAN 2013)

PRECONSTRUCTION INJECTION WELL  
(APR 2014 - JUN 2014)

SUB-SLAB SOIL BORING (MAY 2019)

SOIL VAPOR EXTRACTION WELL

PROPOSED CONFIRMATION SOIL SAMPLING  
BORING

BELOW GROUND SURFACE

HOLLOW-STEM AUGER

MODEL TOXICS CONTROL ACT

THE NORTH AMERICAN VERTICAL DATUM OF 1988

PETROLEUM-CONTAMINATED SOIL

TRICHLOROETHENE

UNDERGROUND STORAGE TANK

A5

KNOWN OVEREXCAVATION AREA

A3

HOT SPOT REMOVAL  
• 0'-10' CLEAN SOIL (85' TO 75' ELEVATION)  
• 10'-17' CONTAMINATED (75' TO 68' ELEVATION)

A2

AREA A - SOURCE AREA  
• 0'-10' CLEAN SOIL (85' TO 75' ELEVATION)  
• 10'-19' CONTAMINATED (75' TO 66' ELEVATION)

A4

SOIL SCREEN AND STOCK PILE AREA (10' -17')

A1

SOIL SCREEN AND STOCK PILE SOURCE (0 - 10')  
(85' TO 75' ELEVATION)

AREA EX01 PCS REMOVAL

APPROXIMATE EXTENT OF EXCAVATION AREA B

APPROXIMATE EXTENT OF EXCAVATION AREA C1

APPROXIMATE EXTENT OF TCE ABOVE MTCA  
METHOD A CLEANUP LEVEL IN SOIL REMAINING IN  
PLACE

DENOTES TCE CONCENTRATION EXCEEDS MTCA  
METHOD A CLEANUP LEVEL

DENOTES TCE CONCENTRATION PREVIOUSLY  
EXCEEDING MTCA METHOD A CLEANUP LEVEL  
REMEDIED BY SOIL VAPOR EXTRACTION SYSTEM

Enclosure A Figure 10

**SoundEarth**  
Strategies

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**FIGURE 2**  
REMEDIAL EXCAVATION EXTENT,  
SOIL SAMPLE LOCATIONS AND  
EXTENT OF TCE IMPACTS IN SOIL -  
NORTH BLOCK

## Enclosure B

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Basis for the opinion: Reviewed documents list

1. SoundEarth Strategies Inc. (SoundEarth), Supplemental Subsurface Investigation Work Plan, Avtech Corp, 3400 Wallingford Avenue North, Seattle, Washington, March 5, 2025.
2. Ecology, VCP Technical Assistance on Avtech Corp Compliance Monitoring, April 24, 2024.
3. Ecology, VCP Technical Assistance on Avtech Corp Injection Work Plan, July 3, 2023.
4. SoundEarth, Remedial Injection and Groundwater Monitoring Work Plan (Updated) AMLI Wallingford Property, 3400 Wallingford Avenue North, Seattle, Washington, June 20, 2023.
5. Ecology, Opinion pursuant to WAC 173-340-515(5) on Remedial Action for the following Hazardous Waste Site: Avtech Corp, 3400 Wallingford Avenue N, Seattle, WA 98103, January 19, 2023.
6. SoundEarth, Ecology Response and Work Plan for Groundwater Monitoring and Vapor Intrusion Evaluation, Avtech Corp, 3400 Wallingford Avenue North, Seattle, Washington, November 15, 2022.
7. Ecology, Re: Opinion Pursuant to WAC 173-240-525(5) on Remedial Action for the following Hazardous Waste Site: Avtech Corp, 3400 Wallingford Avenue N, Seattle, WA 98103, October 4, 2022.
8. SoundEarth, Remedial Injection and Groundwater Monitoring Work Plan, AMLI Wallingford Property, 3400 Wallingford Avenue North, Seattle, Washington 98103, June 13, 2022.
9. SoundEarth, Third Quarter 2017 Groundwater Monitoring Report, Former Avtech Property (AMLI Wallingford), 3400 Wallingford Avenue North, Seattle, Washington October 18, 2017.
10. SoundEarth, Second Quarter 2017 Groundwater Monitoring Report, Former Avtech Property (AMLI Wallingford), 3400 Wallingford Avenue North, Seattle, August 23, 2017.
11. SoundEarth, Cleanup Action Report, AMLI Wallingford Property, 3400 Wallingford Avenue North, Seattle, Washington 98103, June 19, 2017.
12. SoundEarth, First Quarter 2017 Groundwater Monitoring Report, Former Avtech Property (AMLI Wallingford), 3400 Wallingford Avenue North, Seattle, May 16, 2017.
13. Ecology, Opinion on Proposed Cleanup of a Property associated with a Site: Avtech Corp. 3400 Wallingford Ave. N., Seattle, WA, October 22, 2014.
14. SoundEarth, RI/FS/CAP Addendum, Avtech Corporation Property, 3400 Wallingford Avenue North, Seattle, Washington, August 6, 2014.



15. SoundEarth, Draft Cleanup Action Plan, Avtech Corporation, 3400 Wallingford Avenue North, Seattle, Washington 98103, March 14, 2014.
16. Farallon Consulting, Comments Regarding Draft Remedial Investigation and Feasibility Study Report, Avtech Site, 3400 Wallingford Avenue North, Seattle, Washington, March 7, 2014.
17. SoundEarth, Draft Remedial Investigation and Feasibility Study Report, Avtech Property, 3400 Wallingford Avenue North, Seattle, Washington 98103, January 10, 2014.
18. SoundEarth, Groundwater Monitoring Report – Fourth Quarter 2013, Avtech Property, 3400 Wallingford Avenue North, Seattle, Washington, January 8, 2014.
19. SoundEarth, Work Plan, In Situ Chemical Oxidation Pilot Test, Avtech Property, 3400 Wallingford Avenue North, Seattle, Washington, August 20, 2013.
20. SoundEarth, Supplemental Subsurface Soil Assessment – Loading Dock Area, Avtech Wallingford (Building 2), 3400 Wallingford Avenue North, Seattle, Washington, August 14, 2013.
21. SoundEarth, Groundwater Monitoring Report – Third Quarter 2013, Avtech Property, 3400 Wallingford Avenue North, Seattle, Washington, August 8, 2013.
22. SoundEarth, Phase II Environmental Assessment, Wallingford Property, 3400 Wallingford Avenue North, Seattle, Washington, February 17, 2012.