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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Region Office  
PO Box 330316, Shoreline, WA 98133-9716 • 206-594-0000

December 29, 2023

John Drake  
Washington Industries, Inc.  
17742 Talbot Road  
Edmonds, WA 98026  
([jd\\_drake@comcast.net](mailto:jd_drake@comcast.net))

**Re: Opinion on Proposed Cleanup of a Property associated with a Site:**

- **Site Name:** Northwest Plating – Perine Property
- **Property Address:** 812 and 820 South Adams Street, Seattle, WA 98108
- **Facility/Site No.:** 2231
- **Cleanup Site No.:** 1361
- **VCP Project No.:** NW2769

Dear John Drake:

The Washington State Department of Ecology (Ecology) received your request for an opinion on your proposed independent cleanup of a Property associated with the Northwest Plating facility (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70A.305 RCW.

**Issues Presented and Opinion**

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1. Upon completion of the proposed cleanup, will further remedial action likely be necessary at the Property to clean up contamination associated with the Site?

**NO. Ecology has determined that no further remedial action will likely be necessary at the Property to clean up contamination associated with the Site.**

2. Upon completion of the proposed cleanup, will further remedial action likely still be necessary elsewhere at the Site?

**YES. Ecology has determined that further remedial action will likely still be necessary elsewhere at the Site.**

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70A.305 RCW, and its implementing regulations, Chapter 173-340 WAC (collectively “substantive requirements of MTCA”). The analysis is provided below.

## Description of the Property and the Site

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This opinion applies only to the Property and the Site described below. This opinion does not apply to any other sites that may affect the Property. Any such sites, if known, are identified separately below.

### 1. Description of the Property.

The Property includes the following tax parcel in King County, which was affected by the Site and will be addressed by your cleanup:

- Parcel 7886101280

**Enclosure A** includes a legal description of the Property. **Enclosure B** includes a diagram of the Site that illustrates the location of the Property within the Site.

### 2. Description of the Site.

The Site is defined by the nature and extent of contamination associated with the following releases:

- Halogenated volatile organic compounds (HVOCs) including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC) in soil, groundwater, and air.
- Metals including cadmium, hexavalent chromium, nickel and zinc in soil and groundwater.
- Cyanide in soil and groundwater.
- Methylene chloride in soil.

Those releases have affected more than one parcel of real property, including the parcel identified above (the Property).

**Enclosure B** includes a detailed description and diagrams of the Site, as currently known to Ecology.

The major sources of contaminants of concern (COCs) are present on a Washington Industries Inc (WII) parcel (#7886101290), located immediately north of the Property (see **Enclosure B, Figure 2**). The WII Parcel was occupied by Northwest Plating Company from 1957 to early 1990s. The plating and degreasing operations resulted in releases of COCs in soil and groundwater on the WII parcel, which have migrated to the Property. In addition, a separate release of TCE to soil was also confirmed at the Property. Based on the available data, COCs on the Property include HVOCs only.

### 3. Identification of Other Sites that may affect the Property.

Please note a parcel of real property can be affected by multiple sites. At this time, we have no information that the Property is affected by other sites.

## Basis for the Opinion

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This opinion is based on the information contained in the documents listed in **Enclosure C**. A number of these documents are accessible in electronic form from the [Site webpage](#)<sup>1</sup>. The complete records are stored in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Visit our [Public Records Request page](#)<sup>2</sup> to submit a public records request or get more information about the process. If you require assistance with this process, you may contact the Public Records Officer at [recordsofficer@ecy.wa.gov](mailto:recordsofficer@ecy.wa.gov) or 360-407-6040.

This opinion is void if any of the information contained in those documents is materially false or misleading.

## Analysis of the Cleanup

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### 1. Cleanup of the Property located within the Site.

Ecology has concluded that, upon completion of your proposed cleanup, **no further remedial action** will likely be necessary at the Property to clean up contamination associated with the Site. That conclusion is based on the following analysis:

#### a. Characterization of the Site.

Ecology has determined your characterization of the Site is sufficient to establish cleanup standards for the Site and select a cleanup for the Property. The Site is described above and in **Enclosure B**.

#### *Soil:*

In 2011 through 2016, soil contaminated with TCE (and a limited area of PCE) was encountered at the northern portion of the Property at depths ranging from 1 to 13 feet below ground surface (bgs). A soil vapor extraction (SVE) system has been operating on the north-adjacent WII parcel since 2017, which appears to have effectively reduced the HVOC concentrations in soil on the Property. Current soil samples collected in 2022 in the vicinity of historic exceedances did not contain HVOC concentrations above the MTCA Method A soil cleanup levels.

Confirmation soil samples were not collected at all historic exceedance locations; therefore, it is possible that limited residual soil contamination may still be present on the northern portion of the Property.

The extent of the residual soil contamination is likely defined by:

- The eastern extent is defined by soil borings B-33, B-46, and B-50;
- The southern extent is defined by soil borings B-48, B-49, B-58, and B-59;
- The western extent is defined by an empirical demonstration based on groundwater data collected at wells MW-21s/MW-21i. The soil concentrations did not cause an

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<sup>1</sup> <https://apps.ecology.wa.gov/cleanupsearch/site/1361>

<sup>2</sup> <https://ecology.wa.gov/About-us/Accountability-transparency/Public-records-requests>

exceedance in groundwater at wells MW-21s/MW-21i. The existing structures and pavement need to be maintained to prevent future leaching by means of an environment covenant.

- The soil contamination beyond the northern Property boundary will be addressed by the cleanup of the WII parcel.

***Groundwater:***

Groundwater occurs on Property in shallow and intermediate water-bearing zones, separated by a silt-rich low-permeability layer at depths ranging from 10 to 20 feet bgs. Paired monitoring wells screened in shallow and intermediate aquifers were installed throughout the Property and the Site. The groundwater elevations measured in these paired monitoring wells indicate a primarily upward vertical hydraulic gradient, which effectively impedes the downward migration of HVOCs toward the intermediate aquifer and deeper.

Currently, all intermediate monitoring wells on Property contain HVOCs and other COCs concentrations below the MTCA cleanup levels. Two shallow monitoring wells, MW-5s and MW-20s, located immediately along the northern Property boundary, contain VC concentrations above the MTCA Method A groundwater cleanup level. No other HVOCs concentrations exceed the MTCA cleanup levels in shallow monitoring wells on Property.

***Air:***

A positive-pressure heating, ventilation, and air conditioning (HVAC) system has operated on Property since 2012. Air samples collected in 2011 and 2022 indicate that the HVAC system effectively improved the indoor air quality inside the buildings on Property. The indoor air samples collected in 2022 contained HVOC concentrations below the laboratory reporting limits and MTCA Method B air cleanup levels for unrestricted land use.

**b. Establishment of cleanup standards for the Site.**

Ecology has determined the cleanup levels and points of compliance you set for the Site meet the substantive requirements of MTCA.

***Soil:***

**Cleanup levels.**

Method A soil cleanup levels suitable for unrestricted land use and protection of groundwater are appropriate for this Site. For soil near the western Property boundary, Method B soil cleanup levels protective of direct contact were applied based on the results of an empirical demonstration per Ecology's 2016 [Frequently Asked Questions Regarding Empirical Demonstrations and Related Issues, Implementation Memorandum No. 15](https://apps.ecology.wa.gov/publications/SummaryPages/1609047.html)<sup>3</sup>.

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<sup>3</sup> <https://apps.ecology.wa.gov/publications/SummaryPages/1609047.html>

A simplified Terrestrial Ecological Evaluation (TEE) was conducted for the Site. The current or planned land use at the Site and surrounding area makes substantial wildlife exposure unlikely. No further evaluation is needed per [WAC 173-340-7492](#)<sup>4</sup>. Therefore, cleanup levels protective of terrestrial species are not needed at this Site.

**Point of compliance.**

The soil point of compliance for protection of groundwater is soils throughout the Site. The point of compliance for direct contact with soil is the soil between ground surface and 15 feet bgs.

***Groundwater:***

**Cleanup levels.**

The highest beneficial use for groundwater under MTCA is a drinking water source, unless it can be demonstrated that the groundwater is not potable. MTCA Method A groundwater cleanup levels are protective of potable use and are therefore the default.

**Point of compliance.**

The standard point of compliance for groundwater is throughout the Site, from the uppermost level of the saturated zone extending vertically to the lowest depth that could potentially be affected.

***Air:***

**Cleanup levels and point of compliance.**

The standard MTCA Method B cleanup levels for unrestricted use are used for the Property. The standard point of compliance is defined as ambient air throughout the Site.

**c. Selection of cleanup for the Property.**

Ecology has determined the cleanup you proposed for the Property meets the substantive requirements of MTCA. Your proposed cleanup meets minimum cleanup requirements and will not exacerbate conditions or preclude reasonable cleanup alternatives elsewhere at the Site.

***Cleanup conducted to date.***

The cleanup conducted on the Property and the Site (which affects the Property) included:

- Installing and operating a positive-pressure HVAC system in each building on the Property since 2012 to mitigate the risk of HVOCs migrating from the subsurface.
- Installing and operating a SVE system on the WII parcel since 2017 to reduce contamination mass in soil on the WII parcel and the Property.

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<sup>4</sup> <https://app.leg.wa.gov/wac/default.aspx?cite=173-340-7492>

- Conducting enhanced reductive chlorination (ERD) injection events on the WII parcel in 2016 and 2017 to reduce the COC concentrations in groundwater at the Site and the Property.
- Conducting confirmation soil sampling and groundwater monitoring to assess the effectiveness of the cleanup action.

These interim actions effectively cleaned up a majority of the contamination on the Property. Currently, only two shallow monitoring wells located immediately near the northern Property boundary contain VC concentrations above the MTCA Method A groundwater cleanup level. Other COCs in these two wells and all COCs in other wells on Property are below the MTCA cleanup levels.

HVOC concentrations in soil have been remediated below the MTCA cleanup levels, based on data from confirmation soil sample locations. Residual soil contamination is likely present in limited areas on the northern portion of the Property, beneath the existing buildings. Air quality inside the buildings meets the MTCA cleanup standards.

***Post-cleanup controls and monitoring.***

Ecology concurs that the residual contamination on Property can be managed by institutional and engineering controls, as well as post-cleanup monitoring, to ensure compliance with cleanup standards. The following documents should be submitted for Ecology's review:

- Environmental covenant for institutional controls.

The institutional controls should prohibit or limit the activities that may alter or remove the existing structures and pavement on Property in any manner that would expose contaminated soil and groundwater, result in a release to the environment, or create a new exposure pathway.

- Operation and maintenance plan for engineering controls.

The existing HVAC system should be inspected and maintained periodically to ensure the effectiveness of vapor intrusion mitigation.

- Confirmational monitoring plan.

Confirmational monitoring is needed at the Property to confirm the long-term effectiveness of the cleanup. The confirmational monitoring should at least include periodic monitoring of wells MW-5s and MW-20s. It may also include indoor air monitoring, if necessary.

- Contingency plan.

***Next steps.***

Ecology recommends starting preparation of the aforementioned documents upon receipt of this opinion letter. Ecology is happy to work with you to ensure these documents meet the substantive MTCA requirements.

Electronic submittal of all sampling data collected in and post-2005 into Ecology's electronic Environmental Information Management (EIM) database is a requirement in

order to receive a final Ecology opinion for this Property. Nicole Masurat (email [nicole.masurat@ecy.wa.gov](mailto:nicole.masurat@ecy.wa.gov)) is Ecology's contact and resource on entering data into EIM.

**2. Cleanup of the Site as a whole.**

Ecology has concluded that **further remedial action** will still be necessary elsewhere at the Site upon completion of your proposed cleanup. In other words, while your proposed cleanup may constitute the final action for the Property, it will constitute only an **"interim action"** for the Site as a whole.

### Limitations of the Opinion

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**1. 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 **does not**:

- Change the boundaries of the Site.
- Resolve or alter a person's liability to the state.
- 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).

**2. Opinion does not constitute a determination of substantial equivalence.**

To recover remedial action costs from other liable persons under MTCA, one must demonstrate that the action is the substantial equivalent of an Ecology-conducted or Ecology-supervised action. This opinion does not determine whether the action you proposed will be substantially equivalent. Courts make that determination. See RCW 70A.305.080 and WAC 173-340-545.

**3. Opinion is limited to proposed cleanup.**

This letter does not provide an opinion on whether further remedial action will actually be necessary at the Property upon completion of your proposed cleanup. To obtain such an opinion, you must submit a report to Ecology upon completion of your cleanup and request an opinion under the VCP.

**4. 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(6).

## Contact Information

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Thank you for choosing to clean up your Property under the Voluntary Cleanup Program (VCP). As you conduct your cleanup, please do not hesitate to request additional services. We look forward to working with you.

For more information about the VCP and the cleanup process, please visit our web site: [www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm](http://www.ecy.wa.gov/programs/tcp/vcp/vcpmain.htm). If you have any questions about this opinion, please contact me by phone at 425-229-2565 or by e-mail at [jing.song@ecy.wa.gov](mailto:jing.song@ecy.wa.gov).

Sincerely,



Jing Song  
Site Manager  
Toxics Cleanup Program, NWRO

Enclosures (3):      A – Legal Description of the Property  
                             B – Description and Diagrams of the Site (including the Property)  
                             C – Basis for the Opinion: List of Documents

cc:      Colby Shaefer, Lift Real Estate Partners, [cschaefer@liftrp.com](mailto:cschaefer@liftrp.com)  
         Michael Murray, Lift Real Estate Partners, [murray@liftrp.com](mailto:murray@liftrp.com)  
         Mariem Esparra, TRC Environmental Corporation, [MEsparra@trccompanies.com](mailto:MEsparra@trccompanies.com)



Enclosure A

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Legal Description of the Property

### **Property Description**

**Parcel Number:** 7886101280

**Legal Description:** SOUTH SEATTLE ADD ALL LOTS 1 & 2 TGW POR LOTS 7 & 8 LY ELY OF NP RY R/W TGW  
VAC ALLEY ADJ TGW ALL LOTS 1 & 2 TGW POR LOTS 3 & 4 LY ELY SD R/W BLK 2 LADD'S 1ST ADD TO S  
SEATTLE

**Plat Block:** 30&-

**Plat Lot:** 1-2 & POR 7-8

## Enclosure B

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### Site Description and Diagrams

## Site Description

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

### Site

The Site is defined as the nature and extent of the following releases:

- Halogenated volatile organic compounds (HVOCs) including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE) and vinyl chloride (VC) in soil, groundwater, and air.
- Metals including cadmium, hexavalent chromium, nickel and zinc in soil and groundwater.
- Cyanide in soil and groundwater.
- Methylene chloride in soil.

The Site is generally located on two King County parcels west of Interstate 5 (**Figure 1, Figure 2**). The two parcels are:

- Southern parcel: A 0.85-acre King County parcel 7886101280, with address 812 and 820 South Adams Street. This parcel is referred to as the Property in this opinion letter.
- Northern parcel: A 0.31-acre King County parcel 7886101290, with address 825 South Dakota Street. This parcel is referred to as Washington Industries Inc (WII) parcel.

According to MTCA, the Site is defined as all areas where contamination has come to be located. Based on the currently available data, the Site includes both the Property and the north-adjacent WII parcel, as well as the properties and rights-of-way to the north and west. The contaminants of concern (COCs) on the Property consist of HVOCs only.

### Area and Property Description

The Property is located approximately 3 miles south of downtown Seattle, along the eastern boundary of the Lower Duwamish River Industrial District. The Property is currently bordered to the north by the WII parcel and South Dakota Street; to the east by 9th Avenue South and Interstate 5; to the south by South Adams Street and warehouse buildings; and to the west by BNSF railroad, a warehouse building, and Airport Way South.

### Property History and Current Use

- The Property:
  - Eastern portion: Three single family residences were built on the eastern portion of the Property in the early 1900s. A warehouse and service garage building was constructed in 1957 and replaced the residences. This building was initially occupied by a beverage distributor from 1957 to 1961. John Perine Company (currently Perine Danforth Company) occupied the building from 1961 to present. A 1,000-gallon gasoline underground storage tank (UST) was installed at northeast corner of the Property in 1957 and was closed in place in 2011 (**Figure 3**).

The 1957-vintage building is designated as Building 1 on **Figure 2**, with address 820 South Adams Street.

- Western portion: A lumber shed and a single-story warehouse building was built on the western portion of the Property in the 1910s, which was replaced by a warehouse and shop building in 1922. Building tenants included a fruit cannery, a winery (1941 to 1957), Brown Engineering (1957 to 1974), and others. Brown Engineering reportedly operated a machine shop at south portion of the building. The building was demolished and replaced by a two-story warehouse and shop building in 1996.

The 1996-vintage building is designated as Building 2 on **Figure 2**, with address 812 South Adams Street. The current tenant of Building 2 is ERTI, an emergency response training company.

- WII Parcel:

The WII parcel was developed with two single family residences in 1884 and 1904. In 1957, both residences were demolished, and a 12,800-square-foot building was constructed. Northwest Plating Company began operations in this building as a metal electroplating business. Facility operations included cadmium, chromium, copper, nickel, and zinc plating; anodizing; application of special metal coatings; metal inspection services; metal polishing and refinishing; and spray painting. The degreasing of metals was routinely performed as a step in the plating process. Solvents used for metals degreasing included primarily TCE and to a lesser extent PCE. Northwest Plating closed in 1989 following the discovery of releases of plating-related chemicals to soil and groundwater. The building is currently vacant.

### **Sources of Contamination**

The major sources of contamination are located on WII parcel, associated with the historical operation of Northwest Plating Company. The identified sources on WII parcel include the former dip tanks (where degreasing was conducted), metal plating equipment, and chemicals used in the metal plating and anodizing operations. HVOs and metals related to plating and degreasing operations were released to soil and groundwater at the WII parcel and have migrated to the Property and nearby properties.

A separate release also occurred on the northern portion of the Property. The identified release consisted of TCE and PCE only; the exact source is unknown.

### **Physiographic Setting**

The Property is situated at elevations of 20 to 25 feet above mean sea level and slopes gently to the west.

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

The closest surface water body to the Site is the Duwamish Waterway approximately 1 mile to the west. Surface water runoff in the area is captured in municipal storm drains (combined sanitary and storm water system) and piped to the Duwamish Waterway to the west (**Figure 3**).

### **Ecological Setting**

The Property is located in an area of industrial land uses. The Property and surrounding properties are zoned for General Industrial 2 (IG2), which allows general and heavy manufacturing and commercial uses.

Properties in the vicinity are mostly covered with buildings, as well as asphalt and concrete pavement. A greenbelt of undeveloped land is located to the east of the Site across Interstate 5.

## Geology

The Property is located at the eastern edge of the Duwamish River Valley, which is filled with deltaic, estuarine, and alluvial sediments deposited by the Duwamish River. According to the published [Geologic Map of Seattle](#)<sup>5</sup>, soils underlying the Site are Quaternary Age alluvium (Qal) consisting of sand, silt, gravel, and cobbles deposited by streams and running water.

Materials encountered on the Property include fine to medium sand to depths of 10 to 15 feet below ground surface (bgs), underlain by an approximate 10-foot-thick silt layer that is continuous through most of the Site. This silt layer appears to act as an aquitard or local perching layer for shallow aquifer in the shallower sands. A 5- to 10-foot-thick sand layer occurs below the silt layer. A second silt layer occurs at depths of about 35 to 52 feet bgs; below that is a dense plastic clay that extends to the maximum explored depth of 90 feet bgs.

## Groundwater

Groundwater occurs in sand units as shallow and intermediate water-bearing zones separated by the silt-rich low permeability layers:

- A shallow unconfined aquifer occurs in the shallow sand layer at depths of approximately 3 to 13 feet bgs. Groundwater in this aquifer generally flows to the northwest (**Figure 4**).
- An intermediate aquifer occurs in the sand unit below the silt layer under confined or semi-confined conditions at depths of approximately 4 to 13 feet bgs. Groundwater in this intermediate aquifer flows generally to the west-northwest (**Figure 5**).

Groundwater monitoring wells were installed throughout the Site with screens installed in both aquifers (**Figure 4, Figure 5**). Groundwater elevations measured in paired monitoring wells indicate the water levels in intermediate aquifer are approximately 2 to 3 feet higher than in the shallow aquifer. This indicates a primarily upward vertical hydraulic gradient at the Site.

Two deep soil borings (SB-15d and MW-7ir, **Figure 3**) were advanced on the WII parcel to total depths of 90 feet bgs in an attempt to reach a deep water-bearing zone. No water-bearing media were encountered below approximately 35 feet bgs in either boring and no deep aquifer monitoring wells were installed.

## Water Supply

Drinking water is supplied to the Property by Seattle Public Utilities which obtains water from the Cedar and Tolt River watersheds. According to Ecology's *Well Log* database, there are no drinking water wells within a half-mile radius of the Site.

## Release and Extent of Contamination in Soil and Groundwater

Environmental investigations have been conducted on the Site since 1989, and on the Property since 2011. The following only summarizes the work completed on or immediately near the Property. Soil and groundwater sampling locations are depicted on **Figure 3**.

- 2011: Seven soil borings (P01 through P07) were installed to 15 feet bgs; two monitoring wells (MW-05s and MW07) were installed on and immediately east of the Property, respectively. The wells

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<sup>5</sup> <https://pubs.usgs.gov/of/2005/1252/>

were screened from 5 to 15 feet bgs.

PCE and/or TCE concentrations in soil exceeded the MTCA Method A cleanup levels at 8 to 9 feet bgs on the northern portion of the Property (borings P04, P07, and well MW05s).

- 2013-2015: Intermediate well MW-05i and shallow/intermediate well pairs MW-20s/MW-20i through MW-23s/MW-23i were installed on Property. TCE concentrations exceeded MTCA Method A soil cleanup level from 1 to 11.5 feet bgs at well MW-20s.
- 2015: 30 soil borings (B-33 through B-61) were installed to total depths ranging from 12 to 19 feet bgs (except B-39 to 3.5 feet bgs) on the Property. Reconnaissance groundwater samples were also collected from temporary well screens in all borings (except B-39).

TCE concentrations exceeded the MTCA Method A soil cleanup level at 3 to 13 feet bgs in the following boring locations: B-34 through B-36, B-38, B-40 through B-42, B-44, B-45, B-56, and B-57. TCE exceeded the MTCA Method A groundwater cleanup level in the following locations: B-34, B-36 through B-38, B-40 through B-43, B-47, and B-56.

- 2016: soil borings P08 through P11 were advanced to 10 feet bgs in the vicinity of boring B-56. Soil samples collected at 4 to 4.5 feet bgs from all four soil borings contained TCE concentrations above the MTCA Method A soil cleanup level.
- 2022: Soil borings B-71 through B-76 were advanced near historic borings B-36, B-42, and B-44. TCE concentrations were below the MTCA Method A soil cleanup level in all soil samples, indicating TCE concentrations in soil have declined.
- Groundwater monitoring was conducted on monitoring wells from 2013 to 2022. As of 2022, only two wells (MW-5s and MW-20s), located along the northern Property boundary, contained VC concentrations above the MTCA Method A groundwater cleanup level. Other HVOCs were detected below the MTCA cleanup levels in all wells on Property.

### **Soil Vapor and Indoor Air Evaluation and Mitigation**

In 2011, two indoor air samples (SUMMA-1, SUMMA-2) and one outdoor air sample (SUMMA-OD) were collected on Property (**Figure 6**). TCE concentrations in indoor air samples were above the MTCA Method B air cleanup level for unrestricted land use (0.33 micrograms per cubic meter,  $\mu\text{g}/\text{m}^3$ ), but below the indoor air levels for commercial buildings that are protective of adult workers (2.85  $\mu\text{g}/\text{m}^3$ ).

In 2012, a positive-pressure heating ventilation and air conditioning (HVAC) system was installed in each building on Property to mitigate the risk of HVOCs migrating from the subsurface.

In 2013 through 2015, soil gas samples were collected from eight locations VS-1 through VS-8. In 2022, soil gas samples were collected from three locations VS-4, VS-5, and VS-9 (**Figure 3**). The HVOC concentrations in 2022 sampling events declined significantly from the 2013–2015 events. In 2022, TCE exceeded the soil gas screening level that is protective of commercial workers (95  $\mu\text{g}/\text{m}^3$ ) at VS-4 and VS-5.

In 2022, three indoor air samples (IA-1, IA-2, IA-3) and one outdoor air sample (AA-1) were collected on Property (**Figure 7**). HVOC concentrations in all air samples were below the laboratory reporting limits and MTCA Method B air cleanup levels.

**Interim Cleanup Actions on WII Parcel:**

Interim actions were conducted on the WII parcel since 1993. These interim actions include:

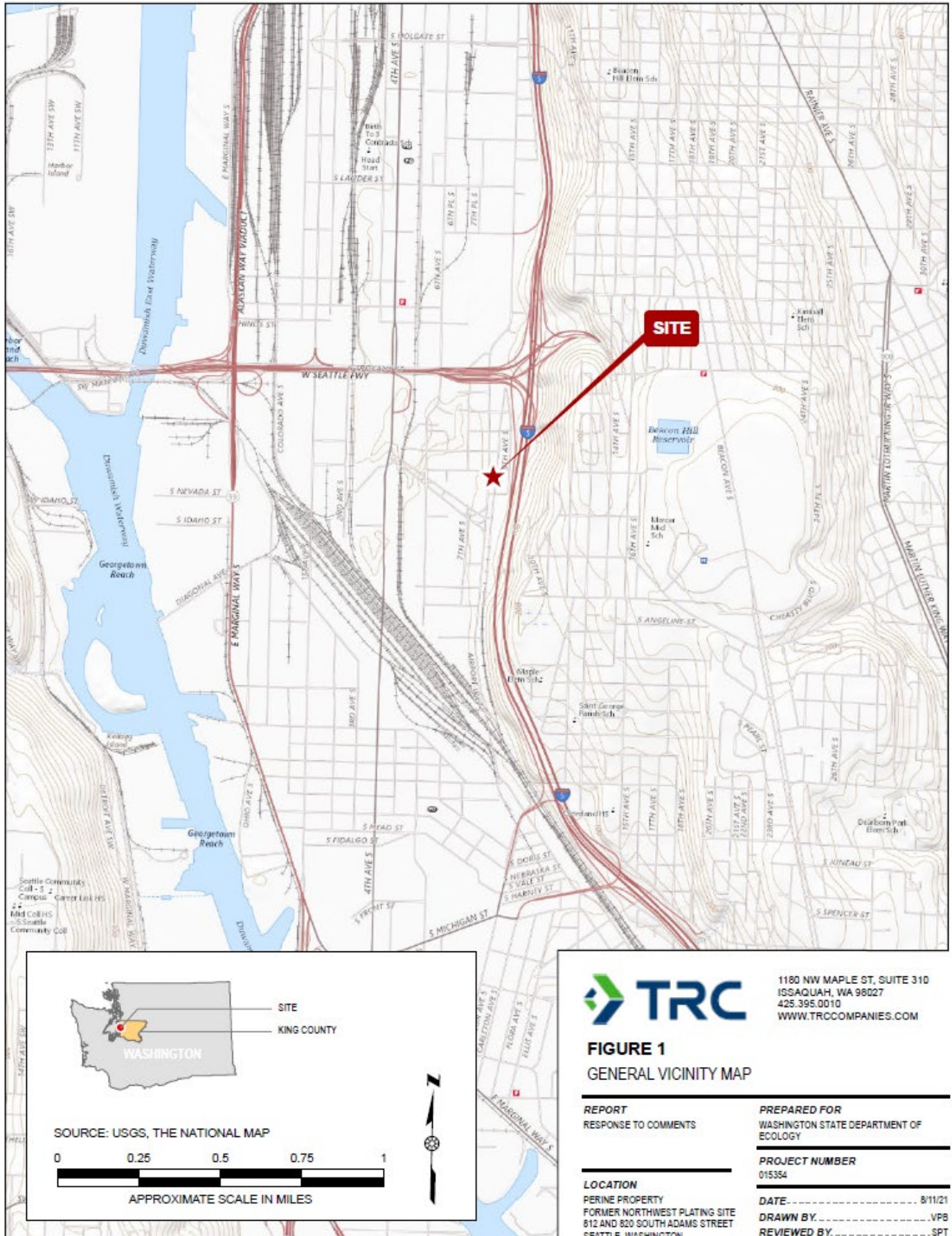
- 1993: Most of the tanks and equipment, as well as hazardous waste and plating solutions, were removed from the WII parcel.
- 2005: The interior of the building was decontaminated, and select interior building features (e.g., conduit and piping) were demolished. Hot spot excavation was conducted; approximately 150 cubic yards of impacted soil near the former dip tanks, processing areas, and floor trenches were removed from the parcel.
- 2016 and 2017: A soil vapor extraction (SVE) system was installed and has been operating on the WII parcel since 2017. In addition, multiple enhanced reductive chlorination (ERD) injection wells were installed to 15 feet bgs on the WII parcel in 2016. Bioaugmentation culture and electron donor material were injected to the shallow aquifer through these ERD injection wells in 2016 and 2017, to enhance anaerobic biodegradation in groundwater.

These interim actions were conducted on the WII parcel, but appeared to have positive impact on the reduction of contamination on Property.



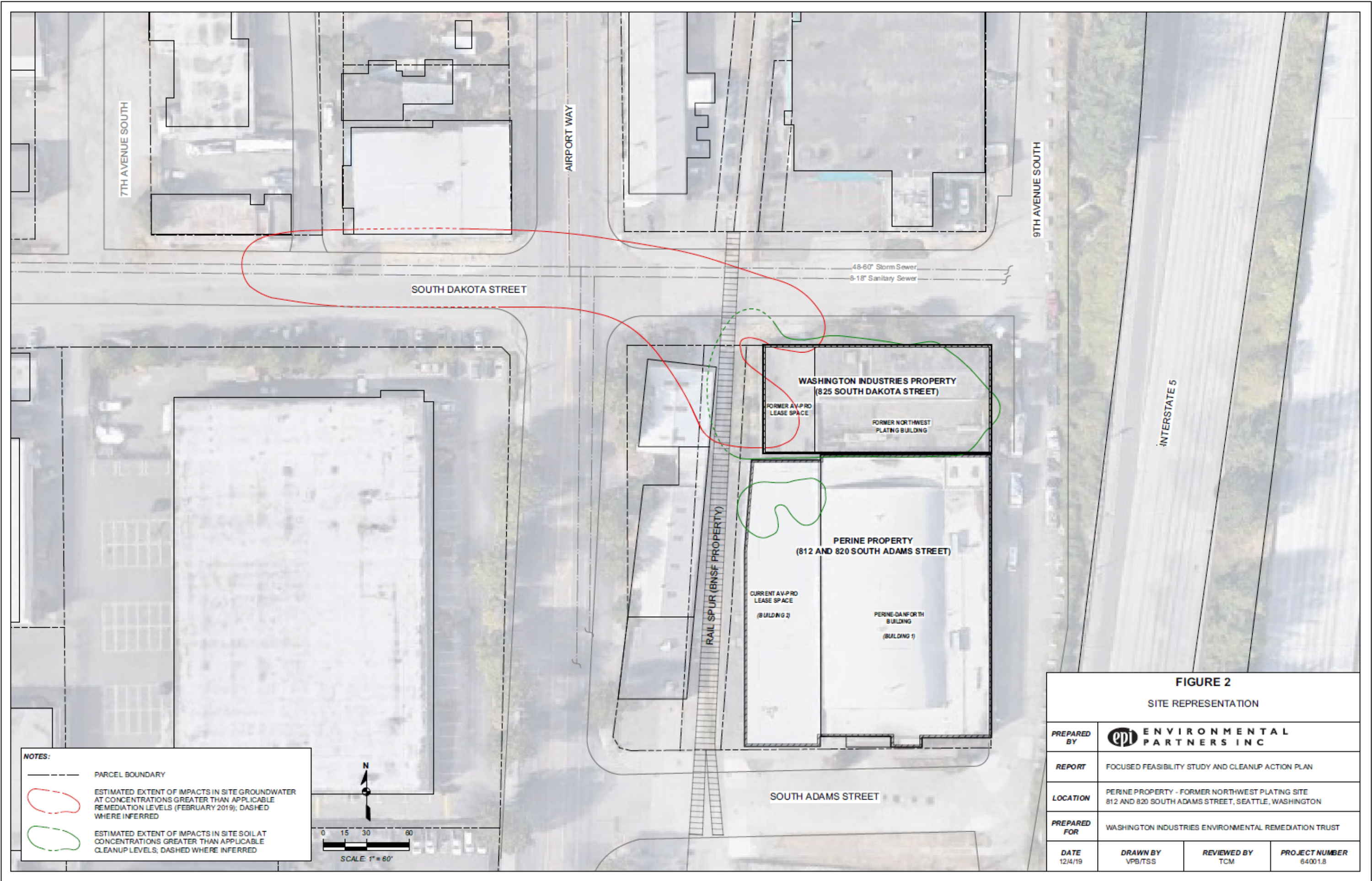
## Site Diagrams

## Enclosure B: Figure 1

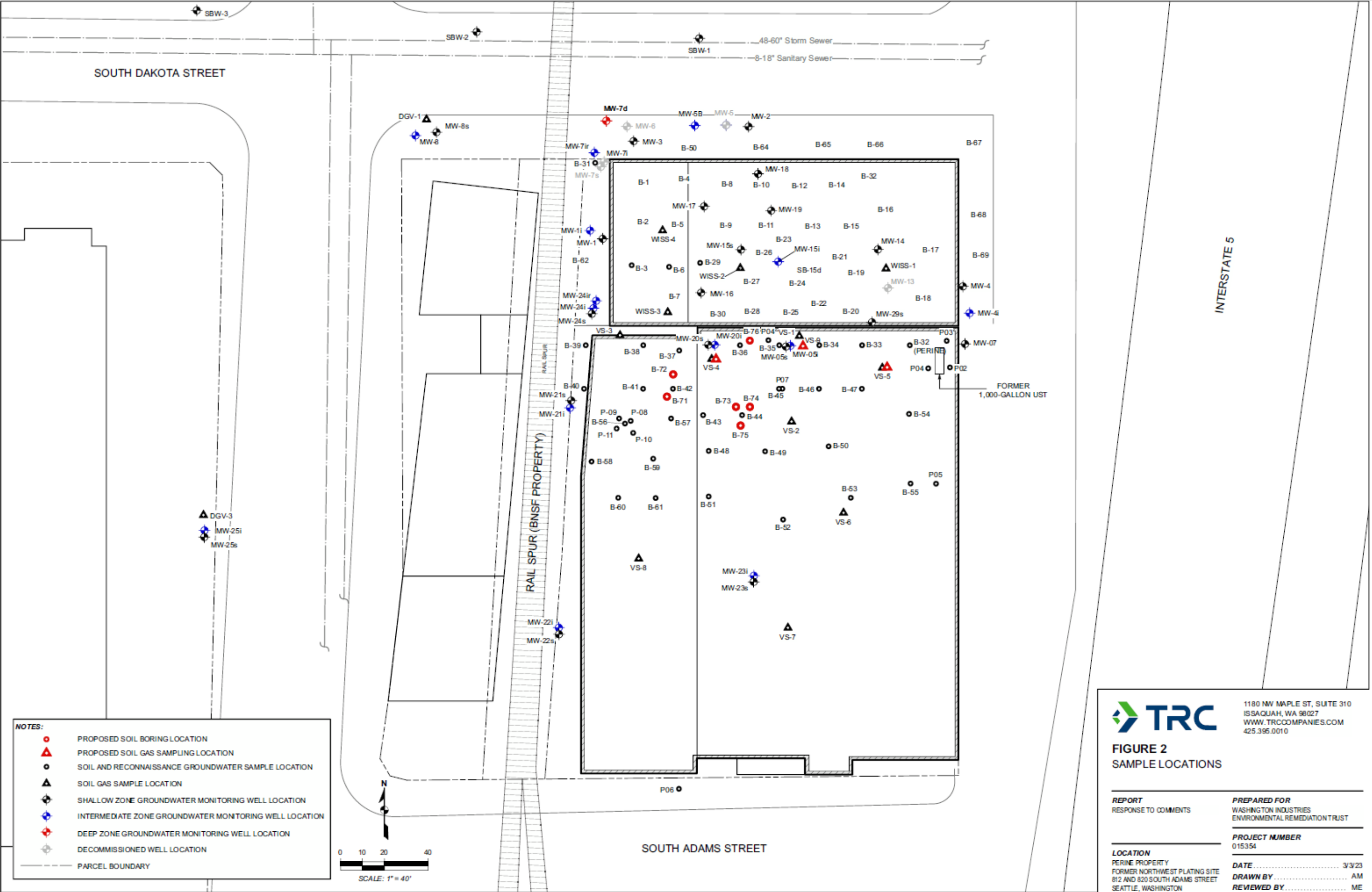




Enclosure B: Figure 2

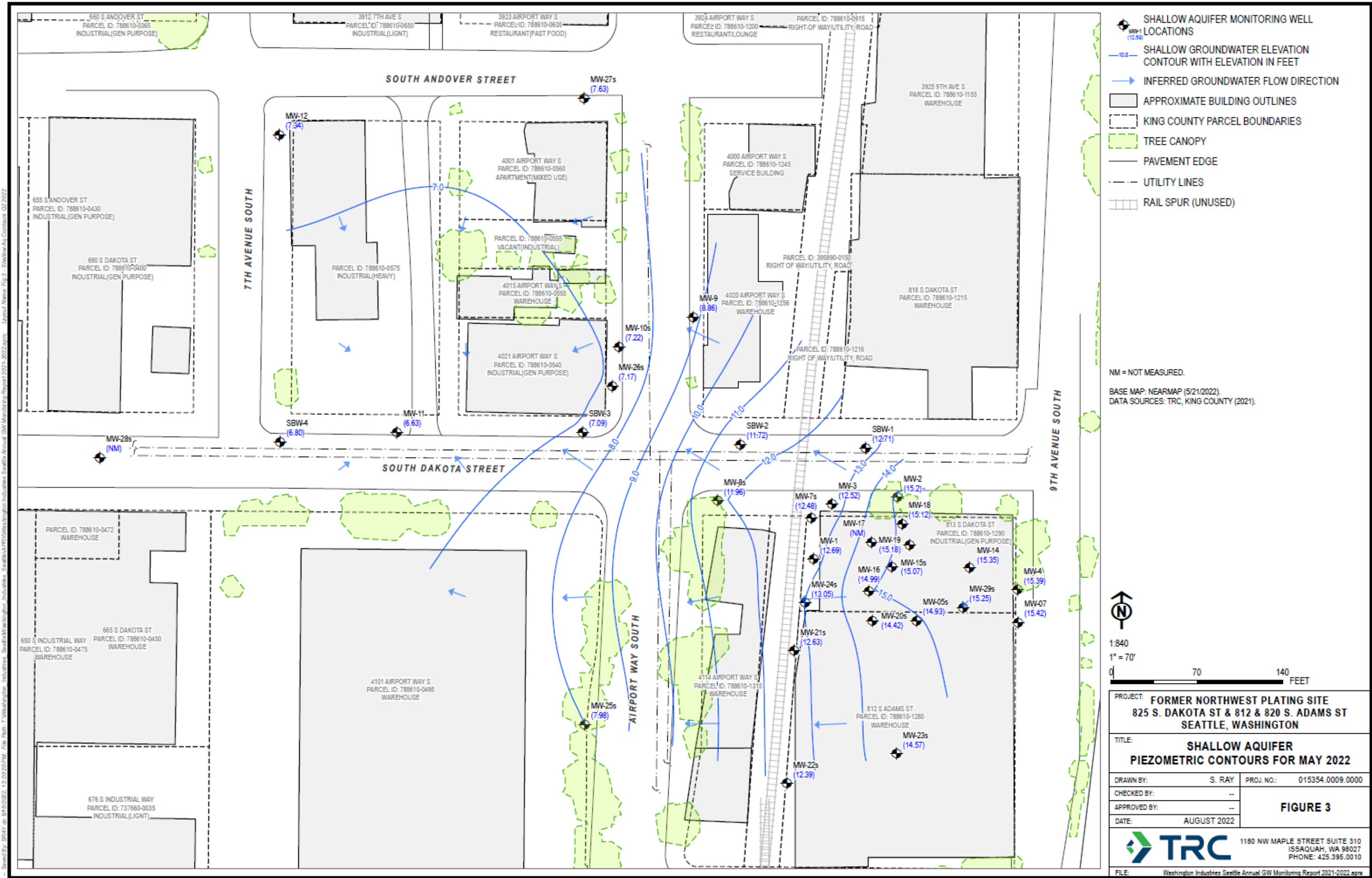


Enclosure B: Figure 3

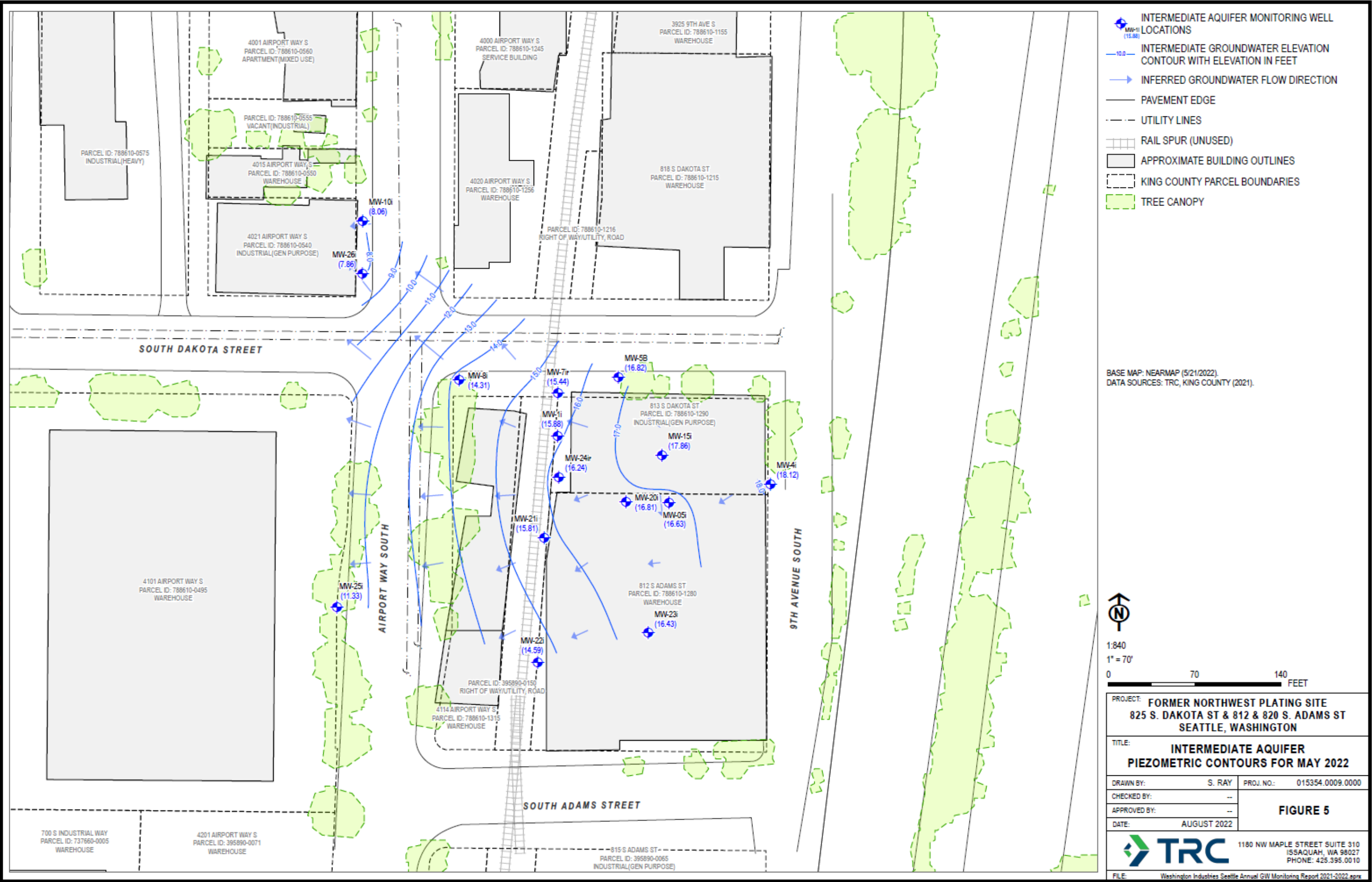




Enclosure B: Figure 4

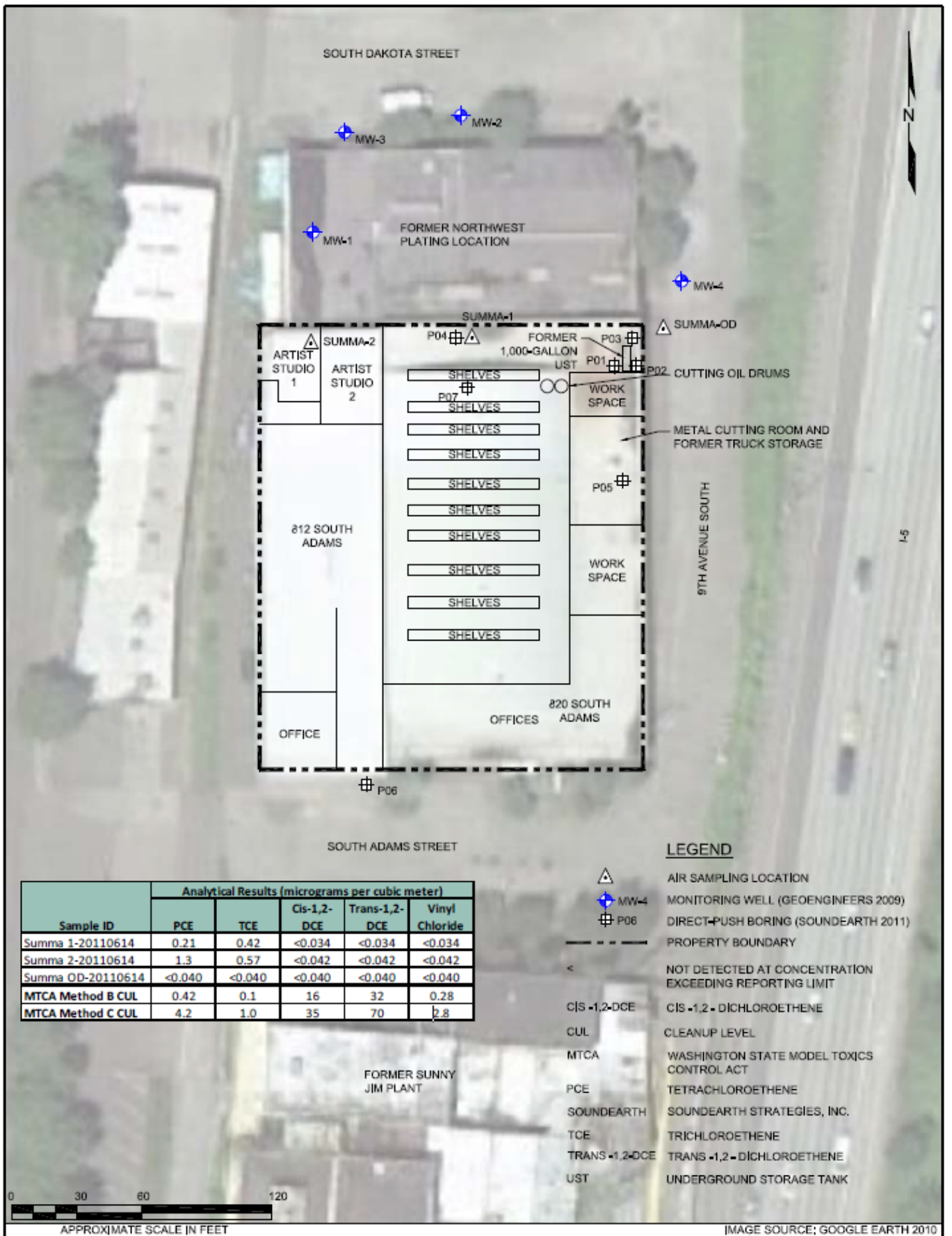


Enclosure B: Figure 5





## Enclosure B: Figure 6



# Enclosure B: Figure 7



## LEGEND

- SITE BOUNDARY
- Indoor/Ambient Air Sample
- Soil Gas Sample

0 100  
SCALE IN FEET



## NOTES:

1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.



Quality Service for Environmental Solutions | farallonconsulting.com

Washington  
Issaquah | Bellingham | Seattle  
  
Oregon  
Portland | Bend | Baker City  
  
California  
Oakland | Folsom | Irvine

**FIGURE 2**  
**SITE PLAN**  
**820 SOUTH ADAMS STREET**  
**SEATTLE, WASHINGTON**

FARALLON PN: 2032-004

Drawn By: sgaynier

Checked By: YP

Date: 1/30/2019

Disc Reference

Path: Q:\Projects\2032 MacMillan Piber - Copy\004 Unknown\Mapfiles\Figure\_2\_SitePlan.mxd



Enclosure C

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Basis for the Opinion: List of Documents

1. GeoEngineers, *Phase 1 Environmental Site Assessment, Northwest Plating Company, Seattle, Washington*, May 5, 1989.
2. GeoEngineers, *Report of Phase 2 Environmental Site Assessment, Northwest Plating Company, Seattle, Washington*, June 20, 1990.
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