



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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May 30, 2017

Mr. Mike Rhubright  
Tacoma Public Utilities  
3628 South 35<sup>th</sup> Street  
Tacoma, WA 98409

**Re: Further Action at the following Site:**

- **Site Name:** Tacoma Public Utilities (TPU) Transformer at POT Pier 7
- **Site Address:** 2201 Sitcum Way, Tacoma, Pierce County, WA
- **Facility/Site No.:** 15369
- **VCP Project No.:** SW1561

Dear Mr. Rhubright:

The Washington State Department of Ecology (Ecology) received your request for an opinion regarding a proposed interim remedial action as part of your independent cleanup of the TPU Transformer at POT Pier 7 (Site). This letter provides our opinion. We are providing this opinion under the authority of the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

**Issue Presented and Opinion**

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Is further remedial action necessary to clean up contamination at the Site?

**YES. Ecology has determined that further remedial action is necessary to clean up contamination at the Site.**

This opinion is based on an analysis of whether the remedial action meets the substantive requirements of MTCA, Chapter 70.105D RCW, and its implementing regulations, Chapter 173-340 WAC (collectively "substantive requirements of MTCA"). The analysis is provided below.

**Description of the Site**

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This opinion applies only to 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.

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

- Total petroleum hydrocarbons (TPH) as mineral oil into the soil and potentially groundwater.

As the draft work plan did not include any figures or tables, for a current Site description, please refer to Robinson Noble, Inc.'s (Robinson Noble) *Tacoma Public Utilities Soil Remediation Near Port of Tacoma, Pier 7, Tacoma, Washington*, report, dated July 2015.

The Site is located on Pierce County Assessor tax parcel 2275200633, owned by the Port of Tacoma, with a closest street address of 2201 Sitcum Way, Tacoma, Pierce County, Washington. The Site is in an area of Port of Tacoma owned land known as Pier 7. Please note the parcel(s) of real property associated with this Site are also located within the projected boundaries of the Tacoma Smelter Plume facility (FSID #62855481). At this time, Ecology has no information that those parcel(s) are actually affected. This opinion does not apply to any contamination associated with the Tacoma Smelter Plume facility.

### **Basis for the Opinion**

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This opinion is based on the information contained in the following documents:

1. Robinson Noble, *Draft work plan for additional soil and groundwater investigation near Port of Tacoma Pier 7*, Tacoma, Washington, dated October 14, 2016.
2. Ecology, *TPU Transformer at POT Pier 7 II – Initial Investigation Report*, dated October 12, 2015.
3. Robinson Noble, *Tacoma Public Utilities Soil Remediation Near Port of Tacoma, Pier 7, Tacoma, Washington*, report, dated July 2015.
4. Email correspondence from TPU to Ecology, dated April 22, 2015.

Those documents are kept in the Central Files of the Southwest Regional Office of Ecology (SWRO) for review by appointment only. You can make an appointment by calling the SWRO resource contact at (360) 407-6365.

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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Ecology has concluded that **further remedial action** is necessary to clean up contamination at the Site. That conclusion is based on the following analysis:

This opinion letter provides comments on Robinson Noble's *Draft work plan for additional soil and groundwater investigation near Port of Tacoma Pier 7, Tacoma, Washington*, dated, October 14, 2016. The work plan proposes additional investigation related to a release of 143 gallons of mineral oil from an electrical transformer.

The pad-mounted transformer described in the work plan is a 750 KVA, industrial-type unit owned and operated by TPU, and is located on Port of Tacoma property (Figure 1). The surrounding area is paved with concrete and asphalt and is used for staging shipping containers. TPU reported that the transformer failed, releasing a total of 143 gallons of mineral oil (dielectric fluid). Based on TPU records, the mineral oil was believed to not contain polychlorinated biphenyls (PCBs). Immediately under the concrete pad, the concentration of TPH as mineral oil in soil was 136,000 milligrams per kilogram (mg/kg). The release was reported to Ecology via email on April 22, 2015 and entered into Ecology's Environmental Report Tracking System (ERTS). Per that email, the release was discovered on January 22, 2015.

On May 4, 2015, Robinson Noble conducted a preliminary assessment of subsurface conditions in the area immediately around the transformer. Robinson Noble advanced seven direct push borings (B1 through B7) and collected soil samples (Figure 2). Grab groundwater was sampled from borings B1, B3, B5, and B6. No concentrations of mineral oil were detected in soil or groundwater sampled.

Using a contracted vector truck in July 2015, Robinson Noble oversaw removal of approximately 16 cubic yards of petroleum contaminated soil (PCS), excavating contaminated soils up to 9 feet bgs. The final excavation extended aerally approximately 10 feet by 11 feet, with excavation depths ranging from 1 foot bgs to 9 feet bgs (Figure 3). The excavation was terminated where the concentration of mineral oil in soil was less than the MTCA Method A cleanup level. As the soil removal was completed during low tide, Robinson Noble was able to chase contamination in the northeastern corner of the excavation to approximately 9 feet bgs, but water entering the excavation prevented additional soil sampling. The concentration of mineral oil in soil at 8.5 feet bgs was 17,000 mg/kg, which exceeded the MTCA Method A cleanup level for mineral oil in soil of 4,000 mg/kg. Based on disposal records from the permitted disposal facility, a total of 5.92 tons of oily waste water and 11.85 tons of oily solids were removed from the Site and properly disposed.

In a meeting on April 5, 2016, held between TPU, Robinson Noble, and Ecology, a verbal agreement was made to install one groundwater monitoring well on the downgradient edge of the former excavation. Said well is to be placed as close as possible to PCS given infrastructural and safety concerns. Ecology has the following comments regarding the work plan.

**Comments:**

- 1) Please provide to Ecology the documentation which shows that the dielectric fluid released was non-PCB containing mineral oil. Ecology recommends adding this documentation as an appendix to the work plan.
  - a. Under WAC 173-340-900, Table 830-1, footnote 15, at a minimum the required documentation is at least one of the following:
    - i. The release originated from an electrical device manufactured for use in the United States after July 1, 1979;
    - ii. Oil containing PCBs was never used in the equipment suspected as the source of the release; or
    - iii. The oil was recently tested and did not contain PCBs.
- 2) Revise the work plan to include the vicinity map, Site plan figure with the proposed groundwater monitoring well location, and a table with soil data to date.
- 3) Ecology concurs with sampling soil below the July 2015 excavation fill (at approximately nine feet bgs), and recommends also sampling at the bottom of the borehole (approximately 15 feet bgs). The bottom of the borehole sample is necessary to vertically delineate the mineral oil in soil, as required per WAC 173-340-350(7)(c)(iii)(B).
- 4) Ecology concurs that screening the monitoring well from 5-15 feet bgs will likely be sufficient. In order to verify the well screen installation depth, determine the difference between high and low tide levels. Low tide, based on observations made during the 2015 excavation, was approximately 9 feet bgs.
- 5) In order to identify potential sheen and to evaluate the most representative groundwater conditions related to possible soil contamination, Ecology recommends sampling the monitoring well at low tide. Per Ecology Publication No. 10-09-057, *Guidance for Remediation of Petroleum Contaminated Sites*, sample the monitoring well in one of the following ways:

- a. If Site contaminant of concern (COC) concentration(s) are not detected in water sampled (e.g., less than the laboratory practical quantitation limit [PQL]): perform two sampling events at six months apart (across seasonal fluctuations).
  - b. If Site COC concentration(s) are detected in water sampled and at concentrations less than the established cleanup level for Site water, but greater than the laboratory PQL: perform four consecutive quarterly sampling events, over the course of one year.
  - c. If Site COC concentration(s) detected in water sampled exceed the established Site cleanup level, then continue sampling until four consecutive quarterly sampling events with Site COC concentration(s) less than the MTCA Method A cleanup level is met.
  - d. This does modify the verbal agreement made during the April 5, 2016, meeting described in the work plan. Revise the work plan to reflect these requirements.
- 6) The Robinson Noble work plan appears to suggest using low flow methodology for the quarterly groundwater sampling. Ecology concurs that low flow methodology should be used to sample groundwater at the Site. Sample groundwater at low tide.
- 7) Ecology concurs that analyzing for mineral oil using NWTPH-Dx complies with sampling required for mineral oil releases per WAC 173-340-900, Table 830-1, for both soil and groundwater.
- a. For mineral oil in soil, the MTCA Method A cleanup level for unrestricted land use is appropriate.
  - b. Additionally, if the documentation requested in comment #1 cannot be provided, soil and groundwater should be tested for PCBs (see footnote 15 of Table 830-1).
  - c. If testing for PCBs is required and are identified in soil and/or groundwater, then compare analytical results to:
    - i. The MTCA Method A cleanup level for soil at industrial properties of 10 mg/kg.
    - ii. Based on location and tidal influence, water beneath the Site is presumed to be marine, and thus would not be considered potable. For marine groundwater, MTCA Method A groundwater cleanup levels would not apply for PCBs, as MTCA Method A groundwater cleanup levels apply to potable water sources (see WAC 173-340-720[2]).
    - iii. If PCB sampling is required, see the surface water cleanup levels under WAC 173-340-730 for marine waters. The cleanup levels are summarized in Table 8.13 of Ecology publication No. 10-09-057.
  - d. Ecology concurs with the work plan recommendation to use the MTCA Method A cleanup level for TPH as mineral oil in water at the Site.

- e. For groundwater, Ecology recommends testing one time for total dissolved solids. If total dissolved solids exceed 10,000 milligrams per liter (mg/L), then groundwater would be verified as nonpotable per WAC 173-340-720(2)(b)(ii).
- 8) If field screening indicates mineral oil is still likely present, Ecology **suggests** submitting additional soil sample **on hold** to the laboratory in case mineral oil is detected. The purpose of this is to have the option to calculate a Site-specific cleanup level (MTCA Method B) for mineral oil using Ecology's MTCA TPH spreadsheet. Ecology suggests that if NWTPH-Dx results exceed 4,000 mg/kg, analyze soil for: volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), benzene, toluene, ethylbenzene, total xylenes, methyl tertiary-butyl ether, n-hexane, 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), and naphthalenes.
- a. Guidance for the Site-specific TPH calculation is contained in Ecology publication No. 01-09-073, *Workbook Tools for Calculating Soil and Ground Water Cleanup Levels under the Model Toxics Control Act Cleanup Regulation*.
  - b. Calculating a Site-specific cleanup level for TPH may result in a value greater than 4,000 mg/kg.
  - c. The Site-specific (MTCA Method B) cleanup value for soil is contingent upon having groundwater comply with the cleanup level established for the Site.
- 9) Once soil and groundwater analytical results are in compliance with cleanup levels for soil and groundwater, Ecology concurs with the proposal to submit a comprehensive cleanup report. For this final report, please:
- a. Develop and include a Conceptual Site Model (CSM) as part of the cleanup action report.
  - b. If groundwater complies with cleanup levels for the Site but soil does not, please review Ecology Publication No. 15-09-043, *Model Remedies for Sites with Petroleum Contaminated Soils*, to determine if a model remedy might apply.
  - c. For report drafting, the following checklists may be useful:
    - i. RI checklist:  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1609006.html>
    - ii. FS checklist:  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1609007.html>
- 10) Survey the monitoring well. For elevations, use a United States Geological Survey datum, as required by WAC 173-340-840(4)(e).
- 11) Evaluate the sediment pathway after review of the analytical data for the well install.

- 12) A terrestrial ecology evaluation (TEE) must be performed as part of this cleanup. Please fill out the form on Ecology's website and submit it to us (along with any supporting documentation, as appropriate) for review. The form can be found at: <https://fortress.wa.gov/ecy/publications/summarypages/ecy090300.html>
- 13) Per draft guidance provided by Ecology publication No. 09-09-047, *Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, all structures are at least 100 feet away from the release location. Future Site use is not anticipated to change. Thus, the air (soil gas/vapor) pathway is incomplete and vapor intrusion is not a concern at this Site at this time.
- 14) In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Remedial Actions shall be submitted simultaneously in both a written and electronic format. For additional information regarding electronic format requirements, see the website <http://www.ecy.wa.gov/eim>. Be advised that according to the policy, any reports containing sampling data that are submitted for Ecology review are considered incomplete until the electronic data has been entered. Please ensure that data generated during on-site activities is submitted pursuant to this policy. **Data must be submitted to Ecology in this format for Ecology to issue a No Further Action determination; however Ecology highly recommends that this data be submitted concurrently with submittal of the environmental report.** Please be sure to submit all soil and groundwater data collected to date, as well as any future data, in this format. Be advised that Ecology requires up to two weeks to process the data once they are received.

### **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**:

- 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 70.105D.040(4).

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**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 performed is substantially equivalent. Courts make that determination. *See* RCW 70.105D.080 and WAC 173-340-545.

**3. 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 70.105D.030(1)(i).

**Contact Information**

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Thank you for choosing to clean up the Site under the Voluntary Cleanup Program (VCP). After you have addressed our concerns, you may request another review of your cleanup. Please do not hesitate to request additional services as your cleanup progresses. 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 360-407-6265 or e-mail at [Tim.Mullin@ecy.wa.gov](mailto:Tim.Mullin@ecy.wa.gov).

Sincerely,



Tim Mullin, LG  
SWRO Toxics Cleanup Program

tcm: kb

Enclosure: A – Selected Site Figures

By Certified Mail: [91 7199 9991 7037 0287 2202]

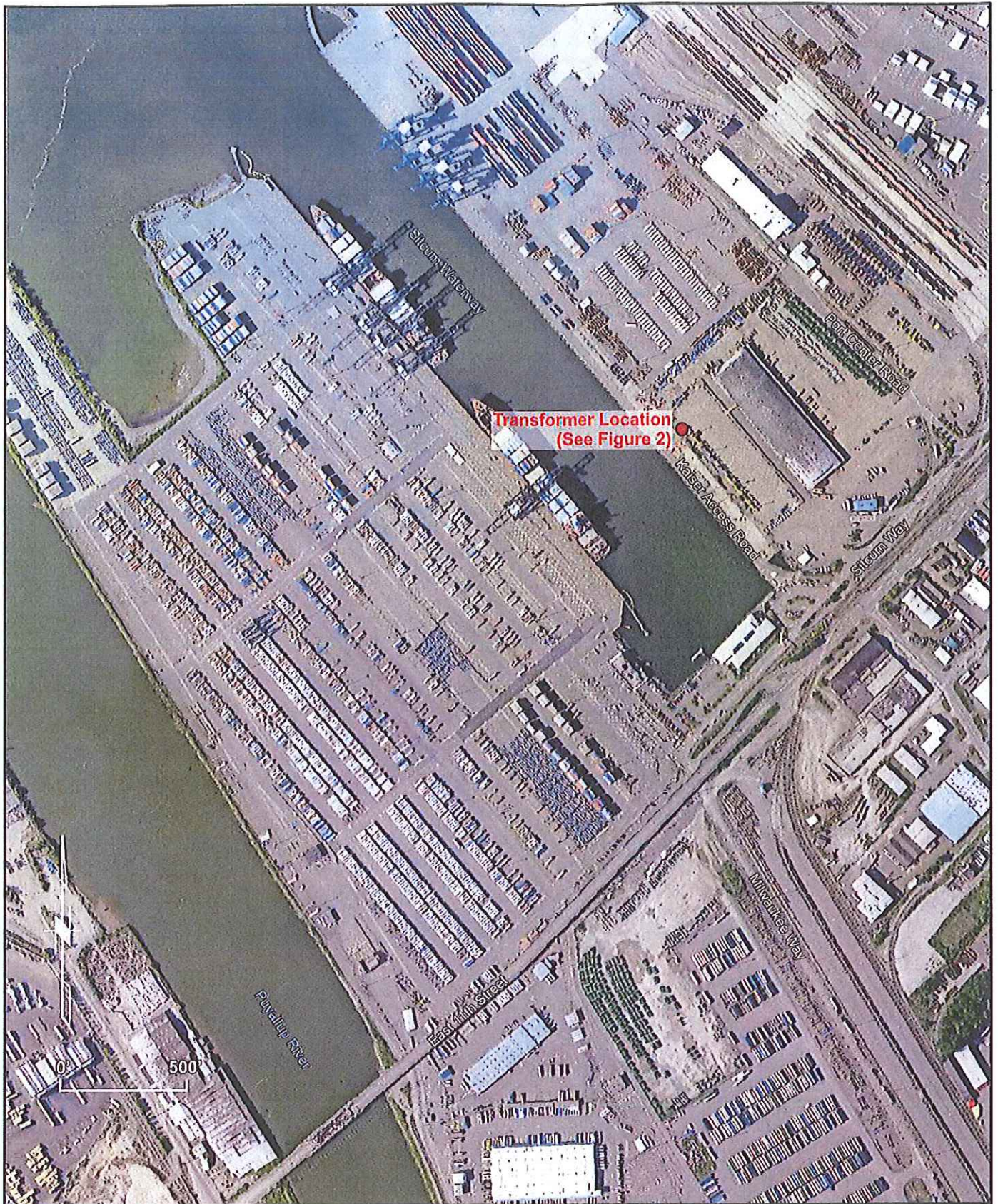
cc: Max Wills, LHG, Robinson Noble, Inc.  
Rob Healy, Port of Tacoma  
Nick Acklam, Ecology  
Matt Alexander, Ecology


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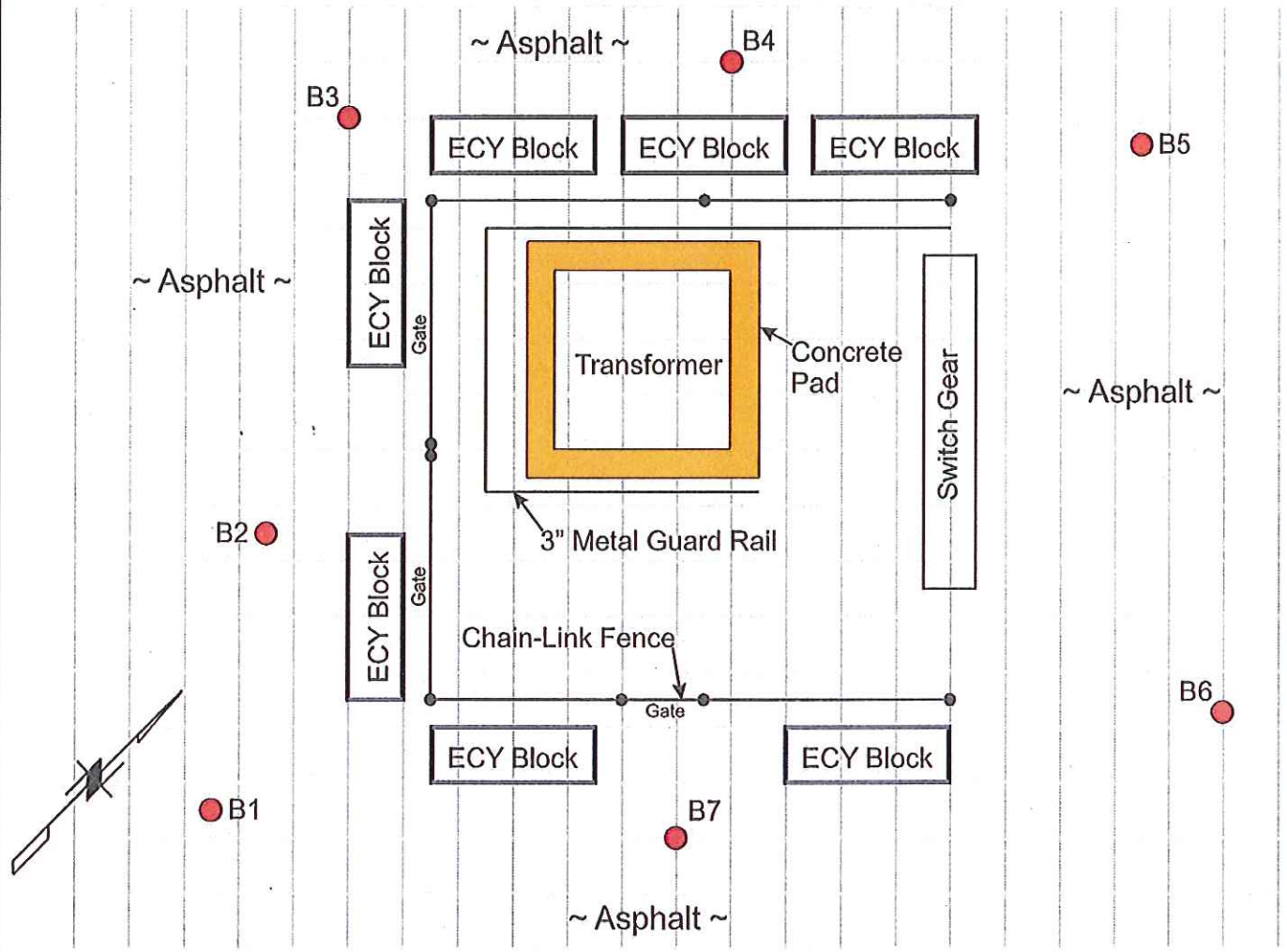
## **Enclosure A**

### **Selected Site Figures**

- 1) Figure 1: Vicinity Map
- 2) Figure 2: Site and Sample Location Diagram [Soil Borings]
- 3) Figure 3: Site and Sample Location Diagram [Excavation]



 <b>ROBINSON NOBLE</b>	Note: Basemap taken from USGS Tacoma North Quadrangle	PM: MTW May 2015 1922-318A	Pierce County T 21 N/R 03 E - 34 Scale 1" = 500'	Figure 1 <b>Vicinity Map</b> Tacoma Public Utilities: Pier 7 Transformer Cleanup
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Grid squares = 2.0 ft.


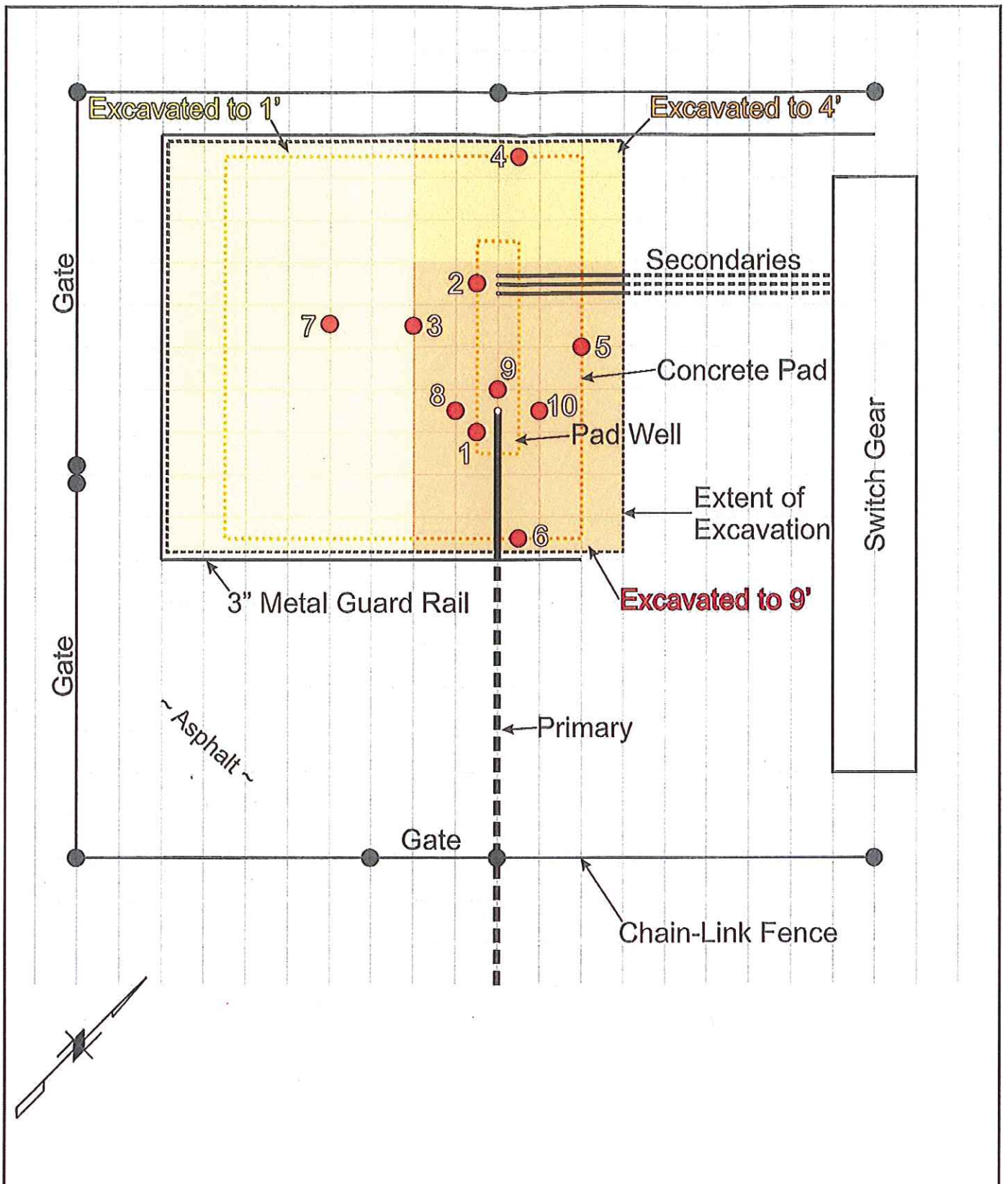

 <p>ROBINSON NOBLE</p>	<p>Note: Aerial Image from Tacoma govME</p>	<p>PM: MTW May 2015 1922-318A</p>	<p>Pierce County T 21 N/R 03 E - 34</p>	<p style="text-align: right;">Figure 2</p> <p style="text-align: center;">Site and Sample Location Diagram</p> <p style="text-align: center;">Tacoma Public Utilities: Pier 7 Transformer Cleanup</p>
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Figure 3



Grid squares = 1.0 ft.

 <b>ROBINSON NOBLE</b>	PM: MTW July 2015 1922-318A	Pierce County T 21 N/R 03 E - 34	Figure 2 <b>Site and Sample Location Diagram</b> Tacoma Public Utilities: Port of Tacoma Pier 7 Transformer Cleanup
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