Remedial Action Work Plan

Poulsbo RV

Puget Sound Gateway Program
SR 509 Completion, Stage 1B
Contract no. 9424

Prepared for:

Washington State Department of Transportation

August 18, 2021
PBS Project 40757.022

ATKINSON CONSTRUCTION

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Remedial Action Work Plan

Site:
SR 509 Completion, Stage 1B
Poulsbo RV
23051 Military Road South
Kent, Washington

Prepared for:
Washington State Department of Transportation

PBS Project 40757.022

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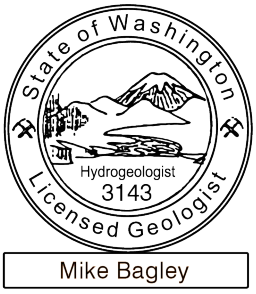

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Acronyms and Abbreviations

ARAR	Applicable, relevant, and appropriate requirements
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and total xylenes
CFR	code of federal regulations
COCs	contaminants of concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CUL	cleanup level
Ecology	Washington State Department of Ecology
EHSI	EHSI International, Inc.
Eh/ORP	oxidation-reduction potential
EM	Electromagnetic
ESA	environmental site assessment
ESO	Environmental Services Office
ft/sec	feet per second
GPR	ground-penetrating radar
HASP	health and safety plan
IC	institutional controls
ID	Identification
mg/kg	milligrams per kilogram
MTCA	(Washington State) Model Toxics Control Act
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyls
PCS	petroleum contaminated soils
PID	Photo Ionization Detector
PTAP	Petroleum Technical Assistance Program
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SGMP	Soil and Groundwater Management Plan
Site	Poulsbo RV Site
SR	State Route
TEE	Terrestrial Ecological Evaluation
TPH	total petroleum hydrocarbon
UST	underground storage tank
VCP	Voluntary Cleanup Program
VOC	volatile organic compound
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation
µg/L	micrograms per liter

1 INTRODUCTION

This Remedial Action Work Plan (RAWP) for Poulsbo RV (Site) was prepared to meet the general requirements of the Cleanup Action Plan Checklist (Ecology, 2016a) which follows the Model Toxics Control Act (MTCA) cleanup regulations (Washington Administrative Code (WAC) Chapter 173-340). The Site is defined as the area in which contaminants in soil exceed their respective cleanup levels. A Remedial Investigation and Feasibility Study has not been completed for the Site. Therefore, this RAWP is not considered a Cleanup Action Plan per WAC Chapter 173-340 and deviates from the Cleanup Action Plan Checklist in various sections.

The Site is registered with Ecology with the following information:

Site Name:	Poulsbo RV
Site Address:	23051 Military Road South Kent, Washington
Property Owner:	Washington State Department of Transportation
Ecology Facility Site Identification (ID):	78643737
Ecology Cleanup Site ID:	6674
Ecology UST program ID:	7000
Ecology Voluntary Cleanup Program ID:	Not yet re-entered
Ecology Site Manager:	Not established
Site Cleanup Status:	No Further Action (with environmental covenant)

1.1 Purpose

The purpose of this RAWP is to describe the cleanup standards for the site, additional site characterization that will be undertaken, the methodology of the cleanup that will be used to achieve the cleanup standards, and the rationale for these decisions. Additional site characterization is planned to take place from the time of Ecology's acceptance of this RAWP through start of remedial excavation at the site. Poulsbo RV's business operations will be moved to that portion of their site to the north of the SR509 project corridor, where they currently plan to operate during the project. Demolition may begin as soon as May 2022. Remedial excavation is planned to be completed during the later spring and summer of 2022. The goal of this work is to follow the procedures outlined in the site's restrictive covenant (see Appendix A) to remove the covenant, re-enter the site into the Voluntary Cleanup Program, and obtain No Further Action status for unrestricted use of the site from Ecology (i.e., regulatory closure).

1.2 General Site Information

The Site is defined as the area in which contaminants in soil and/or groundwater exceed their respective cleanup levels. The Site is located completely within King County parcels 1522049027 and 7260200060 (the Poulsbo RV property). It is situated between Military Road South and Interstate Highway 5, immediately to the north of the State Route 516 in Kent, Washington (see Figure 1).

Several underground storage tanks (USTs) were in use on the site from as early as 1973 (when the site was developed for commercial uses). Two 2,000-gallon gasoline USTs and one 1,000-gallon used oil UST were removed from an area near the southeastern side of the Site's primary building in 1998. At that time, up to 30 cubic yards of suspected petroleum contaminated soil (PCS) was removed from the site. Sound Environmental Consulting performed soil sampling during this interim cleanup action and suggested that the contamination appeared to originate from the oil/water separator, which was located above the gasoline USTs and adjacent to the building. Confirmation soil sampling efforts indicated that contamination extended 11 feet or less

below ground surface. The locations of the oil/water separator, automotive hoists, former USTs, and associated historic remedial excavation areas are provided in Figure 2.

2 SITE DESCRIPTION AND PHYSICAL SETTING

This section describes the physical characteristics of the Site and vicinity. Descriptions are derived from historical documents and explorations conducted for the Washington Department of Transportation (WSDOT) by EHSI and others.

2.1 Location and Legal Description

The Site is in the southwest quarter of Section 15, Township 22, Range 4 of the Willamette Base and Meridian. The boundaries of the Site are presented in Section 1.2. While the Site comprises one assessor's parcel (7260200060) that is only part of the greater Poulsbo RV property, it is generally referred to by the address 23051 Military Road South. The parcel is owned by Military Road Investments LLC.

The Site is approximately 0.77 acres in size and is roughly rectangular in shape (Figure 2).

2.2 Current and Future Use

Since 1980, the site has been utilized as a retail and vehicle maintenance facility. It is currently occupied by Poulsbo RV. WSDOT acquired the property in 2020, and it will be developed as part of planned highway construction. Current plans for the SR 509 Completion Stage 1b project indicate that the majority of the site will be replaced with a roadway that ties into Military Road (see Figure 3).

2.3 Geologic Setting and Soil Descriptions

The Site is located within the Puget Sound Basin, which lies between the Cascade Range to the east and the Olympic Mountains to the west. The landscape configuration of the Puget Sound Basin was a consequence of multiple Pleistocene glaciations resulting in a series of north-trending, elongated ridges separated by deep troughs, the latter now occupied by marine waters or freshwater lakes or streams.

During explorations, the soil observed at the Site generally included the following sequence of soil stratum layers (or horizons), listed as encountered from shallowest to deepest (interpreted from boring logs, EHSI, 2020):

- ***Silty sand*** with minor gravel. Encountered from approximately 0 to 21-26 feet below ground surface (bgs) (approximately 21 to 24 feet thickness) and underlain by:
- ***Silty Gravel***, moist. Typically encountered from approximately 21 to 30 feet bgs (approximately 4 to 9 feet thickness) and underlain by:
- ***Silty Sand***, saturated with water.

Conceptual profiles of the observed subsurface conditions along transects A-A' (Figure 4) show the approximate location and distribution of the soil stratum described above, groundwater table, positive field screening results of petroleum hydrocarbon presence (odor, sheen, PID reading, or staining), and the soil sampling location that exceeded MTCA Method A cleanup levels (CULs).

2.4 Hydrogeology

The site is situated on a rise between the Green River valley to the east and Puget Sound to the west. Based on inference from site and local topography, shallow groundwater may locally flow in a southeasterly direction (EAI, 2015). Based on groundwater elevation monitoring conducted March 3, 2020, groundwater was approximately 21 feet bgs, or at an elevation of approximately 335 feet above mean sea level (EHSI, 2020).

Regionally, groundwater elevation is generally the highest toward the end of the wet season, typically April, and lowest toward the end of the dry season, typically September.

3 PREVIOUS ENVIRONMENTAL ASSESSMENTS

Environmental assessments have been performed at the Site from 1998 to 2020. This section summarizes available reports and relevant activities completed at the Site.

3.1 Underground Storage Tank Closure Site Assessment (Sound Environmental Consulting, 1998)

In October 1998, Sound Environmental Consulting (Sound) oversaw the removal of two 2,000-gallon gasoline USTs and one 1,000-gallon waste oil UST from the area to the southeast of the Site's primary building (see Figure 2). Tank removal was accomplished using two excavations. Based on their observation that petroleum contaminated soil (PCS) appeared to originate above the elevation of the USTs on the west side of the southern excavation, Sound reasoned that contamination observed in that area must have originated from the oil/water separator located near the surface in that location. During excavation, a discharge pipe was observed emerging from the oil/water separator that showed signs of patching and repair. Sound suggested that it was the most likely source of contamination. Sound estimated that up to 8 cubic yards of PCS removed from the area below the oil/water separator was segregated and disposed of off-site.

Sound collected a total of 14 soil samples from the UST excavations. The soil samples were analyzed for the following:

- Gasoline-range hydrocarbons
- Diesel-range hydrocarbons
- Oil-range hydrocarbons
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- Total Lead

Three samples ("Exc.2-South@ 8 ft.", "Exc.2-East @ 10 ft." and "Exc.2-Bottom @ 13 ft.", see Figure 2) that Sound described as "below the Oil/Water Separator" had detectable concentrations of contaminants above current MTCA Method A cleanup levels, including:

- Gasoline-range hydrocarbons
- Ethylbenzene and xylenes

Those samples appear to have been taken from soils left in place following the UST removal and limited remedial excavation.

Groundwater was not encountered during this UST removal and site assessment activity.

3.2 Limited Phase II Environmental Site Assessment (LSI Adapt, 2004)

In August 2004, LSI Adapt (Adapt) conducted a limited Phase II subsurface investigation of the Site, following up on the recommendations of a Phase I environmental site assessment they had previously completed in May 2004. This Phase II was intended to investigate subsurface conditions in the vicinity of decommissioned subsurface hoists located inside the Site's primary building, the former equipment storage area, and the oil/water separator. Adapt utilized a push-probe drilling rig and a hand auger to collect soil samples at nine locations (GP-1 through GP-8, and HB-1, see Figure 2). The borings met with refusal at depths of 10 to 14 feet bgs. Groundwater was not encountered.

Adapt collected a total of 9 soil samples from the borings. The soil samples were analyzed for the following:

- Gasoline-range hydrocarbons
- Diesel-range hydrocarbons
- Oil-range hydrocarbons
- Volatile organic compounds (VOCs)

One sample (HB-1) had detectable concentrations of gasoline-range hydrocarbons, benzene, and xylenes above MTCA Method A cleanup levels.

3.3 Supplemental Limited Phase II Environmental Site Assessment (LSI Adapt, 2005)

In July 2005, Adapt returned to the Site to advance additional borings in the vicinity of the former gasoline and waste oil USTs to attempt to more fully characterize the extent of contamination left in place. They utilized a hollow-stem auger rig to advance these borings (B-1, B-2, and B-3, see Figure 2) to depths of up to 30.5 feet bgs. They used a split spoon sampler to collect soil samples at 2.5-foot intervals, screening them with a PID.

Adapt collected a total of 6 soil samples from the borings (2 samples from each). The soil samples were analyzed for the following:

- Gasoline-range hydrocarbons
- Diesel-range hydrocarbons
- Oil-range hydrocarbons
- Kerosene-range hydrocarbons
- Volatile organic compounds (VOCs)

Adapt reported that none of the borings exhibited recoverable groundwater seepage, and no groundwater samples were collected. No contaminants of concern were detected in any of the samples.

3.4 Phase II Environmental Site Assessment (EHS-International, Inc., 2020)

Working directly for WSDOT, EHS-International, Inc. (EHSI) performed a subsurface investigation at the Site in February 2020. Four groundwater monitoring wells were installed using a hollow-stem auger drill rig. One boring was also advanced for soil sampling purposes. Soil samples were collected at 5-foot intervals during the drilling process, using a split-spoon sampler.

EHSI submitted ten soil samples for laboratory analysis, along with three duplicate soil samples for quality control purposes.

The soil samples were analyzed for the following:

- Gasoline-range hydrocarbons
- Diesel-range hydrocarbons
- Oil-range hydrocarbons
- Volatile organic compounds (VOCs)
- Semi-volatile organic compounds (SVOCs)
- Polycyclic aromatic hydrocarbons (PAHs)
- Polychlorinated biphenyls (PCBs)
- Total Metals (RCRA-8)

EHSI returned to the site to sample groundwater in the wells in March 2020. A bladder pump and low-flow sampling techniques were used to obtain a groundwater sample from each of the four wells, including one duplicate for quality control purposes. Groundwater samples were analyzed for the following:

- Gasoline-range hydrocarbons
- Diesel-range hydrocarbons
- Oil-range hydrocarbons
- Volatile organic compounds (VOCs)
- Semi-volatile organic compounds (SVOCs)
- Polycyclic aromatic hydrocarbons (PAHs)
- Total Metals (RCRA-8)
- Dissolved metals (RCRA-8)

No contaminants of concern were detected in the analyzed soil samples. Select metals were detected in both soil and groundwater samples at low concentrations consistent with natural background levels. Diesel-range hydrocarbons were detected at a concentration of 170 micrograms per liter (µg/L) in groundwater sample MW-3. That sample was flagged by the project laboratory with the note "the sample chromatographic pattern does not resemble the fuel standard used for quantitation".

4 CLEANUP STANDARDS

4.1 Contaminants of Concern (COCs)

The section provides a summary of the COCs for the Site and discusses the locations and extent in soil and groundwater of the COCs.

Based on the known previous uses of the Site and the frequency at which contaminants were detected during environmental investigations, the following constituents have been established as COCs in soil at the Site:

- Gasoline-range petroleum hydrocarbons
- BTEX compounds
- Diesel-range petroleum compounds

Investigations have historically identified high concentrations (compared to CULs) of gasoline-range petroleum hydrocarbons and associated VOCs (benzene, ethylbenzene, and xylenes) in soil at one location on the Site. As such, those contaminants are considered the primary pollutants for the Site and will drive the remediation effort.

The following constituents have been established as COCs in groundwater at the Site:

- Gasoline-range petroleum hydrocarbons
- Diesel-range petroleum hydrocarbons
- BTEX compounds

Previous investigations have not identified concentrations of contaminants exceeding CULs in groundwater on the site. Diesel-range hydrocarbons (not matching the quantitation standard, and below CULs) were identified in one well on site.

4.2 Cleanup Levels

This section discusses the selection of applicable or relevant and appropriate screening levels to evaluate the extent of contamination and potential risks to human health and the environment from Site contaminants. CULs have been developed based on Site history and detections.

MTCA specifies that CULs must be set in consideration of the reasonable maximum exposure that is expected to occur at the property. Reasonable maximum exposure is defined as "the highest exposure that can be expected to occur for a human or other living organism at a site under current and potential future site use" (WAC 173-340-200). In accordance with MTCA, CULs were developed based on the reasonable maximum exposure anticipated to occur for humans and ecological receptors exposed to soil and groundwater at the Site.

CULs for soil and groundwater were selected as MTCA Method A Cleanup Levels for Unrestricted Land Use values for direct contact and protection of drinking water. The following table provides the CULs for COCs:

Chemicals of Concern	Soil CUL (mg/kg)	Groundwater CUL (µg/L)
Total Petroleum Hydrocarbons (TPH)		
TPH-G (gasoline)	30*	800*
Sum of TPH-D (diesel) and TPH-HO (heavy oil)	2,000	500
Volatile Organic Compounds (VOCs)		
Benzene	0.03	5
Toluene	7	1,000
Ethylbenzene	6	700
Xylenes	9	1,000

*the selected CUL for TPH-G is the MTCA-A CUL when benzene is present.

4.3 Points of Compliance

The point of compliance for human direct contact with soil based on a reasonable maximum depth of excavation and the assumption that excavated soil may be placed at the surface where contact occurs is 15 feet bgs throughout the Site (WAC 173-340-740(6)(d)).

The standard point of compliance for groundwater is throughout the Site from the uppermost level of the saturated zone at approximately 19.5 feet bgs extending vertically to the lowermost depth that could potentially be affected by the Site (WAC 173-340-720(8)(b)). However, groundwater does not appear to have been affected by the Site, based on samples collected in 2020. Groundwater compliance samples that will be collected are intended to confirm that groundwater has not been affected by COCs. Some or all of the wells currently present on site may need to be decommissioned during demolition and/or redevelopment of the site. Up to three monitoring wells may be installed following the planned remedial excavation to serve as groundwater points of compliance.

5 SITE CHARACTERIZATION PLAN

This section includes a plan for additional site characterization to complete assessment of the potential human health and environmental concerns resulting from the contamination at the Site.

5.1 Soil Characterization

Previous investigations appear to have constrained the areal extent of contamination to a narrow strip bounded to the west by GP-1, to the south by B-3, to the east by MW-3 and B-2, and to the north by B-1 (see Figure 2). The vertical extent of contamination is defined by samples Exc.2-South (8 feet bgs), HB-1 (10.5 feet bgs) and Exc.2-Bottom (13 feet bgs) and verified by the absence of COCs in groundwater (static groundwater depth appears to be approximately 19.5 feet bgs). Therefore, no additional soil characterization is proposed. However, confirmation soil samples will be collected during the remedial action.

5.2 Groundwater Characterization

As described in Section 3.4, four groundwater monitoring wells were installed at the Site in 2020. Those wells have only been sampled once. In order to characterize the Site's groundwater during the full course of seasonal variation, the environmental consultant will sample those wells on a quarterly basis for the year-long period leading up to start of earth work at the Site (i.e., four sampling events), and then sample semi-annually (two sampling events) for the year following the planned remedial excavation. Site groundwater is not used as a source of drinking water, and there is not a complete pathway for direct contact with groundwater for Site workers. Groundwater sampling events will be conducted as follows:

- Gauge depth to water in each well.

- Sampling will be conducted using low-flow sampling techniques to ensure minimal drawdown and agitation of well water and the loss of volatiles. This technique will also reduce the volume of purged groundwater needing to be disposed of at an off-site location. Groundwater field parameters (conductivity, pH, temperature, dissolved oxygen and oxidation-reduction potential) will be recorded during purging using a YSI Model 556MSP water-quality analyzer equipped with a flow-through cell (or equivalent). Once groundwater parameters have stabilized (indicating groundwater is representative of the aquifer formation) a sample will be collected using laboratory-provided glassware.

- Groundwater samples will be collected from each well (initially, the four existing wells) and analyzed for Northwest Petroleum Hydrocarbons as Diesel/Heavy Oil Range Organics by Method NWTPH-Dx, as Gasoline by Method NWTPH-Gx, and BTEX by EPA Method 8021B. One duplicate sample will be analyzed for TPH-Gx and BTEX. The sample from MW-3 (the well closest to known soil contamination) will additionally be analyzed for PAHs and the MTCA-5 suite of metals.

In order to analyze groundwater flow direction on site, the well casing elevations and locations will be surveyed. After each quarterly groundwater monitoring event, the environmental consultant will submit a letter report summarizing the work and tabulating results.

6 SITE REMEDIATION

6.1 Description of the Cleanup Action

Based on prior environmental investigation conducted at the Site, it is anticipated that the site will be remediated by removal of petroleum contaminated soil by excavation and offsite disposal. Demolition of on-site buildings will allow for unrestricted access to the likely impacted area, and the volume of contaminated soils present at the Site will be greatly reduced or eliminated by excavation.

6.2 Site Preparation

The structures present at the Site will be demolished in preparation for cleanup actions (see Appendix C: Building Demolition Plan). Prior to implementation of the cleanup actions, the property will be secured with temporary fencing to prevent potential contact of the public (including employees and customers of Poulsbo RV, which will continue to operate on the north-adjacent parcel) with equipment or contaminated material. On-site personnel and traffic control will further prevent the public from exposure to equipment or contaminants during working hours. Open excavations will be secured with temporary fencing outside of working hours until backfill activities are complete. Construction activities for the new roadway that will pass through the site do not affect the contaminated area, and that work will occur prior to, during, and after the cleanup.

6.3 Segregation of Overburden Soil for Waste Profiling

Given the nature of petroleum releases and their tendency to migrate downward and outward from the source area, it is possible that portions of the overburden soil in the top 5 to 10 feet of the proposed excavation is not contaminated. In the event that both of the following conditions are met, portions of the overburden soil may be segregated and stored on site for use as backfill material:

- Field observations indicate the potential for portions of the overburden soil to meet criteria for reuse on site as established in the SGMP (Appendix D), and
- Adequate space exists on site for the temporary stockpiling of overburden soil pending sampling, sample analysis and possible use as backfill.

Should potentially clean overburden soil be segregated and stockpiled on site, waste samples will be collected of the stockpiled soil as established in the SGMP (Appendix C). Stockpile soil samples, if collected, will be analyzed for the following:

- TPH-G by Method NWTPH-Gx;
- TPH-D and TPH-HO by Method NWTPH-Dx;
- BTEX by EPA Method 8021B or 5021A
- Total Lead

Analytical results of stockpile samples will be used to determine the suitability of the soil for reuse as backfill material as established in the SGMP (Appendix C). Should segregated material be deemed unsuitable for reuse as backfill, it will be disposed of offsite as established in Section 8.10 of the SGMP.

6.4 Soil Excavation

Soil excavation will be completed by the contractor utilizing a track-mounted excavator. A slope of 1H:1V is proposed for the excavation sidewalls. Upon completion of the planned excavation (see Figure 4) to the proposed depth of 15 feet bgs, if there are no field indications (soil staining, petroleum odor, elevated PID readings), confirmation soil sampling will be conducted as described in Section 6.6. Otherwise, excavation will be continued until there are no field indications of contamination.

If soil sampling confirms that no contaminants of concern remain within the excavation area, it will be backfilled with clean material to a depth that will be at the Atkinson's discretion to reach project design goals.

6.5 Soil Stockpile and Loading

Excavated soil may be temporarily stockpiled on site and staged for load and haul out. The stockpiled soil will be located adjacent to the excavation areas, with specific site logistics controlled by Atkinson. Atkinson will manage contaminated soil stockpiles in accordance with the procedures established in the SGMP, Section 5.4 (Appendix C).

General requirements for the temporary stockpile include: (a) prevent intermixing of stockpiled materials with underlying soils or materials from other sources/or with other contaminants; (b) prevent influx of rainwater; (c) prevent erosion of stockpiled materials; (d) apply stormwater BMPs as appropriate for stockpile construction and maintenance; (e) maintain daily inventory of stockpile areas and provide information to the Project Engineer, as requested, and (f) appropriate site security such as signage and fences to alleviate hazards to the public.

6.6 Performance Soil Sampling and Analysis Plan

Performance monitoring for soil excavation will include confirmation soil sampling of the excavation on an approximate 20-foot grid centers. The sampling method and procedures are presented below.

6.6.1 Sample Locations

Upon completion of the excavation to total depth, soil samples will be collected from the side walls and base of the excavation following PCS removal for laboratory analysis. PBS will collect samples from the base of the excavation and along the sidewalls of the excavation at prescribed distances (approximately every 20 feet) to confirm compliance with regulatory cleanup criteria. The proposed confirmation sampling grid is shown on Figure 3.

6.6.2 Sample Methods

Soil sampling will be conducted following the procedures established in Section 5.5 of the SGMP (Appendix C). Where possible, soil samples will be collected using disposable sampling equipment directly into laboratory provided containers. If non-disposable sampling equipment is used for sample collection, sampling equipment will be decontaminated as follows: sampling equipment will be scrubbed in a laboratory grade detergent (Alconox® or similar) and tap water using a hand brush, submerged in a clean tap water rinse, followed by a clean distilled water rinse. Sampling equipment will be allowed to dry following decontamination prior to collection of subsequent samples. Samples will be collected directly into laboratory provided containers and stored in a cooler on ice under chain-of-custody documentation for transport to the analytical laboratory.

Confirmation soil samples will be submitted for the following analyses:

- TPH-G by Method NWTPH-Gx;
- TPH-D and TPH-HO by Method NWTPH-Dx;
- BTEX by EPA Method 8021B or 5021A

In addition, confirmation soil samples from the north-northeast side wall and base of excavation (in the vicinity of the former waste oil tank) will be analyzed for the following:

- cPAHs by EPA Method 8270 SIM
- PCBs by EPA Method 8082A
- RCRA-8 Total Metals by EPA Method 6020B

6.7 Dewatering

Based on groundwater elevation monitoring conducted during March 2020, depth to groundwater is estimated to be approximately 19.5 feet bgs. Groundwater elevations are generally the highest toward the end of the wet season, typically April, and lowest toward the end of the dry season, typically September. Based on those groundwater measurements, and on the estimated specific yields of the lithologic units expected to be encountered during excavation, it is not expected that dewatering of the excavation will be required.

If groundwater seeps are encountered, dewatering will be performed using a sump pump placed in the deeper portions of the excavation. Water generated from dewatering will be containerized on site in an adjacent frac tank (or similar). As the tank reaches its capacity, a wastewater sample will be collected from the tank for the purposes of waste profiling. Based on the sample results, wastewater will be disposed of in accordance with the procedures established in the SGMP. If additional dewatering is required following sampling and disposal of the initial tank, the tank will be replaced with an empty tank. The procedures established above will be reiterated for additional tanks until total depth of excavation is reached, confirmation samples are collected, backfill is complete, and dewatering is no longer required.

In addition to groundwater, the potential exists for stormwater to enter the excavation via surface runoff. Berms, straw waddle, and other stormwater best management practices (BMPs) will be employed as necessary to minimize the amount of stormwater that may come in contact with the excavation. Stormwater that has entered the excavation and come into contact with contaminated materials will be managed the same as groundwater removed from the excavation as established above in this section. Discharge of any type of water (groundwater or storm water) removed from the excavation or that has otherwise come into contact with contaminated material to the sanitary or storm sewer, or any nearby surface water bodies is prohibited and will not be permitted. Wastewater generated during remedial actions will be containerized and removed from the Site for offsite disposal.

6.8 Groundwater Sampling

Sampling of groundwater which may accumulate in the excavation is not proposed. Contaminant concentrations in groundwater prior to execution of the cleanup actions are well understood given the existing groundwater data obtained from sampling of surrounding monitoring wells. Monitoring of contaminant concentrations in groundwater will continue to be performed on a select network of monitoring wells following completion of the cleanup actions as detailed in Section 5.2

6.9 Waste Profiling and Disposal

Waste soil generated from remedial actions will be profiled for offsite disposal using existing analytical data generated during previous subsurface investigations of the Site. Waste soil is expected to be characterized as non-dangerous solid waste for disposal at a Subtitle D Landfill. Material may be temporarily staged on site in stockpiles pending transport to the disposal facility. Soil stockpiling will follow stockpiling procedures established in the SGMP (PBS, 2019) as described in Section 5.5.

Wastewater contained in frac tanks on site will be sampled for the purpose of waste profiling and disposal as the tanks near capacity. The PRS Group, Inc (PRS) water treatment plant in Tacoma, Washington is proposed as the disposal location for wastewater generated at the Site. Disposal of wastewater at the PRS plant is dependent on acceptance of the wastewater by the facility, and it remains possible that another facility will be used for disposal.

A waste profile and weight tickets documenting receipt and tonnage of PCS or volume of water from the disposal facility will be included in the Remedial Action Report. Weight/volume tickets will be tallied, and total tonnage/volume of exported waste will be reported.

6.10 Schedule for Implementation

The remedial action implementation schedule outlined here identifies key elements and milestones of the cleanup action as they are understood at this time. It is noted that the schedule for implementation may be affected by the general construction schedule for the project and is subject to change.

DATE	ACTIVITY
8/1/2021	Earliest start date for quarterly groundwater monitoring
5/1/2022	Earliest start date for demolition of on-site structures
6/1/2022	Projected start date for beginning remedial excavation
1/1/2023	Projected completion of remedial actions
2/1/2023	Compliance Monitoring Well Installation
8/1/2023	Follow up groundwater monitoring event
11/1/2023	Projected submittal of Remedial Action Report to Ecology
2024	Projected year of regulatory closure
2024	Well Decommissioning

7 REMEDIAL ACTION REPORT

Following completion of cleanup actions and receipt of laboratory data and disposal documentation, a Remedial Action Report will be prepared. The Remedial Action Report will:

- Summarize cleanup actions conducted at the Site.
- Provide tabulated laboratory results of confirmation soil samples and waste soil and water samples.
- Provide disposal documentation and total tonnage/volume for waste soil and water exported from the Site.
- Describe the on-site reuse of overburden soil removed from the excavation if applicable, including estimated volumes.
- Present a plan for additional remedial actions as necessary based on the results of these cleanup actions.

8 ENVIRONMENTAL COVENANT

The environmental covenant filed with King County by Ecology and Military Road Investments, LLC on March 26, 2019 (see Appendix A) declares that the property owner (and all future property owners) must notify Ecology and obtain their approval for any property transfer or work on the Site that could disturb contaminated soil. On January 13, 2020, John White, the Puget Sound Gateway Deputy Program Administrator for WSDOT, provided a letter to Ecology notifying them that WSDOT had identified the Site for partial acquisition, and that they would work with Ecology to remove the restrictive covenant from the property (see Appendix B). They enumerated several steps that would be taken during the project to meet the requirements of the environmental covenant.

One of the steps outlined in the letter indicates that Atkinson would be required to notify Ecology regarding demolition and excavation activities on site. It is PBS's understanding that WSDOT will enter the Site into Ecology's VCP program in order to move it towards regulatory closure when Ecology has assigned a VCP Site Manager to the project, Atkinson and/or WSDOT should notify them of plans and schedule for such work at the site.

The next step in WSDOT's letter indicates that Atkinson would submit a site clean-up work plan to Ecology for approval prior to roadway construction in the Site area. This work plan document should therefore also be

provided to the assigned VCP Site Manager as soon as possible to allow time for review, feedback, possible revision, and approval prior to work at the Site.

The final step in WSDOT's notification indicates that Ecology and WSDOT will initiate and conduct the public notice and comment process mentioned in the restrictive covenant (Section 8 of the covenant). Once cleanup and the public notice process are complete, the property owner (WSDOT) will be able to record an instrument to remove the restrictive covenant. This work plan assumes that these public notification and legal processes will be handled exclusively by WSDOT and Ecology, with technical assistance from Atkinson. Communications from WSDOT in August 2021 indicate that the covenant may need to be converted into an Implementing Agreement since Parcel IDs are removed when properties are purchased by the State.

9 REFERENCES

Environmental Associates, Inc., 2015, *Phase I Environmental Site Assessment – Poulsbo RV Property,* October 14, 2015.

EHSI-International, Inc.., 2020, *Phase II Environmental Site Assessment – Poulsbo RV Property,* April 20, 2020.

LSI Adapt, Inc., 2004, *Limited Phase II Environmental Site Assessment – Kent – Poulsbo RV,* August 6, 2004.

LSI Adapt, Inc., 2005, *Supplemental Limited Phase II Environmental Site Assessment – Kent – Poulsbo RV,* July 14, 2005.

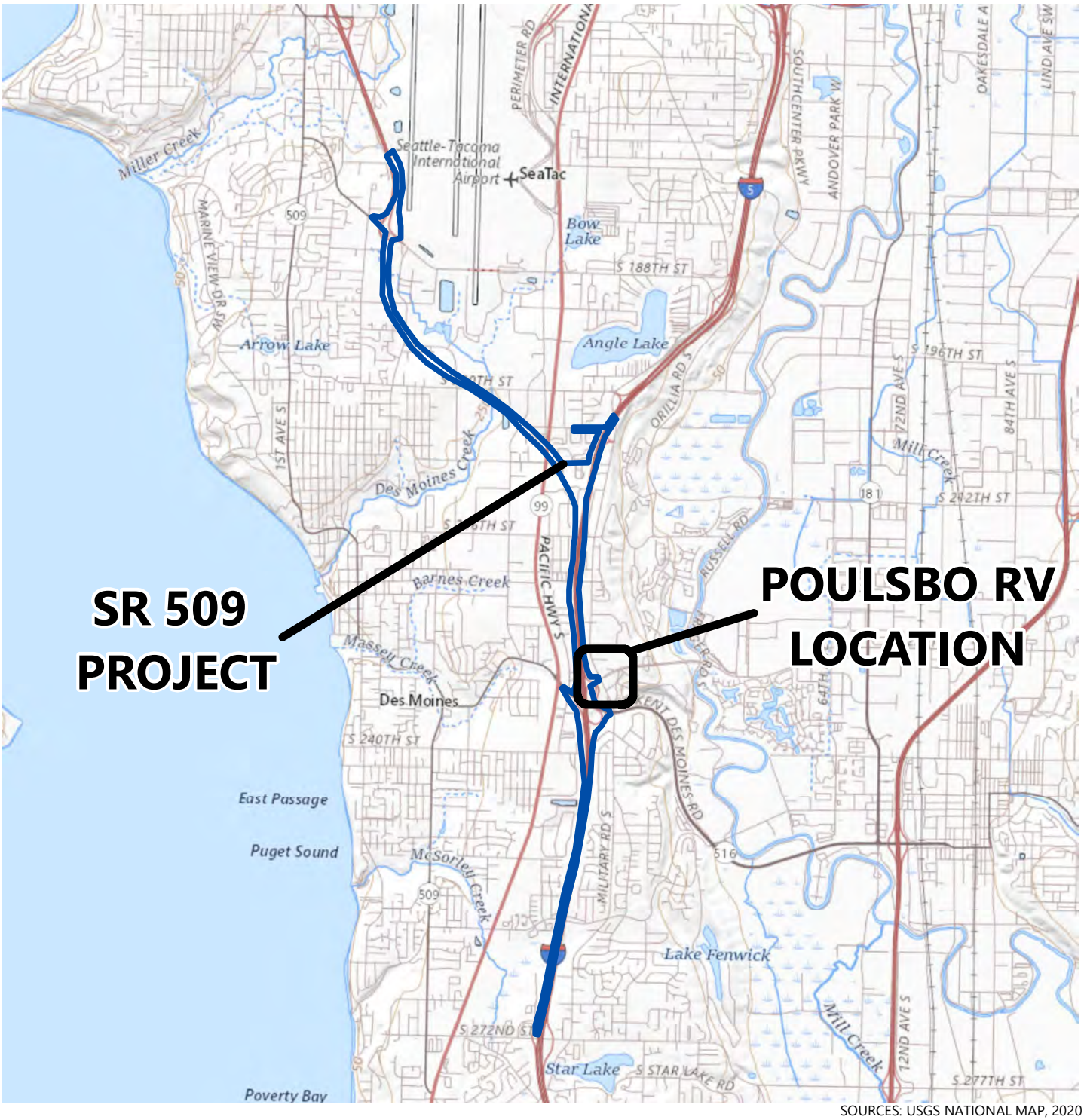
PBS Engineering and Environmental, 2020, *Soil and Groundwater Management Plan, ECP Appendix E, Contract No. 9424, State Route 509 I-5 to 24th Avenue S. – New Expressway Project,* May 2021.

Sound Environmental Consulting, 1998, *Underground Storage Tank Closure Site Assessment – Valley I-5 Motor Home, Kent, Washington*; December 14, 1998.

Washington State Department of Ecology (Ecology), 2016b, *Guidance for Remediation of Petroleum Contaminated Sites, Toxics Cleanup Program, publication no. 10-09-057*, REVISED June 2016, available https://fortress.wa.gov/ecy/publications/documents/1009057.pdf

Washington State Department of Ecology (Ecology), 2017, *Model Remedies for Sites with Petroleum Impacts to Groundwater, Toxics Cleanup Program, publication no. 16-09-057*, REVISED December 2017, available https://fortress.wa.gov/ecy/publications/documents/1609057.pdf.

Figures



SOURCES: USGS NATIONAL MAP, 2020
PROJECTION: NAD 2011 WA STATE PLANE NORTH LAMBERT INTL FT

N

SCALE: 1 " = 1 miles

0 0.5 1 2 Miles

PREPARED FOR: GUY ATKINSON CONSTRUCTION

C:\Users\nathand\Desktop\GIS\poulsbo\Fig1_SiteVicinity.mxd

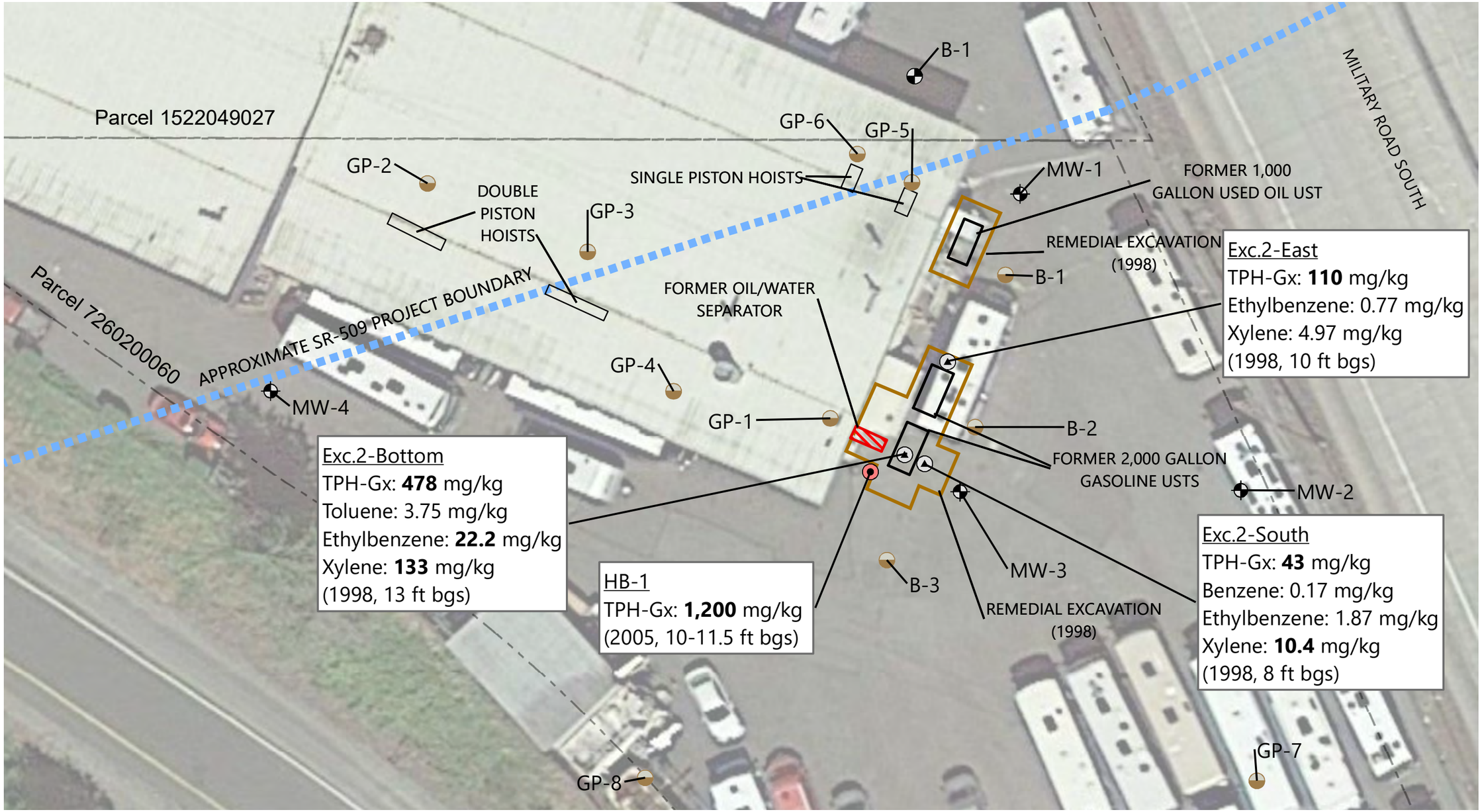
PBS

SITE VICINITY

23051 MILITARY ROAD SOUTH, KENT, WASHINGTON

APR 2021
40757.022

FIGURE
1



Exc.2-Bottom
TPH-Gx: **478** mg/kg
Toluene: 3.75 mg/kg
Ethylbenzene: **22.2** mg/kg
Xylene: **133** mg/kg
(1998, 13 ft bgs)

HB-1
TPH-Gx: **1,200** mg/kg
(2005, 10-11.5 ft bgs)

Exc.2-East
TPH-Gx: **110** mg/kg
Ethylbenzene: 0.77 mg/kg
Xylene: 4.97 mg/kg
(1998, 10 ft bgs)

Exc.2-South
TPH-Gx: **43** mg/kg
Benzene: 0.17 mg/kg
Ethylbenzene: 1.87 mg/kg
Xylene: **10.4** mg/kg
(1998, 8 ft bgs)

SOURCES: GOOGLE EARTH AERIAL IMAGERY (DATED AUGUST 2020); KING COUNTY GIS

LEGEND

- Exc.2 — Excavation Sample (Sound Env., 1998)
- GP-1 — Direct Push Boring (Adapt, 2004)
- HB-1 — Hand Boring (Adapt, 2004)
- B-1 — Direct Push Boring (EHSI, 2020)
- MW-1 — Monitoring Well (EHSI, 2020)

Notes:
1. Concentrations in **bold** exceed MTCA Method A Cleanup Levels for Unrestricted Land Use
2. TPH-Gx = Total Petroleum Hydrocarbons, Gasoline-range
3. mg/kg = milligrams per kilogram
4. ft bgs = feet below ground surface

1 inch = 20 feet

0 10 20 40'

PREPARED FOR: GUY ATKINSON CONSTRUCTION

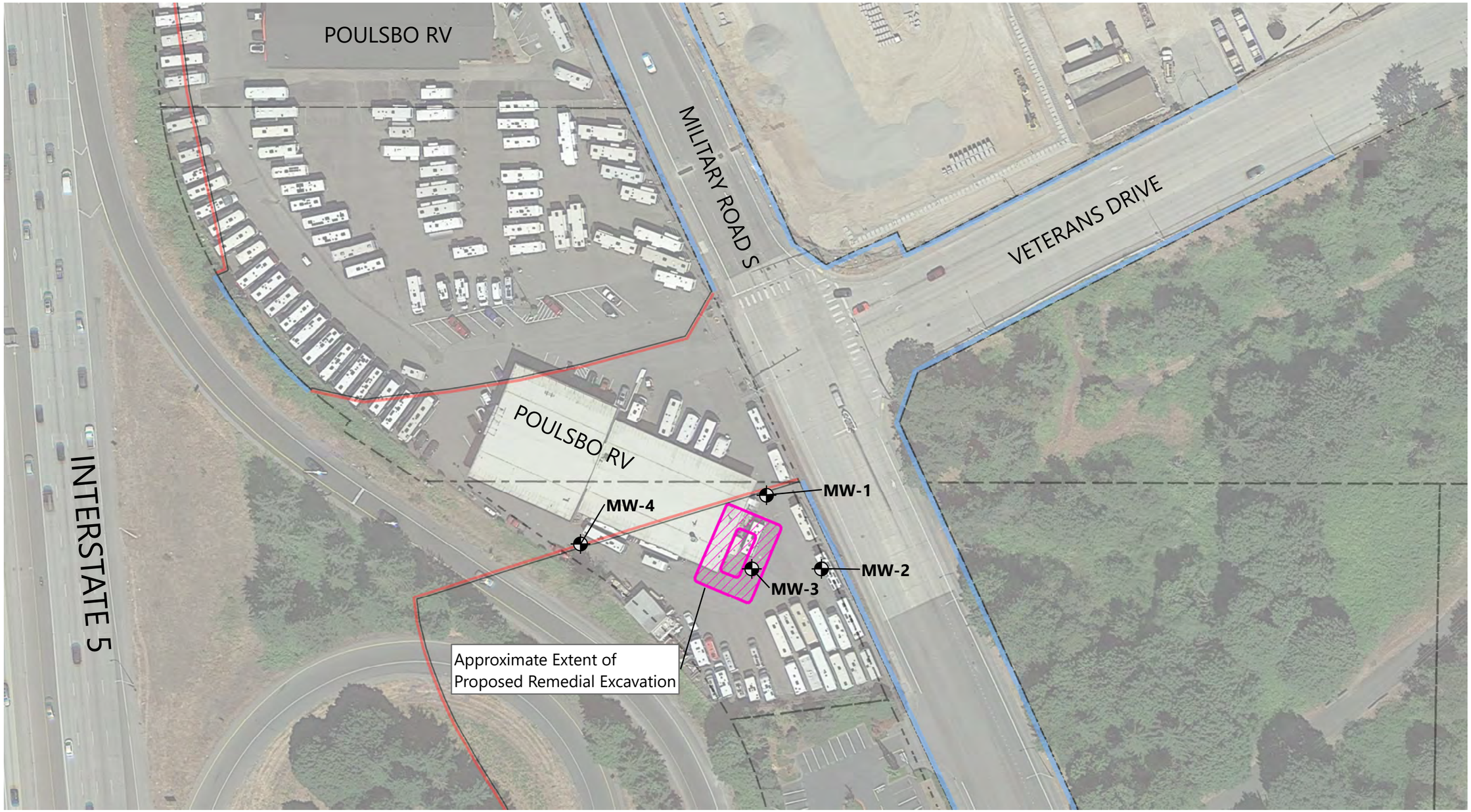
PBS Engineering and Environmental Inc.
214 E Galer St, Ste 300
Seattle, WA 98102
206.233.9639
pbsusa.com

SITE PLAN WITH DETECTED PETROLEUM HYDROCARBON CONCENTRATIONS IN SOIL

POULSBO RV
23051 MILITARY ROAD SOUTH, KENT, WASHINGTON

PROJECT 40757.022
DATE MAY 2021
FIGURE 2

C:\Users\nathand\Desktop\GIS\poulsbo\Fig2_SitePlanwConcentrations.mxd



LEGEND

- Existing Right-of-Way Boundary
- Proposed New Right-of-Way Boundary
- Proposed Remedial Excavation
- Approximate Parcel Boundaries
- Monitoring Well (EHSI, 2020)
  (May be decommissioned and then replaced after remediation and construction are complete)

SOURCES: GOOGLE EARTH AERIAL IMAGERY (DATED AUGUST 2020); KING COUNTY GIS

1 inch = 80 feet

0 40 80 160'

PREPARED FOR: GUY F. ATKINSON CONSTRUCTION

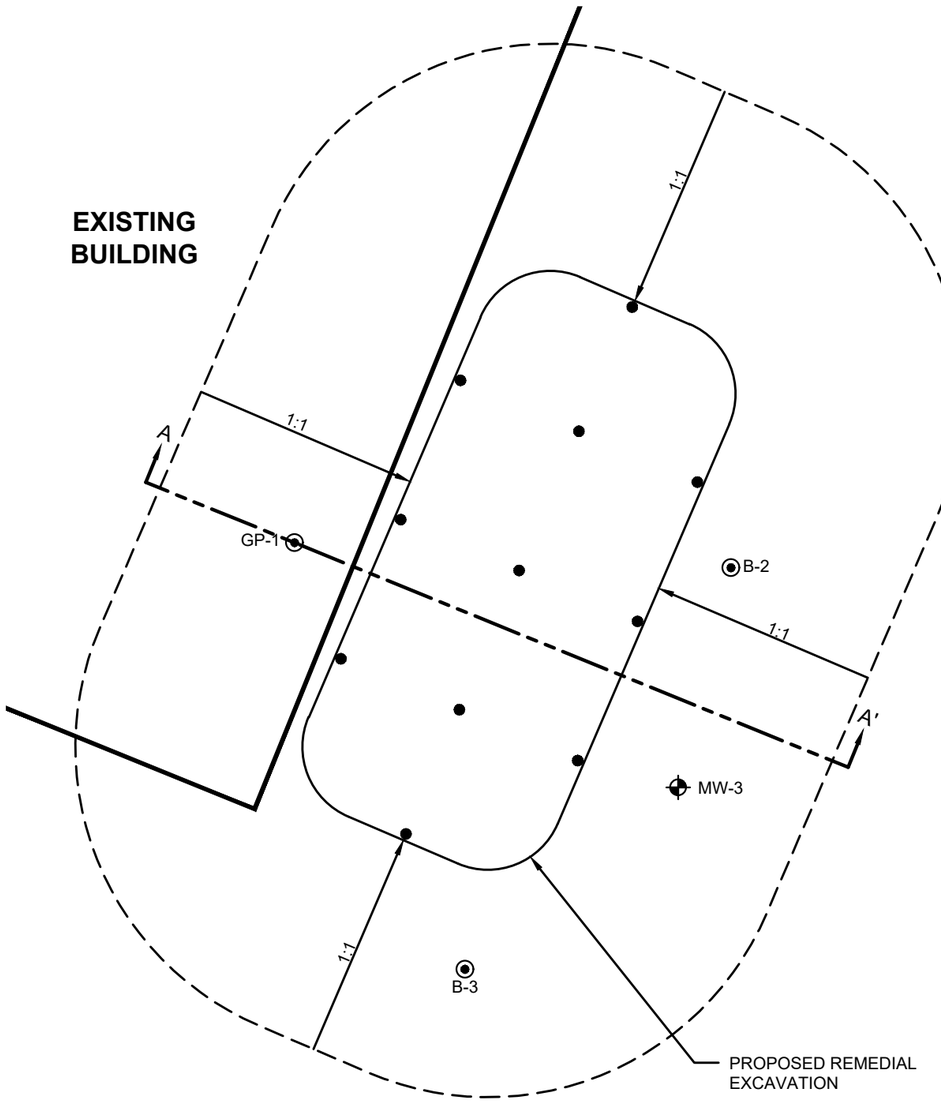
PBS Engineering and Environmental Inc.
214 E Galer St., Ste 300
Seattle, WA 98102
206.233.9639
pbsusa.com

PROPOSED RIGHTS OF WAY AND EXISTING GROUNDWATER MONITORING LOCATIONS

POULSBO RV
23051 MILITARY ROAD SOUTH, KENT, WASHINGTON

PROJECT
40757.022
DATE
JUL 2021
FIGURE
3

\\pbsenv.lan\L\Projects\40500\40757.000 Guy Atkinson Construction\40757.022 SR 509 Completion Stage 1b\Phase 16 PoulsboRV Cleanup Plan\GIS\MXD\Fig3_FutureLandUse.mxd



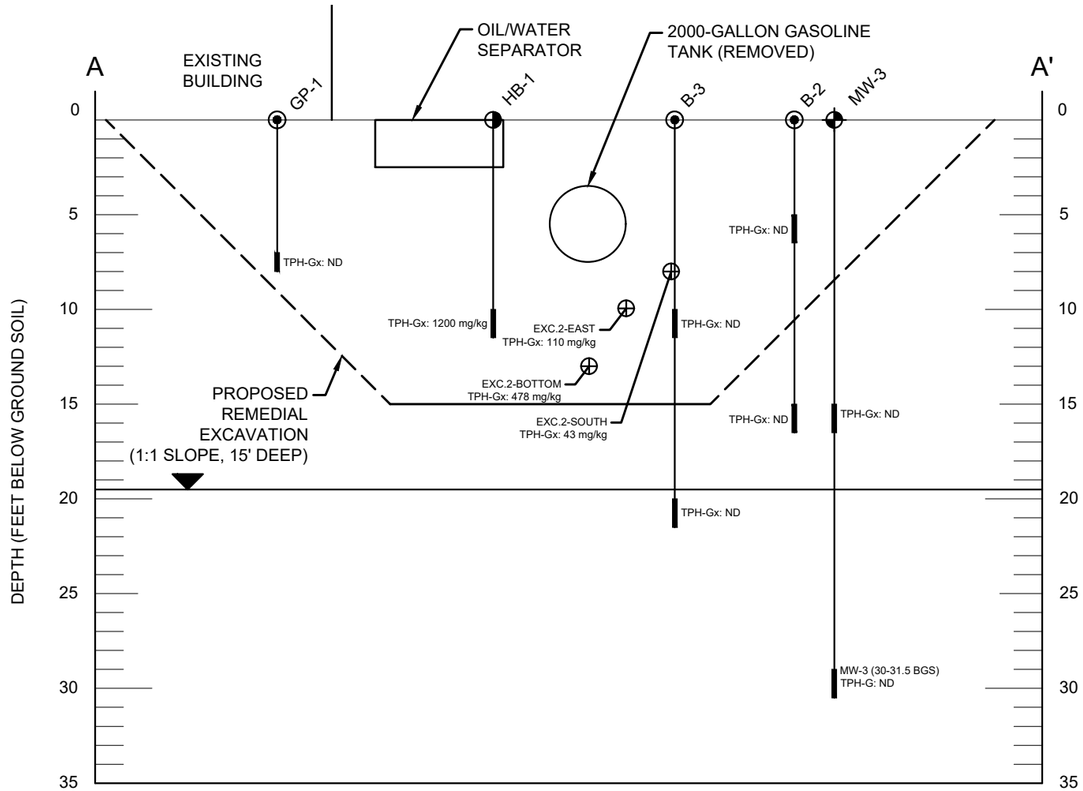
1 EXCAVATION PLAN
SCALE: 1" = 10'-0"

GENERAL NOTES

1. EXCAVATE SOIL WITHIN THE EXCAVATION EXTENT TO A DEPTH OF 15 FEET BGS. TRANSPORT EXCAVATED SOIL TO AN AUTHORIZED WASTE DISPOSAL FACILITY.
2. ENVIRONMENTAL CONSULTANT WILL CONDUCT FIELD SCREENING AND COLLECT CONFIRMATION SOIL SAMPLES ONCE A DEPTH OF 15 FEET BGS HAS BEEN ACHIEVED. IF ANY CONFIRMATION SOIL SAMPLES EXCEED MTCA METHOD A UNRESTRICTED CLEANUP LEVELS, ADDITIONAL SOIL WILL BE EXCAVATED FROM THE AREA WHERE THE EXCEEDING SAMPLE WAS COLLECTED.
3. IF GROUNDWATER IS ENCOUNTERED IN THE EXCAVATION, COLLECT AND STORE POTENTIALLY CONTAMINATED WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS AND THE SGMP.

LEGEND

- EXC.1 — EXCAVATION SAMPLE (SOUND ENV., 1998)
- GP-1 — DIRECT PUSH BORING (ADAPT, 2004)
- HB-1 — HAND BORING (ADAPT, 2004)
- B-1 — DIRECT PUSH BORING (EHSI, 2020)
- MW-3 — MONITORING WELL (EHSI, 2020)
- A A' — CROSS SECTION LINE
- GROUNDWATER LEVEL
- CONFIRMATION SOIL SAMPLES (BASE)
- EXCAVATION EXTENT
- EXTENT OF EXCAVATION SIDESLOPE (1:1)



2 CROSS-SECTION
SCALE: 1" = 8'-0"

Full Size Sheet Format Is 11x17; If Printed Size Is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

PREPARED FOR: GUY F. ATKINSON CONSTRUCTION, LLC

PBS Engineering and Environmental Inc.
214 East Galer Street, Ste 300
Seattle, WA 98102
206.233.9639
pbsusa.com

PBS

EXCAVATION PLAN & CROSS SECTION
POULSBO RV PROPERTY
23051 MILITARY ROAD SOUTH, KENT, WASHINGTON

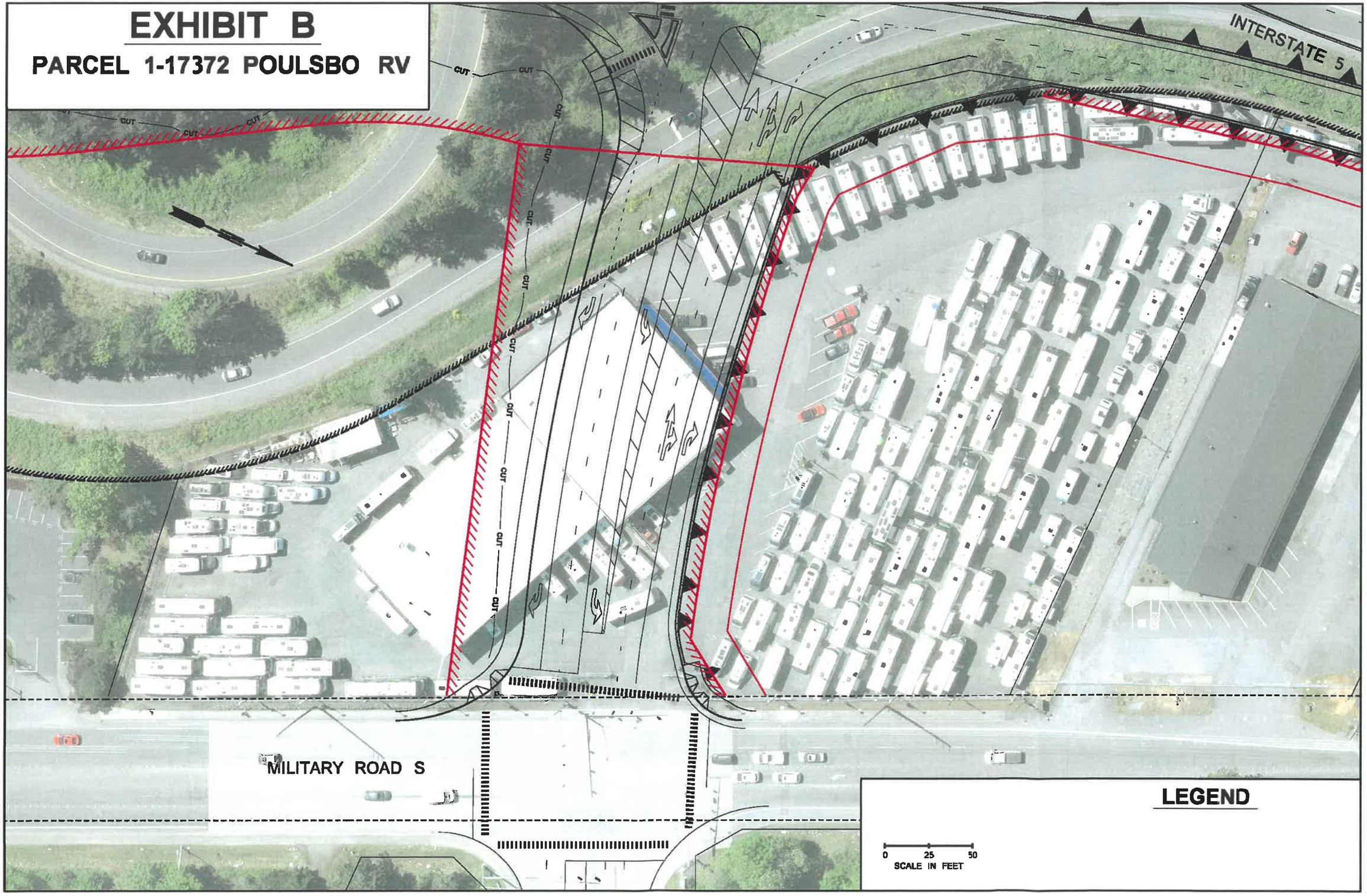
PROJECT
40757.022
DATE
MAY 2021
SHEET ID
4

Appendix A

Poulsbo RV Restrictive Covenant

EXHIBIT B

PARCEL 1-17372 POULSBO RV



DATE 8/13/2019 FILE NAME c:\new folder\d0200655\Poulsbo_RV_HazMat.dgn

Return Address:
Military Road Investments, LLC
23051 Military Road S
Kent, WA 98032

200610090000085
ALBERTSON COV 36.00
PAGE001 OF 005
10/09/2006 08:58
KING COUNTY, WA

Please print or type information **WASHINGTON STATE RECORDER'S Cover Sheet** (RCW 65.04)

Document Title(s) (or transactions contained therein): (all areas applicable to your document must be filled in)

1. Restrictive Covenant
2.
3.
4.

Reference Number(s) of Documents assigned or released:

Additional reference #'s on page _____ of document

Grantor(s) (Last name, first name, initials)

1. Military Road Investments, LLC
2.

Additional names on page _____ of document.

Grantee(s) (Last name first, then first name and initials)

1. Military Road Investments, LLC
2.

Additional names on page _____ of document.

Legal description (abbreviated: i.e. lot, block, plat or section, township, range)

152204 27 Ptn Parcel A, Ptn. Parcel B, Less Ptn conveyed to City of Kent for 36th Ave S under Rec No. 20050919002618

Additional legal is on page 1 of document.

Assessor's Property Tax Parcel/Account Number ☐ Assessor Tax # not yet assigned

1552049027

The Auditor/Recorder will rely on the information provided on the form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

I am requesting an emergency nonstandard recording for an additional fee as provided in RCW 36.18.010. I understand that the recording processing requirements may cover up or otherwise obscure some part of the text of the original document.

Signature of Requesting Party

WHEN RECORDED RETURN TO:
Military Road Investments, LLC
23051 Military Road S
Kent, WA 98032

RESTRICTIVE COVENANT

This declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(1)(f and g), and WAC 173-340-440, Military Road Investments, LLC, it successors and assigns, and the Washington State Department of Ecology, its successors and assigns.

Legal Description: 152204 27 PARCEL A: PORTION OF SW QTR NW QTR STR 15-22-05 LYING WLY OF W MARGIN OF OLD MILITARY ROAD S & ELY OF E MARGIN OF PRIMARY STATE HWY NO 1 EXE N 460 FT THEREOF; EXC S 479.30 FT; EXC PORTION CONVEYED TO STATE OF WA FOR PRIMARY STATE HIGHWAY NO 1 BY DEED UNDER RECORDING NO 5094448; PARCEL B: PORTION OF SLY 300 FT OF SW QTR NW QTR STR 15-22-04 LYING WEST OF OLD MILITARY ROAD EXC PORTION CONVEYED TO STATE OF WA FOR HIGHWAY PURPOSES BY DEED UNDER RECORDING NO 5094447; (BEING A PORTION OF PROPOSED LOT "A" DESCRIBED & DELINEATED PER CITY OF KENT LOT LINE ADJUSTMENT NO LL-2001-8 RECORDING NO 20010712001789--PORTION BEING WITHIN LEVY CODE 1551) EXC PORTION CONVEYED TO CITY OF KENT FOR 36TH AVE S BY DEED UNDER RECORDING NO 20050919002618

King County Tax Parcel I.D. #: 1552049027

RESTRICTIVE COVENANT
Military Road Investments, LLC

This Declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Military Road Investments, LLC, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology"). An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the following documents:

- *Tank Removal Observations and Limited Environmental Site Assessment, Valley I-5, 23005 Military Road South, Kent Washington* (completed by Enviros for Valley I-5, Enviros Report No. 910714.02, dated October 15, 1991

- *Underground Storage Tank Closure Site Assessment, Valley I-5 Motor Home, 23051 Military Road South, Kent, Washington* (completed by Sound Environmental Consulting for Valley I-5, dated December 4, 1998, Sound Environmental Consulting Report No. 1798

- *Phase I Environmental Site Assessment, Kent – Poulsbo RV, 23051 Military Road South, Kent, Washington* (completed by LSI Adapt, Inc. for U.S. Bank, dated June 14, 2004, LSI Adapt, Inc. Report No. WA04-11238-PH1)

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These documents are on file at Ecology's Northwest Regional Office in Bellevue, Washington.

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of gasoline-range total petroleum hydrocarbons (1,200 ppm), benzene (0.17 ppm) ethylbenzene (22.2 ppm) and xylenes (133 ppm) which exceed the Model Toxics Control Act Method A Residential Cleanup Levels for soil established under WAC 173-340-900.

The undersigned, Military Road Investments, LLC, is the fee owner of real property (hereafter "Property") in the County of King, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described as follows:

152204 27 PARCEL A: PORTION OF SW QTR NW QTR STR 15-22-05 LYING WLY OF W MARGIN OF OLD MILITARY ROAD S & ELY OF E MARGIN OF PRIMARY STATE HWY NO 1 EXE N 460 FT THEREOF; EXC S 479.30 FT; EXC PORTION CONVEYED TO STATE OF WA FOR PRIMARY STATE HIGHWAY NO 1 BY DEED UNDER RECORDING NO 5094448; PARCEL B: PORTION OF SLY 300 FT OF SW QTR NW QTR STR 15-22-04 LYING WEST OF OLD MILITARY ROAD EXC PORTION CONVEYED TO STATE OF WA FOR HIGHWAY PURPOSES BY DEED UNDER RECORDING NO 5094447; (BEING A PORTION OF PROPOSED LOT "A" DESCRIBED & DELINEATED PER CITY OF KENT LOT LINE ADJUSTMENT NO LL-2001-8 RECORDING NO 20010712001789--PORTION BEING WITHIN LEVY CODE 1551) EXC PORTION CONVEYED TO CITY OF KENT FOR 36TH AVE S BY DEED UNDER RECORDING NO 20050919002618

Military Road Investments, LLC makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. A portion of the Property contains gasoline-range TPH benzene, ethylbenzene, and xylenes contaminated soil located immediately adjacent to and under the southeast portion of the southern maintenance and sales building. The Owner shall not alter, modify, or remove the existing structure in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology."

"Any activity on the Property that may result in the release or exposure to the environment of the contaminated soil that was contained as part of the Remedial Action, or create a new exposure pathway, is prohibited. Some examples of activities that are prohibited in the capped areas include: drilling, digging, placement of any objects or use of any equipment which deforms or stresses the surface beyond its load bearing capability, piercing the surface with a rod, spike or similar item, bulldozing or earthwork."

Section 2. Any activity on the Property that may interfere with the integrity of the Remedial Action and continued protection of human health and the environment is prohibited.

Section 3. Any activity on the Property that may result in the release or exposure to the environment of a hazardous substance that remains on the Property as part of the Remedial Action, or create a new exposure pathway, is prohibited without prior written approval from Ecology.

Section 4. The Owner of the property must give thirty (30) day advance written notice to Ecology of the Owner's intent to convey any interest in the Property. No conveyance of title, easement, lease, or other interest in the Property shall be consummated by the Owner without adequate and complete provision for

continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Richard Wakazuru, General Manager
Military Road Investments, LLC

9/18/06
Date

STATE OF WASHINGTON,)
) ss.
County of King)

On this day personally appeared before me Richard Wakazuru, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that it was signed as a free and voluntary act and deed for the uses and purposes therein mentioned.

GIVEN under my hand and official seal this 18th day of September, 2006.

DAWN M. ABBOTT NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 10-01-06

NOTARY PUBLIC: (print name) Dawn M Abbott
State of Washington, residing in Poulsbo
My appointment expires 10/01/06

Appendix B

WSDOT Restrictive Covenant Letter

Washington State Department of Transportation

Puget Sound Gateway SR 509/SR167
SR 509: 999 3rd Ave, Ste. 2200
Seattle, WA 98104
SR167: 5720 Capital Blvd SE
Tumwater, WA 98501
206-464-1220
TTY: 1-800-833-6388
www.wsdot.wa.gov

January 13, 2020

Attn. Tamara Welty
Department of Ecology
Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

Subject: Military Road Investment, LLC – Restrictive Covenant

Dear Tamara:

The Washington State Department of Transportation is funded to construct the SR 509 Completion Project – Stage 1b. SR 509 Stage 1b is the first major stage of the SR 509 Completion Project, located in King County in the cities of Des Moines, Kent and SeaTac. In order to build the proposed improvements WSDOT has to acquire additional right of way.

One of the parcels that was identified for partial acquisition is Military Road Investment, LLC, a property that has had a Restrictive Covenant in place since October 2006 (Exhibit A). This letter serves as official notification of WSDOT's intent to acquire a portion of the property, per Section 4 of the Restrictive Covenant (Exhibit B).

Per our previous discussions, WSDOT will work with Department of Ecology (DOE) to remove the Restrictive Covenant from the property. WSDOT and DOE held two coordination meetings and the following steps describe WSDOT's understanding of the process to remove Restrictive Covenant:

1. WSDOT will hire consultants to perform limited Phase II Environmental Site Assessment (ESA) on the property to better understand the extent of the clean-up scope.
2. WSDOT will advertise the Stage 1b Design-Build contract in the spring of 2020 with an intent to issue Notice to Proceed (NTP) later in 2020.
3. The Design-Builder will be required to notify DOE regarding the demolition of the Poulsbo RV show room building and related excavation and sold removal activities.
4. The Design-Builder will submit a site clean-up work plan to DOE for review and approval prior to roadway construction of the new Veterans Drive connection at the site of the Restrictive Covenant. Other scopes of work for

the Stage 1b contract outside of the Restrictive Covenant limits will proceed to construction once final permits are acquired.

5. The Design-Builder will perform clean-up work and provide sufficient supporting analysis and documentation to DOE to demonstrate that the clean-up work has been completed.
6. DOE, in coordination with WSDOT, will initiate and conduct the public notice and comment process per the Restrictive Covenant. Upon successful completion of the public process, the Restrictive Covenant will be removed from the property.

We look forward to continuing our coordination in order to ensure that the contractual requirements within the SR 509 Stage 1b Design-Build contract reflect DOE expectations. We will also share the results from the upcoming limited Phase II ESA effort to ensure there is a common understanding of the existing site conditions.

Sincerely,

John White
Puget Sound Gateway Deputy Program Administrator

Enclosure: Exhibit A
Exhibit B

cc: Craig Stone

Exhibit A

20061009000085.003

Poulsbo RV Restrictive Covenant

RESTRICTIVE COVENANT
Military Road Investments, LLC

This Declaration of Restrictive Covenant is made pursuant to RCW 70.105D.030(1)(f) and (g) and WAC 173-340-440 by Military Road Investments, LLC, its successors and assigns, and the State of Washington Department of Ecology, its successors and assigns (hereafter "Ecology"). An independent remedial action (hereafter "Remedial Action") occurred at the property that is the subject of this Restrictive Covenant. The Remedial Action conducted at the property is described in the following documents:

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- *Phase I Environmental Site Assessment, Kent – Poulsbo RV, 23051 Military Road South, Kent, Washington* (completed by LSI Adapt, Inc. for U.S. Bank, dated June 14, 2004, LSI Adapt, Inc. Report No. WA04-11238-PH1)

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Poulsbo RV Restrictive Covenant

This Restrictive Covenant is required because the Remedial Action resulted in residual concentrations of gasoline-range total petroleum hydrocarbons (1,200 ppm), benzene (0.17 ppm) ethylbenzene (22.2 ppm) and xylenes (133 ppm) which exceed the Model Toxics Control Act Method A Residential Cleanup Levels for soil established under WAC 173-340-900.

The undersigned, Military Road Investments, LLC, is the fee owner of real property (hereafter "Property") in the County of King, State of Washington, that is subject to this Restrictive Covenant. The Property is legally described as follows:

152204 27 PARCEL A: PORTION OF SW QTR NW QTR STR 15-22-05 LYING WLY OF W MARGIN OF OLD MILITARY ROAD S & ELY OF E MARGIN OF PRIMARY STATE HWY NO 1 EXE N 460 FT THEREOF; EXC S 479.30 FT; EXC PORTION CONVEYED TO STATE OF WA FOR PRIMARY STATE HIGHWAY NO 1 BY DEED UNDER RECORDING NO 5094448; PARCEL B: PORTION OF SLY 300 FT OF SW QTR NW QTR STR 15-22-04 LYING WEST OF OLD MILITARY ROAD EXC PORTION CONVEYED TO STATE OF WA FOR HIGHWAY PURPOSES BY DEED UNDER RECORDING NO 5094447; (BEING A PORTION OF PROPOSED LOT "A" DESCRIBED & DELINEATED PER CITY OF KENT LOT LINE ADJUSTMENT NO LL-2001-8 RECORDING NO 20010712001789--PORTION BEING WITHIN LEVY CODE 1551) EXC PORTION CONVEYED TO CITY OF KENT FOR 36TH AVE S BY DEED UNDER RECORDING NO 20050919002618

Military Road Investments, LLC makes the following declaration as to limitations, restrictions, and uses to which the Property may be put and specifies that such declarations shall constitute covenants to run with the land, as provided by law and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property (hereafter "Owner").

Section 1. A portion of the Property contains gasoline-range TPH benzene, ethylbenzene, and xylenes contaminated soil located immediately adjacent to and under the southeast portion of the southern maintenance and sales building. The Owner shall not alter, modify, or remove the existing structure in any manner that may result in the release or exposure to the environment of that contaminated soil or create a new exposure pathway without prior written approval from Ecology."

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Poulsbo RV Restrictive Covenant

continued monitoring, operation, and maintenance of the Remedial Action.

Section 5. The Owner must restrict leases to uses and activities consistent with the Restrictive Covenant and notify all lessees of the restrictions on the use of the Property.

Section 6. The Owner must notify and obtain approval from Ecology prior to any use of the Property that is inconsistent with the terms of this Restrictive Covenant. Ecology may approve any inconsistent use only after public notice and comment.

Section 7. The Owner shall allow authorized representatives of Ecology the right to enter the Property at reasonable times for the purpose of evaluating the Remedial Action; to take samples, to inspect remedial actions conducted at the property, and to inspect records that are related to the Remedial Action.

Section 8. The Owner of the Property reserves the right under WAC 173-340-440 to record an instrument that provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only if Ecology, after public notice and opportunity for comment, concurs.

Richard Wakazuru, General Manager
Military Road Investments, LLC

9/18/06
Date

STATE OF WASHINGTON,)
) ss.
County of King)

On this day personally appeared before me Richard Wakazuru, to me known to be the individual described in and who executed the foregoing instrument, and acknowledged that it was signed as a free and voluntary act and deed for the uses and purposes therein mentioned.

GIVEN under my hand and official seal this 18th day of September, 2006.

NOTARY PUBLIC: (print name) Dawn M Abbott
State of Washington, residing in Poulsbo
My appointment expires 10/01/06

Appendix C

Building Demolition Plan

Demolition Work Plan
Poulsbo RV
(Rivers Edge Environmental Services, Inc. 2021)

DEMOLITION WORK PLAN

Poulsbo RV
23051 Military Rd. S.
Kent, WA 98032

Prepared For:
Atkinson Construction

Submitted:
June 8, 2021

Clayton Mullendore
Rivers Edge Environmental Services General Manager

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INTRODUCTION

This Work Plan has been prepared pursuant to the following Sections and will encompass the submittal requirements for Atkinson Construction.

Scope of Work:

Demolition and disposal of 1 large retail space formerly used for office space and associated improvements including the cut and cap of sewer and water at the property boundary. Removal and disposal of Asbestos to be performed by our registered abatement contractor, Ascendent LLC. Erosion control measures (BMPs) to be installed prior to and maintained during demolition. Site sweeping as needed to control track out of sediment.

Project location:

- 23051 Military Road South, Kent, WA

Rivers Edge Environmental Services, Inc. (REES) has extensive experience with site demolition, utility cut and cap, vactor truck utility cleaning and maintenance, and remediating contaminated sites both from emergency response as well as pre-planned project perspectives. In addition, we have completed extensive wetland projects and have participated in the development of methodologies for large sediment removal projects.

Our management team takes a client-oriented, collaborative approach in solving the construction design of a project. Our management team has extensive experience in a variety of environmental construction projects for the private and public sectors with extensive experience with both Superfund and brownfield sites.

ADMINISTRATION AND SUPERVISION

Clayton Mullendore is responsible for all Project Management, communications with Atkinson Construction, and ongoing communication and resource allocation with field operations and subcontractors.

Dan Kuhn and Katie Wells will assist Clayton Mullendore with pre-job submittals, coordinating all utility locates, project close out submittals and invoice pay applications.

Clayton Mullendore – 206-455-4849
Katie Wells – 425-584-7089 Ext. 1
Dan Kuhn – 206-962-0323

WORK PLAN AND SEQUENCING

REES will attend the Pre-Construction Meeting to be held prior to starting work. This will give our Project Manager and field crew an introduction to the construction team for Atkinson Construction.

LOCATES

REES will first coordinate utility locates by submitting a request for underground utilities through One Call Locates' online portal. Utilities will be requested to be marked with the use of heavy paints on property and in the right-of-way. The use of flags and stakes will also be requested at the time of the locate call. If private locates are required, REES will coordinate the use of a 3rd party private locator to identify utilities on site. REES will also obtain available as-builts for water and sewer from King County or the approved drawings from the City of Seattle, if needed.

OVERHEAD UTILITIES / SITE PREP

Power and Gas utilities will be cut and/or capped by others prior to REES starting work.

ABATEMENT

REES' abatement contractor, Ascendent, LLC (Ascendent) will be responsible for applying for all permits for abatement activities. All Abatement work activities will be per Ascendent's abatement submittals and work plan (submitted separately). Ascendent will abate the materials identified in the Hazardous Materials Survey provided by Atkinson and will also be on-call if suspect material is identified on site that was not included in the original Hazardous Materials Survey. REES will obtain and submit a Letter of Clearance from the Abatement Contractor prior to initiating demolition.

UNDERGROUND UTILITIES

Confined space entry to man-holes will not be required on this project. If required, crews entering these confined spaces will have their certificate of completing a confined space entry class and will follow all proper PPE and air monitoring prior to entering and during confined space work.

REES crews will be utilizing mini track mounted excavator with a breaker and bucket to perform the cut and caps of the sewer and water. If utility lines are deeper than anticipated, crews will deploy the use of a larger excavator to perform deeper excavations. If an area cannot be sloped back and an excavation becomes 4' in depth, REES crews will implement shoring per OSHA regulations. Once all utilities are cut/capped, demolition activities will begin.

All caps/plugs will be performed in accordance with the permit guidelines. Pipes will be plugged with mechanical plugs and grout and then will be inspected, if required, prior to backfilling.

Sewer and water lines that are scheduled for removal will be done upon completion of the demolition operations. Any underground utilities flagged for re-use will be left intact. All excavations will be backfilled with approved material and compacted.

DEMOLITION OF STRUCTURES

****NOTE**** ***REES anticipated means and methods may change due to field conditions.***

PROTECTIVE MEASURES

Protection of Persons and Property

REES' "Culture of Safety" shall extend to the protection of persons and property. The key measures listed below shall be implemented to ensure the safety of the public and adjacent properties including a contingency for river flood plain.

- All REES personnel and subcontractors will be required to check in upon arrival. All COVID-19 Health and Safety protocols will be implemented and, if applicable, followed for the duration of the project.
- Hard hats, safety vest, eye protection, ear protection, hand protection and boots will be required for all activities.
- Provide spotters when working near property boundaries and or adjacent structures.
- Water for dust control will be used throughout demolition activities.
- Utilize steel plates, plywood, etc. to prevent falling debris from damaging sidewalk, streets, etc.
- Do not leave partially demolished buildings that are unstable.
- Prevent unauthorized or accidental entry by maintaining existing temporary fence, provided by Atkinson, and supplementing with additional fence or caution tape as warranted by site conditions.
- Keep equipment locked when not actively operating to prevent unauthorized use.

Hazards to onsite personnel and their mitigation measures are discussed in the Health and Safety Plan (HASP). A Pre-Task Planning meeting will be conducted and the demolition Job Hazard Analysis (JHA) shall be discussed with operation personnel prior to commencement

of demolition activities. The demolition JHA shall be posted in the REES project file located in the work truck. The JHA will be discussed with the crew prior to the start of each day and made available to on-site personnel during the duration of demolition activities.

SEQUENCE

Pre-Demolition Activities

Hazardous Materials Abatement – ACM materials will be abated prior to demolition.

Shrubs, Trees, and Vegetation – N/A

Erosion Control Measures – By others.

Utility Disconnects – Gas and Power utilities will be disconnected by others prior to REES starting work.

Temporary Site Fencing – Temporary fencing will be placed around each work zone by others.

Demolition Activities

Demolition activities will be performed using multiple tracked excavators equipped with a hydraulic thumb attachment, grapple, shears, or concrete pulverizers. A ground spotter will work with the track hoe operator to warn of unsafe conditions, direct truck traffic, and apply water mist to reduce particulate emissions. Buildings and associated structures will be demolished and then size reduced by repeated crushing of the debris. Concurrently, salvage items such as metal and dimensional lumber will be separated for recycling. Size reduced debris will be loaded into trucks and hauled to the appropriate recycling or disposal facility (see list below) per the Haul Plan.

The building to be demolished is a ~19,000 SF mixed use and materials structure. REES will demolish and dispose of the building, footers, and concrete slab. Equipment for demolition will be mobilized and on site prior to demolition.

REES proposes the following sequence:

- Mobilize equipment to the site.
- Abatement of ACM will be done prior to REES beginning demolition.
- Perform onsite safety meetings prior to demolition.

- Cut water line at property boundary and adapt existing waterline for temporary dust control.
- Cut and cap sewer line at property boundary.
- REES will start structure demolition by using an excavator with a specialty attachment or bucket and thumb working from the North West corner to the South East corner, working from the top down throughout the structure.
- All materials generated will be stockpiled within the building footprint, sorted, and loaded out. CDL materials will be loaded into 100 CY containers provided by Waste Management. Metal materials will be sorted and loaded into 40 CY containers provided by Metro Metals. Any concrete materials will be processed to manageable sizes and loaded into truck and trailers provided by REES.
- Laborers will be on hand for dust control, spotting and ensuring no trackout from the site enters the ROW. If materials cannot be controlled with the use of hand brooms, a sweeper truck will be brought to the site to clean the entry/exit and roadways.
- Upon completion of demolition and loading of materials. REES will demobilize from the site.

To the extent logistically possible, impervious surfaces (e.g. slabs, asphalt parking lots, sidewalks, etc.) will be left in place to reduce potential storm water issues and provide staging of materials for loading out demolition debris. REES will haul a 100-cy container to the site and the equipment operator and truck driver will work together to load out all materials, cover the load and remove the debris from the site. Concrete, asphalt, brick or cinderblock materials, a dump truck and trailer will be dispatched to the site for debris removal to a recycling facility unless it is slated to be used for fill material on site. All materials will be recycled to the extent possible.

Haul Route

Provided upon request.

Traffic Control Measures

Traffic Control Measures provided by others. REES will utilize truck spotter for backing trucks into the site when needed.

Demolition Permits

Demolition permits provided by Atkinson.

EQUIPMENT REQUIRED

Equipment to be used on this project will be operated and maintained in accordance with the manufactures' recommendations and operated only by competent persons. The primary equipment to be used on this project is:

- Takeuchi TB 235 mini excavator with thumb and bucket
- 210 class excavator with thumb, bucket, breaker and compactor attachments
- 250 class excavator with thumb, bucket, breaker and compactor attachments
- Tractor Truck with 100 CY demolition debris container
- Dump Truck
- Sweeper Truck
- Non-power hand tools (brooms, shovels, etc.)
- Powered hand tools (sawzalls, drills, etc.)
- Crew work trucks

Additional equipment may be mobilized to the site dependent on differing site conditions that may arise.

DISPOSAL AND RECYCLING

All materials will be disposed of at the following locations:

- **Construction Demolition Debris (CDL)**
  Waste Management – Argo Yard
  402 S. Dawson Street
  Seattle, WA 98108

- **Concrete/Asphalt Disposal**
  Rainier Wood Recyclers
  27529 Covington Way SE
  Covington, WA 98042

- **Metal Recycling**
  Metro Metals
  2202 E. River Street
  Tacoma, WA 98421

Appendix D

Soil and Groundwater Management Plan

Soil and Groundwater Management Plan
ECP Appendix E, State Route 509 Completion Stage 1b
(PBS Engineering and Environmental, 2021)

Soil and Groundwater Management Plan

SR 509, I-5 to 24th Avenue S. –Expressway Expansion Project
Contract no. 9424
King County, WA

Prepared for:
Atkinson Construction
707 S Grady Way Suite 500
Renton, WA 98057

May 2021
Revised August 2021
Project No. 40757.022

214 EAST GALER STREET
SUITE 300
SEATTLE, WA 98102
206.233.9639 MAIN
866.727.0140 FAX
PBSUSA.COM

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1. INTRODUCTION

This Soil and Groundwater Management Plan (SGMP) provides information and describes procedures regarding the management of contaminated media during the expressway expansion project (Work) taking place along SR 509 from Interstate-5 to 24th Avenue S. (site or subject property). This SGMP was prepared by PBS Engineering and Environmental Inc. (PBS) on behalf of Atkinson Construction (Atkinson).

1.1 Background

The purpose of the Project is to extend SR 509 to I-5 near Tukwila, add a southern access point near Sea-Tac International Airport, and improve service between industrial districts by allowing general purpose traffic and trucks to bypass I-5, SR 99 and local streets. When finished, SR 509 will be a key component of the Seattle and south King County transportation network. Along with the SR 99 tunnel improvements, the project provides a critical north-south alternative to I-5 through Seattle and King County.

Contaminated soils and groundwater have been identified in the project corridor. Investigations by LSI Adapt (Adapt) in 2004, Environmental Associates, Inc. (EAI) in 2005, GeoEngineers in 2018, and EHS-International, Inc. (EHSI) in 2020 identified the following contaminants of potential concern (COPC): polycyclic aromatic hydrocarbons (PAHs), heavy metals, and total petroleum hydrocarbons (TPH). Additional potential contaminants of concern associated with this bridge replacement projects include lead and polychlorinated biphenyls (PCBs) associated with overpass bridge coatings, asbestos-containing materials on bridge structural elements, and petrochemicals and metals generated by vehicle traffic and transported by stormwater. Lead and arsenic associated with the Asarco Tacoma smelter plume are also COPC in soil.

1.2 Schedule

January 2021 – January 2022: Design/planning phase.
February 2022 – August 2025: Construction phase.

1.3 Objective

The objective of the SGMP is to provide information regarding the location, type and source of contaminated media (soils and groundwater) present at the site, and to assist the Atkinson and its subcontractors with proper media management and disposal, as needed. This SGMP addresses how the known contamination, and any new discoveries of previously unidentified contamination, will be handled safely and to avoid effects to schedule. The SGMP also provides information to enable Atkinson to create a Health and Safety Plan (HASP) that is appropriate to protect site workers from exposure to contaminants.

This SGMP contains:

- Information on current environmental conditions and contaminants of concern;
- Roles and responsibilities of project team members for the SGMP;
- Procedures for the management and sampling of new discoveries of contaminated materials;
- Procedures for the storage of contaminated water in temporary holding tanks or lined ponds awaiting sampling, classification, and disposal;
- Procedures for the storage of contaminated soil or debris in stockpile or staging piles awaiting sampling, classification, load-out, and disposal (should temporary storage occur); and
- Required documentation for contaminated material handling, storage, loading, and disposal.

2. PROJECT INFORMATION

2.1 Project Location

The site includes the new SR 509 Expressway corridor from 24th Avenue S. to I-5, as well as the I-5 corridor from S. 216th Street to just south of SR 516. It will include work on a new S. 216th Street overpass, a new Veterans Drive undercrossing of I-5, and new interchanges at SR 516 and 25th Avenue S.

2.2 Contaminants of Potential Concern

The work involves removal of existing overpass bridge structural elements, general earthwork including excavation of soils to depths of up to 35 feet bgs, and trenching for new utilities. Based on the analytical results from samples taken from soil and groundwater on site, the following contaminants of potential concern (COPC) may be encountered within the Project Area:

- Total petroleum hydrocarbons (TPH) as diesel to heavy oil range
- Volatile Organic Compounds (VOCs) including benzene, ethylbenzene, toluene, and xylenes (BTEX)
- Polycyclic aromatic hydrocarbons (PAHs)
- Arsenic
- Lead

PCBs and lead associated with painting of bridge components may also exist in shallow soils.

2.3 Contaminated Media: Degree and Extent

2.3.1 Soil

- Per the *Tacoma Smelter Plume Model Remedies Guidance* (Ecology, 2019), the Asarco Company operated a copper smelter in the Point Defiance area of Tacoma for almost 100 years. Air pollution from the smelter settled on the surface soils over more than 1,000 square miles of the Puget Sound basin. Arsenic, lead, and other heavy metals are still in the soil because of this pollution. Concentrations of arsenic are known to exist within the aerial plume, which includes the project site, above the MTCA Method A cleanup level of 20 milligrams per kilogram (mg/kg) in soil depths of 0 to 12 inches below ground surface. Ecology's *Dirt Alert Map* (https://apps.ecology.wa.gov/dirtalert/?lat=47.273840&lon=-122.500000&zoom=11) maps the majority of the site within an area of predicted arsenic concentrations in near surface soil of 20 to 40 ppm. The portion of the site to the south of the I-5/SR 516 interchange is mapped by WDOE with a higher expected surface concentration, in the 40.1 to 100 ppm range.
- According to subsurface investigation and Phase II reports performed by GeoEngineers, Adapt, and EHSI, there are numerous sites ("FL116", "FL145", "FL146" and "FL147"), within the project corridor with confirmed concentrations of lead and/or arsenic in shallow soils exceeding MTCA Method A cleanup levels (GeoEngineers, 2018a, 2018c, 2018d) as a result of on-site activities (i.e. not resulting from the smelter plume).
- Those sources also indicate that there are also numerous sites within the project corridor with known and/or reported petroleum, volatile organic compound (VOC), and polyaromatic hydrocarbon (PAH) impacts below MTCA Method A cleanup levels (Figure 1).
- Soil with concentrations of TPH exceeding MTCA Method A cleanup levels was identified at site "FL145" (Geoengineers, 2018c) and at the "Poulsbo RV" site (Adapt 2004; Figure 1).

2.3.2 **Groundwater**

- Subsurface investigation and Phase II reports by GeoEngineers describe groundwater contamination by TPH in the diesel (TPD-D) and heavy/lube oil (TPH-HO) range exceeding MTCA Method A cleanup levels at the site "FL108" (GeoEngineers, 2018b).
- Subsurface investigation and Phase II reports also describe groundwater contamination by TPH-D, TPH-HO and gasoline range TPH (TPH-G), VOCs, and PAHs below MTCA Method A cleanup levels at the "Poulsbo RV" site and "FL108" (GeoEngineers, 2018b; EHSI, 2020; Figure 1).

2.3.3 **Soil Vapor**

Impacts to soil vapor have not been evaluated at this site. It may be appropriate to evaluate the soil vapor to indoor air exposure pathway should impacted soil be left in place.

3. CONTAMINATED MATERIAL DEFINITIONS

Contaminated soil and water encountered during project work will be characterized for disposal. This section describes the classification and management of the contaminated material as follows:

3.1 Contaminated Material(s) not designated as Dangerous Waste or Toxic Substances Control Act (TSCA) Waste:

Soil/material/debris/liquid of any kind that has contaminant levels above the more stringent of their respective applicable MTCA Method A cleanup level, Method B cleanup level, or Table 749-2 level, all for unrestricted land use per Chapter 173-340 Washington Administrative Code (WAC), but is not designated as a Dangerous Waste or TSCA Waste will be managed in accordance with this section.

Based on the knowledge of known and suspected contaminants of concern on site, along with excavation activities related to the project, there will likely be soil designated as petroleum contaminated soil (PCS). PCS that are not Dangerous Wastes are regulated under the Solid Waste Handling Standards, Chapter 173-350 WAC (State Department of Ecology [Ecology], 2018). The soil laboratory results will also be compared with Tables 12.1 and 12.2 from the *Guidance for Remediation of Petroleum Contaminated Sites* (Ecology, 2016a) to help determine appropriate reuse or disposal options.

Soil not meeting the definitions of a Washington State Dangerous Waste or federal TSCA or hazardous waste can be classified in the following categories for the purpose of re-use or disposal:

1. Reusable Soil 1: Soil that contains no detectable levels of contamination. Reusable Soil 1 can be reused on site or transported offsite for reuse or disposal at an accepting facility. Alternatively, Reusable Soil 1 may be disposed of at any facility willing to accept.
2. Reusable Soil 2: Soil that contains detectable levels of contaminants that are above the applicable Puget Sound background levels and below the MTCA Method A Cleanup Levels. Reusable Soil 2 can be reused onsite in locations that are not laterally or vertically within 10-feet of surface water or disposed of at an accepting facility licensed/permitted to accept it. Soil containing petroleum hydrocarbons (gasoline, diesel, heavy oil) must be managed as *"petroleum contaminated soil"* consistent with the Solid Waste Handling Standards (WAC 173-350) and Table 12.1 of the *Guidance for Remediation of Petroleum Contaminated Sites* (Ecology, 2016).
3. Organic Waste: Soil that contains wood waste consisting of peat, timbers, sawdust, or other abundant organics. Organic Waste shall be disposed of at any facility licensed/permitted to accept it based on its characteristics and concentration of components.

4. Contaminated Soil: Soil that contains one or more contaminant(s) at concentrations exceeding their respective MTCA Method A cleanup level. Ecology requires that Contaminated Soil be disposed of at a Resource Recovery and Conservation Act (RCRA) Subtitle D facility.

3.2 Dangerous Waste

Soil that meets the definition of Dangerous Waste was not detected in the subsurface explorations and studies conducted for the Project. Soil/material/debris/liquid that has contaminant levels that potentially exceed the Washington State Dangerous Waste per WAC 173-303 would be considered Dangerous Waste. WDOE requires that Dangerous Waste be disposed of at a RCRA Subtitle C facility.

Sites likely to exceed Washington State Dangerous Waste criteria per WAC 173-303 were not identified in previous Phase II ESAs or subsurface investigations performed within the project corridor. However, paint on the bridges may contain lead, and as such is a potential source of dangerous waste. Lead containing paint waste will be characterized to determine if dangerous waste profile analysis may be required as defined in Section 6.1.

4. PRE-EXCAVATION ACTIVITIES

This section describes the activities that will generally be conducted prior to the start of project work. The general contractor should be aware of this work as some of these activities may or will affect the Work.

4.1 Project Team

Prior to site development, management roles will be identified and are detailed in the following table (subject to change):

Title	Name	Affiliation	E-mail	Phone Numbers
Operations Manager	Brandon Dully	Atkinson Construction	brandon.dully@atkn.com	Cell: 206.786.1244
Project Manager	Stuart Moore	Atkinson Construction	stuart.moore@atkn.com	Cell: 360.340.6797
Safety Manager	Scott Strueli	Atkinson Construction	scott.strueli@atkn.com	Cell: 425.260.3517
Construction Manager	Jay Teskey	Atkinson Construction	jay.teskey@atkn.com	Cell: 206.730.7435
Deputy Project Manager	Archie Kollmorgen	Atkinson Construction	archie.kollmorgen@atkn.com	Cell: 206.639.5791
Design-Build Coordinator	Edward Yperman	Atkinson Construction	edward.yperman@atkn.com	Cell: 206.305.5250
Design Manager	Heather Weeks	Atkinson Construction	heather.weeks@atkn.com	Office: 425.990.6864 Cell: 425.647.5973
Structures Superintendent	Matt Taylor	Atkinson Construction	matt.taylor@atkn.com	Cell: 425.757.4549

Title	Name	Affiliation	E-mail	Phone Numbers
Project Engineer	Andrey Chepel, PE	WSDOT	chepela@wsdot.wa.gov	Office: 206.805.2978 Cell: 253.709.6970
Joint Executive Committee Member	Aleta Borschowa	WSDOT	borscha@wsdot.wa.gov	Cell: 425.892.0200
Environmental Compliance Manager	Kevin Hood	PBS	kevin.hood@pbsusa.com	Cell: 206.459.4465

4.2 Health and Safety Plan

Atkinson will maintain a site-specific Health and Safety Plan (HASP) in accordance with applicable OSHA and Washington Industrial Safety and Health Act (WISHA) regulations. The HASP will provide information for site workers that address the health risks and hazards for each site task, employee training assignments to assure compliance with WISHA, personal protective equipment, site control measures, and decontamination procedures. The HASP will include procedures and controls that are site specific to the identified IHS.

Atkinson is responsible for conducting on-site activities in accordance with the HASP. Atkinson will review the contents of the HASP with on-site workers and will ensure adequate training for on-site workers in accordance with the HASP. Outside contractors or consultants participating in soil management activities have responsibility for their employee's health and safety while on site.

4.3 Waste Profiling

The Contractor may elect to begin the waste profiling process at any time by selecting a receiving landfill. Having PCS profiled and accepted by a facility in advance is recommended as it may prevent delays. Each facility may have differing cost structures and permitting process. Proximity is also a factor the Contractor shall consider. Receiving landfills are likely to require that the Contractor submit waste material sample analytical results so that they can profile the waste. This should be arranged prior to hauling.

5. CONTAMINATED MEDIA REMOVAL AND HANDLING

This section summarizes Work that potentially generates contaminated media requiring proper management and disposal. As part of the Work, the contractor will conduct extensive grading for roadway construction, and the replacement and subsequent demolition of overpass and interchange structures. Additionally, there will be trenching for utility work.

5.1 Activities with the Potential to Generate Contaminated Soil and/or Groundwater

Construction activities that may generate soil or groundwater requiring appropriate management include the following:

- Excavation for utility trenches
- Excavation for footings and other foundation structures
- Embankment alteration

- General grading

5.2 Contaminated Soil and Groundwater Management Procedures

Atkinson shall manage contaminated soil in accordance with the established SPCC Plan, Construction Stormwater General Permit (WDOE, 2020), SWPPP/TESC Plan and Solid Waste Handling Standards in WAC 173-350 (WDOE, 2018). Soil disturbance will be limited to the minimum area required to execute project work and any potentially contaminated soils will be protected from contact with stormwater via the use of berms, plastic sheeting and other best management practices (BMPs).

The Environmental Consultant will collect soil samples (see section 5.5) when soils suspected to be contaminated are encountered or prior to removal.

Soil containing observed or detectable levels of petroleum contaminants but not meeting the definition of Contaminated Soil per Section 3.1 will be managed and disposed of in accordance with Table 12.1 of the Guidance for Remediation of Petroleum Contaminated Sites (Attachment A).

Soil stockpiles containing elevated arsenic (40 mg/kg or greater) and/or lead (500 mg/kg or greater) concentrations will be managed for off-site disposal based on results of analytical testing (see Section 5.5) in accordance with Solid Waste Handling Standards in WAC 173-350 (WDOE, 2018).

Soil containing elevated concentrations of arsenic and lead that most likely resulted from on-site aboveground tank maintenance was detected at "FL145" (GeoEngineers, 2018a). Soil stockpiles generated at that site will be managed per MTCA, utilizing the MTCA Method A cleanup standards for off-site disposal (20 mg/kg arsenic, 250 mg/kg lead).

Soil that contains other contaminant(s) (other VOCs, cPAHs, etc.) at concentrations that exceed the MTCA Method A cleanup levels (but does not meet Dangerous Waste criteria) shall be disposed of at a Resource Recovery and Conservation Act (RCRA) Subtitle D facility.

Atkinson will manage contaminated groundwater in accordance with the established SPCC Plan, Construction Stormwater General Permit (WDOE, 2020), SWPPP, TESC Plan and WAC Chapter 173-201A Water Quality Standards for Surface Waters of the State of Washington (WDOE, 2016c). Groundwater that contains contaminant(s) at concentrations that exceed the MTCA Method A cleanup levels (but does not meet Dangerous Waste criteria) will be disposed of at a RCRA Subtitle D facility and/or infiltrated back into the work area. Ecology has added an Administrative Order to the NPDES CSWGP for the Project. Atkinson is also currently pursuing a sanitary sewer discharge permit from Midway Sewer District for additional groundwater and surface water disposal options.

WSDOT shall notify WDOE in the event of discovery of any unknown or unanticipated contamination.

5.3 Field Screening and Identification

A trained Contractor personnel, Subcontractor foreman or trained designated HAZWOPER certified monitor will be present during excavation activities to provide visual screening of soils.

Soils will be monitored for visual and olfactory evidence of contamination based on location of work, observed discoloration, texture, and odor, or the presence of metal or plastic remnants of tanks or drums. Physical characteristics that may be observed in excavated soils that indicate the need for separate stockpiling and laboratory testing include:

- Soils containing petroleum discoloration or odor;
- Soils or debris containing other unusual or unnatural discoloration or odor;
- Wood or wood fragments containing other unusual or unnatural discoloration or odor;
- Drums, tanks or metallic debris encountered in the excavation; and
- Garbage or other debris.

A field instrument that can help to qualitatively assess the presence of contamination is a photoionization detector (PID). A PID will detect the presence of a volatile compound (such as benzene or gasoline) in the air but does not identify the chemical. It is not expected that a PID will be utilized during routine construction activities. If suspected contamination is encountered or could be expected to be encountered (i.e. for work in or near areas with petroleum contamination documented in the subsurface investigation reports produced by Adapt, EHSI, and GeoEngineers), a PID would be useful to help identify and segregate PCS and can be used for worker protection.

The Environmental Compliance Manager (ECM) and Project Manager will be immediately notified if excavated material presents visual or olfactory evidence of contamination. The ECM and Project Manager will notify the WSDOT Project Engineer in accordance with WSDOT Environmental Compliance Assurance Procedures (ECAP). If sampling and analysis indicates that suspect material is contaminated at concentrations exceeding CULs, the WSDOT Project Engineer will notify WDOE within 24 hours.

5.4 Stockpiling

The Contractor shall provide proper storage of contaminated soil or debris in stockpiles/staging piles pending sampling, analysis, waste profiling and disposal. Sufficient storage will be required so that the Contractor's operations are not disrupted due to insufficient storage.

General requirements for the temporary stockpile include: (a) prevent intermixing of stockpiled materials with underlying soils or materials from other sources/or with other contaminants; (b) prevent contact with storm water; (c) prevent erosion of stockpiled materials; (d) apply stormwater BMPs as appropriate for stockpile construction and maintenance; (e) maintain daily inventory of stockpile areas and provide information to the Project Engineer, as requested, and (f) appropriate site security such as fence areas to alleviate hazards to the public. The stockpile will be a contained system that may include ready-made structures or facilities, to contain soil and liquids.

Incidental stockpiling of contaminated soil within the boundaries of a known contaminated soil area can be conducted without any liners or controls if soil is located in an area where run-off from the stockpile cannot run-on to a clean area or an area with a different type of contamination.

In circumstances where stockpiling will be required, such as during the temporary storage of contaminated soil in a clean area or area with a different type of contamination, or the discovery of undocumented contamination, stockpiles will adhere to the following:

- Stockpiles will be underlain by plastic sheeting with a minimum thickness of 6 mil, with adjacent sheeting sections overlapping a minimum of 3 feet per Standard Specification 8-01.3(5);The perimeter of the stockpiles shall be surrounded by a berm to prevent run-on and/or run-off of precipitation;

- Stockpiles shall be covered with plastic sheeting when not in use and the cover should be anchored (such as with sandbags or otherwise) to prevent it from being disturbed by wind.

5.5 Soil Sampling and Testing

Trained environmental personnel or Atkinson's Environmental Consultant will perform sampling of excavated materials for characterization of suspected contaminated soils. The following sections describe the procedures for soil sampling.

5.5.1 Sample Collection

Soil samples will be collected by filling laboratory provided containers for specific analysis as presented in the Laboratory Container Requirements table presented in Attachment IV. Soil will be collected in a single 4-oz jar for the for analysis of RCRA-8 metals, TPH-D, and dry weight analyses for that sample. Soil samples for analysis of VOCs or TPH-G will be collected into Volatile Organic Analysis (VOA) vials in accordance with EPA Method 5035A. Attachment IV presents appropriate containers/preservatives by analyte/analytical method.

All non-disposable components of the sampling equipment (e.g., hand augers, shovels, spoons, or other equipment) used to collect samples that contact the soil will be decontaminated prior to, and in between, collection of individual samples as follows:

- Scrub with potable water containing Alconox/Liquinox detergent
- Potable water rinse/deionized (DI) water rinse

The sampler will don new disposable gloves for the collection of each sample. Samples will be placed in coolers on ice under chain-of-custody documentation for transport to the analytical laboratory.

In the case of stockpile sampling, the number of samples collected to characterize a given volume of soil will be based on Table 6.9 of the *Guidance for Remediation of Petroleum Contaminated Sites* (WDOE, 2016a). Soils will be collected from at least 1-ft below the surface of stockpiles.

5.5.2 Sampling Analysis Procedures

Samples may be analyzed for the following:

- Total Petroleum Hydrocarbon as Diesel Range by Method NWTPH-Dx
- Total Petroleum Hydrocarbon as Gasoline Range by Method NWTPH-Gx
- BTEX / NWTPH-Gx using EPA Method 8021B
- PAHs by EPA Method 8270/625
- Total Metals (RCRA-8: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver) by EPA Method 200.8/6020A/1631E
- VOCs by EPA Method 8260C

5.5.3 Evaluation of Analytical Results

The analytical results from samples collected will be reviewed by the Environmental Consultant and used to support regulatory reporting and waste profiling for disposal. The analytical results will be compared to

the criteria defined for the types of wastes this plan addresses: "Contaminated Material(s) not designated as Dangerous Waste or Toxic Substances Control Act (TSCA) Waste" and "Dangerous Waste".

When analyses of lead, arsenic or other constituent pursuant to WAC 173-303-090 exhibit concentrations that may identify the waste as having characteristic of toxicity (WAC 173-303-090 (8)), then supplemental testing may be required for toxicity characteristic leaching procedure (TCLP). The following industry standard shall be used to determine if a TCLP analysis is required: In the event that a detected concentration in mg/kg exceeds twenty times the subsequent TCLP value (in mg/L) for that constituent as listed in WAC 173-303-090 (8)(c), a TCLP extraction and analysis will be performed. An appropriate number of discrete stockpile samples as determined by Table 6.9 of the *Guidance for Remediation of Petroleum Contaminated Sites* (WDOE, 2016a) will be collected and analyzed for toxicity characteristic leaching procedure (TCLP).

The TCLP data will be compared to the TCLP thresholds established in RCRA to determine if the solid waste is classified as a Washington State Dangerous Waste and/or federal hazardous waste. Any waste that contains contaminants which occur at or above the Dangerous Waste threshold must be designated Dangerous Waste (WAC 173-303-100). Soils that fail a TCLP for metals or constituents such as benzene must be disposed of as Dangerous Waste.

Metals Analysis
The project site is located within the Tacoma Smelter Plume (WDOE, 2016b). The potential for RCRA regulated metals, particularly lead and arsenic, exists in the site soil and work should be undertaken with the assumption of the presence of area-wide contamination of soil. As such, soil considered for export from the project area will be sampled according to Section 5.5.1 for RCRA-8 metals.

- Generally, the analytical results will be compared to criteria defined in regulations such as, but not limited to, WAC 173-340, WAC 173-303, WAC 173-201A and WAC 173-350.
- For sites with known metals contamination resulting from on-site sources (FL145, see GeoEngineers 2018a), analytical results will be compared to MTCA Method A cleanup standards.

Petroleum and Volatile Organics
For the case of petroleum contamination, results will be compared with Tables 12.1 and 12.2 from the *Guidance for Remediation of Petroleum Contaminated Sites* (WDOE, 2016a), which indicate guideline concentrations for disposal and reuse categories for petroleum contaminated soil. Definitions and considerations used in the evaluation of analytical results are further described below:

- Petroleum-contaminated soils that are not otherwise classified as a dangerous waste are regulated under the Solid Waste Handling Standards, Chapter 173-350 WAC (WDOE, 2018) as well as Table 12.1 of the *Guidance for Remediation of Petroleum Contaminated Sites* (WDOE, 2016b).
- Persistent Waste Criteria WAC 173-303-100(6): WAC 173-303-100(5) requires wastes/soil with halogenated organic compounds content greater than 100 parts per million (ppm), and PAH content of 10,000 ppm to be handled as Dangerous Waste.

5.6 Contaminated Water Management Procedures

Active groundwater de-watering during site redevelopment is not anticipated as the planned grading and utility work for the development is above the reported water table. However, deep trenches or bridge footings may encounter groundwater and if those activities take place on the "Poulsbo RV" site and "FL108" sites, water should be tested and contained before it is discharged off-site, disposed of by the contractor, or infiltrated back into the work area.

Water accumulation related to stormwater management, limited perched groundwater, or incidental rain water that accumulates in excavations will be handled and disposed of in accordance with the Stormwater Pollution Prevention Plan (SWPPP) for the project and in compliance with the Construction General Stormwater Permit. If possible, water should not be discharged from the site in areas with known contamination.

Groundwater pumped from excavations or footings will be managed as follows:

- *Contain and Analyze*: Water generated from dewatering activities at the "Poulsbo RV" and "FL108" sites will be contained and characterized prior to disposal or infiltrated back into the work area. Water suspected to be contaminated with VOCs, metals, or petroleum hydrocarbons due to contact with contaminated soil or from pumped groundwater will be pumped into an appropriate container (temporary tanks or DOT approved drums) and sampled. The samples will be analyzed to assess the correct method of treatment and/or disposal. Laboratory analytical results will be compared to both the Water Quality Standards established in WAC 173-201A (WDOE, 2016c) and the MTCA Method A Cleanup Levels established in WAC 173-340 (WDOE, 2013), along with standards promulgated by the EPA for arsenic Human Health Criteria for Consumption[1].

- *Halt Work*: If significant indications of contamination are observed in groundwater, then construction work will be halted while analytical testing is conducted to determine options for treatment, disposal and health and safety requirements. In the event that work is halted, the WSDOT Project Engineer will be notified, and stopping procedures will be conducted in general accordance with the ECAP process. Such indicators could include presence of free phase liquids, odor, sheen, or extreme discoloration of the groundwater. If unanticipated contamination is revealed as a result of the analyses, the WSDOT Project Engineer shall notify WDOE.

- *Disposal*: Based on the volume of water generated and the concentrations of the constituents of concern, the groundwater will be disposed by one of the two following methods:

    - Infiltration back into the area from where it was pumped or discharge to storm/sanitary sewer. Any discharge to storm sewer or surface waters or infiltration into the work area must be authorized by WDOE under the National Pollutant Discharge Elimination System (NPDES) permit and the Administrative Order (AO) for the site.

    - Off-site disposal by contacting a vendor to collect the water and transport it to a proper disposal or recycling facility. Groundwater that contains contaminants at concentrations that preclude discharge to storm sewer or infiltration in the work area (per the criteria noted above) shall be hauled offsite to an approved facility coordinated by the Contractor. Disposal shall be at a facility permitted to treat and indirectly discharge wastewater to the public sewer under 40 CFR 437 (centralized waste treatment facility).

[1] TCP Interim Policy 730: Taking Into Account Federal Human Health Surface Water Quality Criteria under MTCA, https://apps.ecology.wa.gov/publications/documents/2009059.pdf

5.7 Contaminated Demolition Debris Management Procedures

Demolition debris will be characterized for disposal pursuant to WAC 173-303 (WDOE, 2014) and WAC 173-350 (WDOE, 2018). Demolition debris contaminated with PCBs or heavy metals at concentrations exceeding the adopted cleanup standard should be segregated with appropriate secondary containment (i.e. plastic sheeting with berms, metal container, etc.) for off-site disposal.

5.8 Procedures for Specific Construction Activities

This section describes activities that may result in the generation of waste for off-site disposal.

5.8.1 Utility Trenching

Utility trenching will be necessary to support drainage, traffic information and electrical systems associated with the new overpass structures. In general, utility trenches will be backfilled with the excavated material. Contaminated soil identified (see section 5.3) during trenching or grading operations will be contained, characterized and disposed of off-site at a permitted facility.

5.8.2 Grading

Mass grading will take place for the construction of new roadways. In general, grading will reuse soil cut and transported within the site. Unless specified otherwise in section 2.3.1, soils on site may be reused for grading use if lead and arsenic meet the will be backfilled with the excavated material. Contaminated soil identified (see section 5.3) during trenching or grading operations will be contained, characterized and disposed of off-site at a permitted facility.

5.9 Dust and Odor Control

There is the potential for nuisance dust or odors to be emitted during soil excavation activities. Fugitive/nuisance dust will be managed in accordance with the Associated General Contractor's (AGC's) guide to controlling fugitive dust (included in the Environmental Compliance Plan prepared by PBS/Atkinson, see section 2.5).

The goal is to eliminate visible airborne Fugitive Dust. Therefore, state and local regulatory agencies expect that as many of these control techniques be employed as necessary to achieve this goal. Atkinson is required to comply with Chapter 173-400 Washington Administrative Code (WAC), Chapter 70.94 RCW – Washington Clean Air Act, and the Puget Sound Clean Air Agency's Regulation I, Section 9.15, requiring reasonable precautions to avoid dust emissions. Should excessive dust or nuisance odors develop during excavation as determined by visual and olfactory observation by the Contractor, or complaints, the Contractor shall be prepared to implement one or more of the following odor control measures:

- Minimize the open area where high concentrations of contaminants may be present.
- Apply a mist of water over the area as needed to minimize odor and dust. The use of water for dust control will be sufficient to suppress dust but should not be excessive such that surface runoff of water used for dust control is permitted.
- Cover exposed areas with elevated concentrations of contaminants with plastic sheeting at the end of each day and when excavation activities are not being performed.
- Keep stockpiles covered when not in use.

If products other than water are used, they will be approved by WSDOT and WDOE (if chemical treatment is requested) prior to use. Other means of controlling odors may be applicable, and the Contractor should consult with the Environmental Compliance Manager prior to implementation.

5.10 Decontamination Procedures

If contaminated soils are identified within work areas, procedures should be implemented to avoid spreading such material. In such areas, oil residue on equipment and excavator tracks/tires and truck tires will be removed using a combination of wet and dry methods. During dry conditions, soil residues will be removed by dry brushing. Soil that cannot be removed by this procedure will be removed from equipment by washing with high-pressure water.

During winter conditions, high-pressure water washing will be used to remove material residues and mud from equipment and tires. If a contaminated area can be delineated that will experience extensive vehicle traffic, a decontamination station will be constructed at an appropriate location on the site. The station will consist of a bermed bed of crushed aggregate rock equipped with a water collection sump. Water generated during decontamination activities will be handled as process water and disposed of to the sanitary sewer or disposed of off-site at an approved facility. The work areas will be kept clean and free of excessive soil or debris.

5.11 Contingency Plan for Unknown Contamination

Contaminated soils may be encountered during the Work that have not previously been identified or characterized. The equipment operator shall stop work and notify the Environmental Compliance Manager and Project Team if any of the following are encountered:

- Obvious staining, sheen, or colored hues in soil or standing water in locations not previously designated,
- Presence of gasoline- or oil-like vapor or odor or unexpected petroleum products or other chemicals,
- Utility pipe lines with sludge or trapped liquid indicating petroleum or chemical discharge sludge,
- Unexpected buried pipes, conduit, tanks, or unexplained metallic objects or debris,
- Vapors causing eye irritation or nose tingling or burning,

In the event that suspected contaminated soil or groundwater are observed, the contractor will notify the Environmental Compliance Manager. Soil samples will be field screened by the Environmental Consultant and samples will be collected and analyzed to ensure that the contaminated soil and/or groundwater is removed and properly characterized prior to disposal (see section 5.3). WSDOT shall notify WDOE of the discovery of any unknown or unanticipated contamination.

6. CONTAMINATED SOIL TRANSPORT AND OFF-SITE DISPOSAL

Transport of contaminated media to the appropriate disposal facilities will be performed by haulers licensed to transport that media. The Contractor shall submit a copy of its transporter's permit/qualifications for shipping contaminated soil prior to any waste transfer.

6.1 Waste Profile and Manifest

Prior to transport of PCS or other contaminated material, the waste material must be properly manifested and approved for acceptance by the selected disposal facility. The Contractor shall provide the Environmental Compliance Manager with copies of the waste profile manifest and approval notification from the selected disposal facility 3-days prior to removal of PCS or other contaminated material from the project site.

6.2 Contaminated Soil Transport

Transport of contaminated soil to the appropriate disposal facilities will be performed by haulers licensed to transport the type of contaminated soil. Contaminated soil will be loaded from stockpile or containers directly to the designated vehicle for transport to the approved disposal site. The Contractor shall provide the Environmental Compliance Manager with copies of shipping records (manifest or bill of lading) and quantity tickets for all shipped wastes, indicating each waste shipment has been received at a disposal facility. Provide copies to the Environmental Compliance Manager within 7 working days of removal. The Contractor will provide the City with copies of the shipping manifest or bill of lading indicating the amount of material hauled to disposal and bearing the disposal site operator's confirmation for receipt of material.

6.3 Off-Site Disposal

Soil with detectable concentrations of petroleum hydrocarbons must be managed as PCS and disposed of at a permitted solid waste facility in accordance with WAC 173-340 (WDOE, 2013). Soil with detectable concentrations of other contamination such as VOCs (including TCE) must be managed according to its waste category (see Section 3.1) and disposed of at a permitted solid waste facility in accordance with WAC 173-350 (WDOE, 2018). The Contractor is responsible for determining waste facility requirements and facilitating additional preliminary waste profiling if required. Sampling for waste profile analysis may be required by the receiving facility prior to approval.

Once a permitted facility is selected, the Contractor will submit copies of the facility permits and environmental approvals to WSDOT for review and approval prior to transport and disposal of material. Example facilities that may be used for disposal of Contaminated Waste include:

- Allied Waste's (Regional Disposal Company) transfer station
- Waste Management's transfer station
- WDOE permitted solid waste facilities
- Other public health department approved facility

7. POST CONSTRUCTION MANAGEMENT

This SGMP was created as guidance related to contamination encountered during the construction period. It is understood that additional management related to contamination may be appropriate once construction is complete. Ongoing management may include inspection, notification, maintenance, and monitoring.

8. REPORTING AND DOCUMENTATION

Atkinson and any subcontractors managing contaminated media will maintain all necessary permits and approvals related to the removal, excavation, management, storage, transportation, and/or treatment/disposal of the contaminated soil or water that might be generated during the project. Permits may include, but are not limited to, excavation permits, transportation permits and manifests, discharge permits and approvals and permits for treatment or disposal of contaminated waste. Copies of permits and disposal receipts should be retained for future reporting by WSDOT.

Procedures for reporting and recordkeeping are addressed under submittals as required by Project. In summary, documentation will include:

- Quantity by volume in cubic yards per WSDOT Standard Specifications M41-10 2018 (WSDOT, 2018),

- Quantity by weight as determined by number of truckloads and disposal facility weight tickets,
- Quantity of water by gallons retained by dewatering activity for discharge or disposal. The destination (discharge or disposal) of the water will be documented. If off-site disposal facility delivery receipts (gallons) shall be retained.
- Physical characteristics including analytical results when applicable,
- Disposal facility for each material disposed,
- Disposal facility receipts,
- Weight / truck tickets,
- Manifests / Bills of Lading,
- Fee receipts,
- Certification from each receiving facility owner that the facility's operating permit conditions were met for materials disposed, and
- Copies of all analytical data will be provided to the landfill operator upon request.

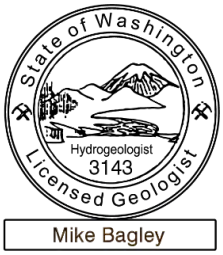
The documentation shall be presented to WSDOT in a report that includes all laboratory data will be attached. An accompanying narrative will describe the soil removal and any deviations to the procedures that occurred. Corrective actions will be identified as needed, and the resolution of any discrepancies will be reported.

9. SIGNATURES

PBS Engineering and Environmental Inc.

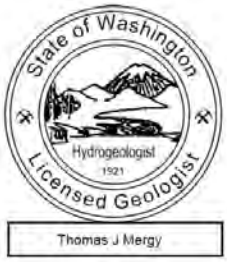
DRAFT

Mike Bagley, LHG — Date
Project Geologist



DRAFT

Thomas Mergy, LHG — Date
Senior Hydrogeologist



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(Adapt, 2005) *Supplemental Phase II Environmental Site Assessment – Poulsbo RV*, LSI Adapt, July 2005.

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(GeoEngineers, 2018a) *Focused Phase II Environmental Site Assessment Report – Sound Transit – Federal Way Link Extension Parcels FL145 and FL146*, GeoEngineers, Inc, April 2018.

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(GeoEngineers, 2018c) *Focused Phase II Environmental Site Assessment Report – Sound Transit – Federal Way Link Extension Parcels FL144 and FL147*, GeoEngineers, Inc, November 2018.

(GeoEngineers, 2018d) *Focused Phase II Environmental Site Assessment Report – Sound Transit – Federal Way Link Extension Parcels FL-116, FL-119, FL-121, FL-122, FL-123, FL-124, FL-125, FL-127, FL-128, FL-130, FL-133, FL-134, FL-136, FL-138, and FL-140*, GeoEngineers, Inc, December 2018.

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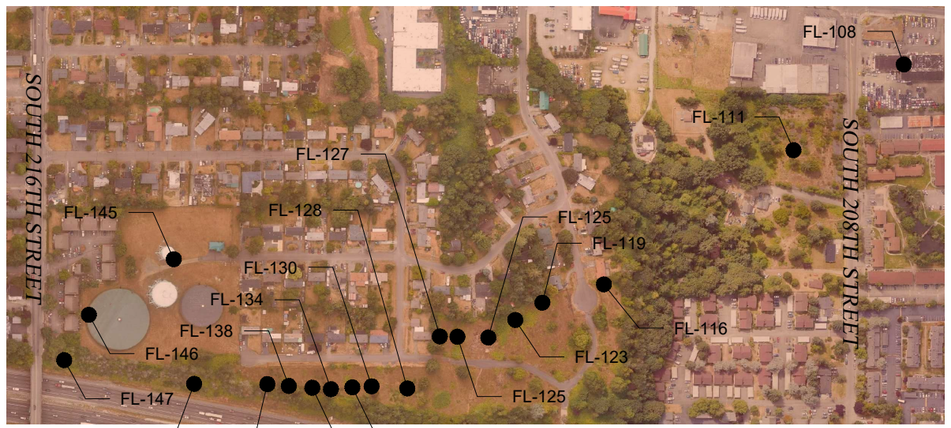
(WDOE, 2018) *Solid Waste Handling Standards WAC 173-350,* Washington State Department of Ecology, September 2018.

(WSDOT, 2018) *Standard Specifications for Road, Bridge, and Municipal Construction,* 2018.

(WDOE, 2020) *Construction Stormwater General Permit, National Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity,* Washington State Department of Ecology, November 2020.

SITE PLAN

1" = 1500'-0"



DETAIL PLAN

1" = 500'-0"

LEGEND

FL-XXX
POULSBO RV — POTENTIAL HAZMAT SITES, SEE ATTACHMENT II

WDOE PREDICTED ARSENIC CONCENTRATION (ASARCO SMELTER PLUME)

UNDER 20 PPM

20 PPM TO 40 PPM

SOURCE: WDOE DIRT ALERT MAP,
HTTPS://APPS.ECOLOGY.WA.GOV/DIRTALERT/

PREPARED FOR: GUY ATKINSON CONSTRUCTION

PBS Engineering and Environmental Inc.
214 East Galer Street, Ste 300
Seattle, WA 98102
206.233.9639
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PBS

SR509 COMPLETION STAGE 1B

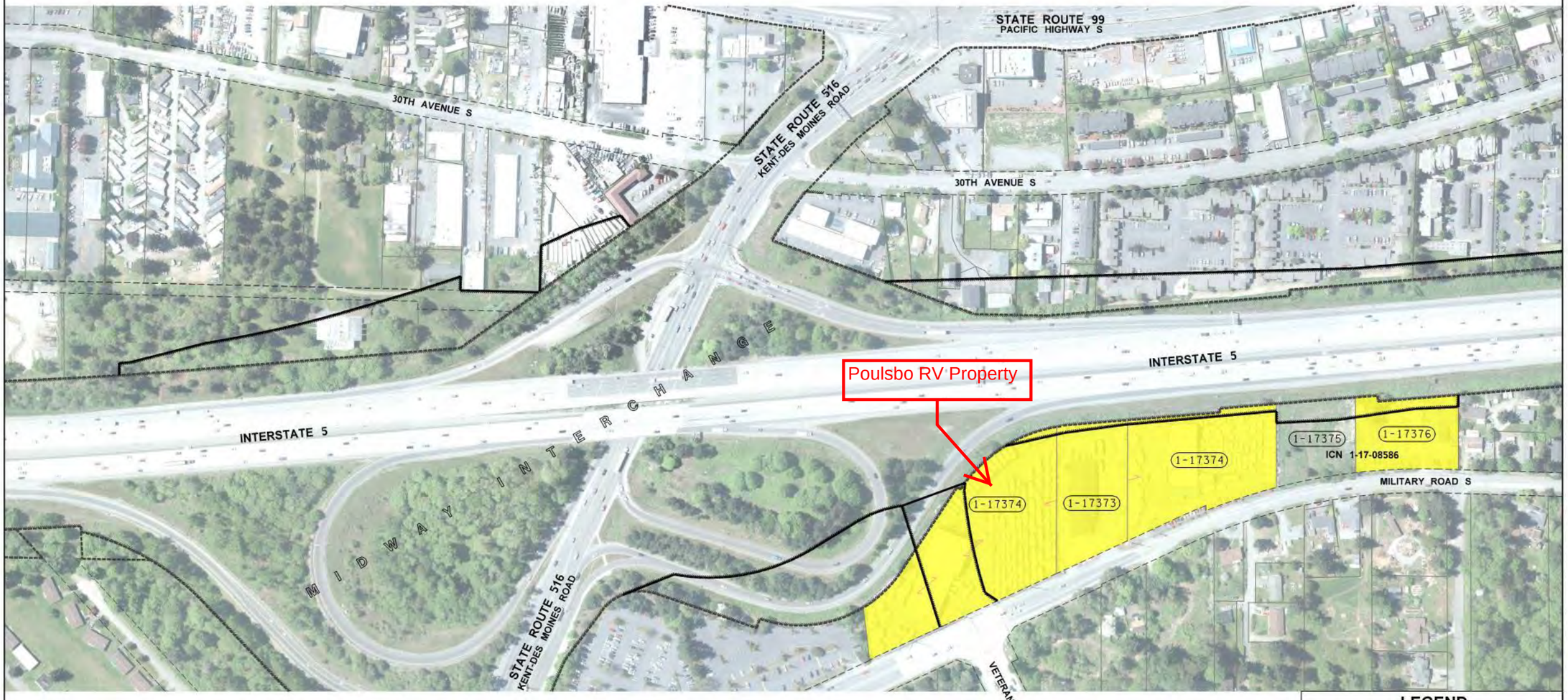
SITE PLAN

KING COUNTY, WASHINGTON

PROJECT
40757.022
DATE
FEB 2021
SHEET ID
1

Full Size Sheet Format Is 11x17; If Printed Size Is Not 11x17, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

T.22N. R.4E. W.M.
SECTIONS 15 & 16



LEGEND

HAZMAT PARCEL	
WSDOT PARCEL NUMBER	1-17375
INVENTORY CONTROL NUMBER	ICN 1-17-08586
WSDOT RIGHT OF WAY	

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DATE	4/29/2020				JOB NUMBER			
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DESIGNED BY	E. HARTSFIELD				CONTRACT NO.		LOCATION NO.	
ENTERED BY	E. HARTSFIELD				9424			
CHECKED BY	S. BERRIZ							
PROJ. ENGR.	A. CHEPEL							
REGIONAL ADM.	C. STONE	REVISION	DATE	BY				

Puget Sound GATEWAY Program

509 — 5 — 167

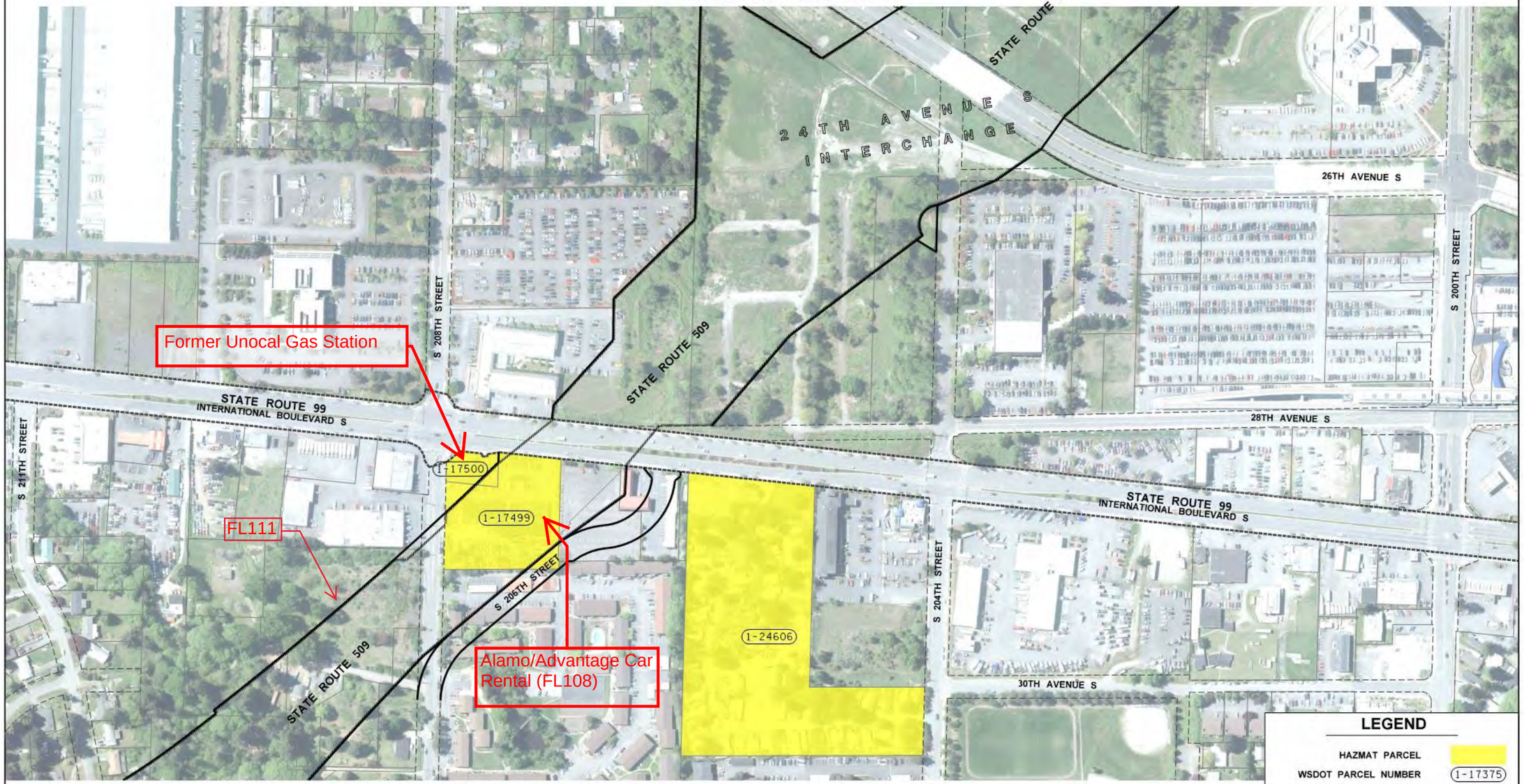
PUGET SOUND GATEWAY PROGRAM
SR 509 COMPLETION
STAGE 1B

HAZMAT PARCELS

HP1

SHEET 1 OF 2 SHEETS

T.22N. R.4E. W.M.
SECTIONS 4 & 9



LEGEND

HAZMAT PARCEL	
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INVENTORY CONTROL NUMBER	ICN 1-17-08586
WSDOT RIGHT OF WAY	

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DATE	4/29/2020				JOB NUMBER				HP2
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DESIGNED BY	E. HARTSFIELD				CONTRACT NO.		LOCATION NO.	509 5 167	HAZMAT PARCELS
ENTERED BY	E. HARTSFIELD				9424				SHEET 2 OF 2 SHEETS
CHECKED BY	S. BERRIZ								
PROJ. ENGR.	A. CHEPEL								
REGIONAL ADM.	C. STONE	REVISION	DATE	BY					

ATTACHMENT I

WDOE Guidance for Reuse of PCS
Tables 12.1 – 12.2

Table 12.1 Guidelines for Reuse of Petroleum-Contaminated Soil

Parameter	Analytical Method	Soil Category (8)(9)(10)			
		1 No detectable Petroleum Components (mg/kg)	2 Commercial Fill Above Water Table (mg/kg)	3 Paving Base Material & Road Construction (mg/kg)	4 Landfill Daily Cover or Asphalt Manufacturing (mg/kg)
Total Petroleum Hydrocarbons (1)(2) See Table 7.1 for petroleum products that fall within these categories.					
Gasoline Range Organics	NWTPH-Gx	<5	5 - 30	>30 - 100	>100
Diesel Range Organics	NWTPH-Dx	<25	25 - 200	>200 - 500	>500
Heavy Fuels and Oils*	NWTPH-Dx	<100	100 - 200	>200 – 500	>500
Mineral Oil	NWTPH-Dx	<100	100 - 200	>200 – 500	>500
Volatile Petroleum Components					
Benzene	SW8260B	<0.005	0.005 - 0.03	0.03 or less	See Table 12.2
Ethyl benzene	SW8260B	<0.005	0.005 - 6	6 or less	>6
Toluene	SW8260B	<0.005	0.005 - 7	7 or less	>7
Xylenes (3)	SW8260B	<0.015	0.015 - 9	9 or less	>9
Fuel Additives & Blending Components					
(MTBE) Methyl Tert-Butyl Ether	SW8260B	<0.005	0.005 - 0.1	0.1 or less	>0.1
Lead	SW6010A	<17	17 - 50	>50 - 220	See Table 12.2
Other Petroleum Components					
Polychlorinated (4) Biphenyls (PCBs)	SW8082	<0.04	<0.04	<0.04	See Table 12.2
Naphthalenes (5)	SW8260B	<0.05	0.05 - 5	5 or less	>5
cPAHs (6)	SW8270C	<0.05	0.05 - 0.1	>0.1 - 2	>2
Other Petroleum Characteristics (Applies to soils contaminated with any petroleum product.)					
Odors	Smell	No detectable odor			
Staining	Visual	No unusual color or staining			
Sheen Test	See Footnote # 7	No visible sheen			

IMPORTANT: See Table 12.2 and the footnotes to this Table on the following pages!

Test soil for the parameters specified in Table 7.2.

****Does NOT include waste oil contaminated soils, which should be disposed of in a landfill.***

"<" means less than; ">" means greater than

Table 12.2 Description and Recommended Best Management Practices for Soil Categories in Table 12.1 (continues on next page)		
Category	**Acceptable Uses**	**Limitations**
Category 1 Soils: Soils with no detectable/ quantifiable levels of petroleum hydrocarbons or constituents using the analytical methods listed in Table 7.3 and are not suspected of being contaminated with any other hazardous substances.	• Can be used anywhere the use is allowed under other regulations. • Any use allowed for Category 2, 3 & 4 soils.	• These soils may have a slight petroleum odor, depending on the sensitivity of individuals, and this should be considered when reusing these soils.
Category 2 Soils: Soils with residual levels of petroleum hydrocarbons that could have adverse impacts on the environment in some circumstances.	• Any use allowed for Category 3 & 4 soils. • Backfill at cleanup sites above the water table. • Fill in commercial or industrial areas above the water table. • Road and bridge embankment construction in areas above the water table.	• Should be placed above the highest anticipated high water table. If seasonal groundwater elevation information is not available, place at least 10 feet above the current water table. • Should not be placed within 100 feet of any private drinking water well or within the 10 year wellhead protection area of a public water supply well. • Should not be placed in or directly adjacent to wetlands or surface water where contact with water is possible. • Should not be placed under a surface water infiltration facility or septic drain field. • Any other limitations in state or local regulations.
Category 3 Soils: Soils with moderate levels of residual petroleum contamination that could have adverse impacts on the environment unless re-used in carefully controlled situations.	• Any use allowed for Category 4 soils. • Use as pavement base material under public and private paved streets and roads. • Use as pavement base material under commercial and industrial parking lots.	• Should be placed above the highest anticipated high water table. If seasonal ground water elevation information is not available, place at least 10 feet above the water table. • Should be a maximum of 2 feet thick to minimize potential for leaching or vapor impacts. • Should not be placed within 100 feet of any private drinking water well or within the 10 year wellhead protection area of a public water supply well. • Should not be placed in or directly adjacent to wetlands or surface water. • Should not be placed under a surface water infiltration facility or septic drain field. • When exposed, runoff from area in use should be contained or treated to prevent entrance to storm drains, surface water or wetlands. • Any other limitations in state or local regulations.

Table 12.2 Description and Recommended Best Management Practices for Soil Categories in Table 12.1 (continued)		
Category	**Acceptable Uses**	**Limitations**
Category 4 Soils: Soils with high levels of petroleum contamination that should not be re-used except in very limited circumstances.	• Use in the manufacture of asphalt. • Use as daily cover in a lined municipal solid waste or limited purpose landfill provided this is allowed under the landfill operating permit.	**Landfill Limitations:** The soil should be tested for and pass the following tests: ➢ Free liquids test. Soils that contain free liquids cannot be landfilled without treatment. ➢ TCLP for lead and benzene. Unless exempt under WAC 173-303-071(3)(t), soils that fail a TCLP for lead or benzene must be disposed of as hazardous waste. ➢ Flammability test. Soils that fail this test must be disposed of as hazardous waste. ➢ Bioassay test under WAC 173-303-100(5). Soils that fail this test must be disposed of as hazardous waste. ➢ PCBs. Soils with a total PCB content of 2 ppm or more must be disposed of as hazardous waste. Soil used for daily cover should be stockpiled within the landfill lined fill area. Soil containing more than 10,000 mg/kg TPH should be buried immediately with other wastes or daily covered to limit potential worker exposure. Any additional limitations specified in the landfill permit or in other state or local regulations. **Asphalt Manufacturing Limitations:** Soil storage areas should be contained in a bermed area to minimize contact with surface water runoff from adjacent areas. Runoff from storage areas should be considered contaminated until tested to prove otherwise. Soil storage areas should also be lined and covered with a roof or secured tarp to minimize contact with precipitation and potential groundwater contamination. Leachate from storage areas should be considered contaminated until tested to prove otherwise. The soil should be tested for and pass the following tests: ➢ TCLP for lead and benzene. Unless exempt under WAC 173-303-071(3)(t), soils that fail a TCLP for lead or benzene must be disposed of as hazardous waste. ➢ Flammability test. Soils that fail this test must be disposed of as hazardous waste. ➢ Bioassay test under WAC 173-303-100(5). Soils that fail this test must be disposed of as hazardous waste. ➢ No detectable levels of PCBs in soil (<0.04 mg/kg). Precautions should be taken to minimize worker exposure to soil storage piles and any dust or vapors from these piles prior to feeding into the asphalt batch plant.
IMPORTANT: See the following page for additional information!		

Notes to Table 12.1:

Contaminated soils can be treated to achieve these concentrations but dilution with clean soil to achieve these concentrations is a violation of Washington State solid and hazardous waste laws.

(1) See Table 7.1 for a description of what products fall within these general categories. If the product released is unknown, use the limitations for gasoline range organics. If the soil is contaminated from releases from more than one product, use the limitations for both products. For example, if the release is a mixture of gasoline and diesel, the soil should be tested for components of both gas and diesel and the limitations for both fuels and their components used.

(2) The concentrations for diesel, heavy oil and mineral oil are not additive. Use the TPH product category most closely representing the TPH mixture and apply the limitations for that product to the mixture. ***The reuse of waste oil contaminated soil is not allowed due to the wide variety of contaminants likely to be present.***

(3) Value is total of m, o, & p xylenes.

(4) Value is the total of all PCBs. Only heavy oil and mineral oil contaminated soils need to be tested for PCBs. Soil contaminated with a spill from a regulated PCB containing device must be disposed of in a TSCA permitted landfill, regardless of the PCB concentration. Other PCB contaminated soils may be disposed of in a municipal solid waste landfill permitted to receive such materials, provided the concentration does not exceed 2 ppm PCBs (WAC 173-303-9904).

(5) Value is total of naphthalene, 1-methyl naphthalene and 2-methyl naphthalene. Only diesel and heavy oil contaminated soils need to be tested for naphthalenes.

(6) The value is the benzo(a)pyrene equivalent concentration of the following seven cPAHs, using the procedures in WAC 173-340-708(8). The seven cPAHs are as follows: benz(a)anthracene; benzo(b)fluoranthene; benzo(k)fluoranthene; benzo(a)pyrene; chrysene; dibenz(a,h)anthracene; and, indeno(1,2,3-cd)pyrene. Only diesel and heavy oil contaminated soils need to be tested for cPAHs. Soils contaminated with more than 1% polycyclic aromatic hydrocarbons, as that term is defined in WAC 173-303-040 (which is more expansive than the above list), must be disposed of as hazardous waste.

(7) No visible sheen observed on water when approximately one tablespoon of soil placed in approximately ½ liter of water held in a shallow pan (like a gold pan or similar container).

(8) A soil in a lower category can be used for uses specified in any higher category. This means that:

- A category 1 soil can be used for any use specified in categories 1, 2, 3 and 4.
- A category 2 soil can be used for any use specified in categories 2, 3 and 4.
- A categories 3 soil can be used for any use specified in categories 3 and 4.

(9) ***If an environmental site assessment or soil or groundwater analyses indicate contaminants other than common petroleum constituents and naturally occurring levels of metals are likely to be present in the soil of interest at the site (for example, solvents or pesticides), do not reuse the soil.*** The soil should instead be treated using appropriate technology to address all contaminants or landfilled at a solid waste or hazardous waste facility permitted to receive these materials.

(10) Soils in categories 2, 3 and 4 should be stockpiled consistent with the soil storage recommendations in Section 11.3 of this guidance.

ATTACHMENT II

Subsurface Investigation and Phase II ESA Document Excerpts EHSI, GeoEngineers, LSI Adapt

(Attachment omitted from version packaged with Remedial Action Work Plan, available on request)

ATTACHMENT III

Project Specific Temporary Erosion and Sediment Control (TESC) Plans

(Omitted, TESC drafting in progress)

ATTACHMENT IV

Laboratory Container Requirements

Parameter	Matrix	Preparation Method	Analytical Method	Container	Preservative	Holding Time (a)
Gasoline Range Organics (GRO)	Aqueous	5030	8015, AK101, NWTPH-Gx	3 x 40 mL Vial	Cool 4°C, pH <2 HCl	7 days (unpreserved) , 14 days (preserved)
Gasoline Range Organics (GRO)	Soil, Sediment	5035	8015, AK101, NWTPH-Gx	3 x 5035 kit or MeOH pres. Vial	Cool 4°C/ Freeze <-7°C	48 hours (4°C) to freeze, 14 days to analysis
MTBE, BTEX	Aqueous	5030	8021B	3 x 40 mL Vial	Cool 4°C, pH <2 HCl	7 days (unpreserved) , 14 days (preserved)
MTBE, BTEX	Soil, Sediment	5035	8021B	3 x 5035 kit or MeOH pres. Vial	Cool 4°C/ Freeze <-7°C	48 hours (4°C) to freeze, 14 days to analysis
Volatile Petroleum Hydrocarbons (VPH)	Aqueous	5030	WA TPH PM VPH	3 x 40 mL Vial	Cool 4°C, pH <2 HCl	7 days (unpreserved) , 14 days (preserved)
Volatile Petroleum Hydrocarbons (VPH)	Soil, Sediment	5035	WA TPH PM VPH	3 x 5035 kit or MeOH pres. Vial	Cool 4°C/ Freeze <-7°C	48 hours (4°C) to freeze, 14 days to analysis
Diesel Range Organics (DRO)	Aqueous	3510	8015, AK102, NWTPH-Dx	500 mL Amber Glass	Cool 4°C, pH <2 HCl	14 days to extraction, 40 days to analysis
Diesel Range Organics (DRO)	Soil, Sediment	3550	8015, AK102, NWTPH-Dx	4 oz Glass	Cool 4°C	14 days to extraction, 40 days to analysis
Residual Range Organics (RRO)	Aqueous	3510	8015, AK103, NWTPH-Dx	500 mL Amber Glass	Cool 4°C, pH <2 HCl	14 days to extraction, 40 days to analysis
Residual Range Organics (RRO)	Soil, Sediment	3550	8015, AK103, NWTPH-Dx	4 oz Glass	Cool 4°C	14 days to extraction, 40 days to analysis
Extractable Petroleum Hydrocarbons (EPH)	Aqueous	3510	WA TPH PM EPH	500 mL Amber Glass	Cool 4°C, pH <2 HCl	14 days to extraction, 40 days to analysis
Extractable Petroleum Hydrocarbons (EPH)	Soil, Sediment	3550	WA TPH PM EPH	4 oz Glass	Cool 4°C	14 days to extraction, 40 days to analysis
Volatile Organic Compounds (VOCs)	Aqueous	5030	8260C	3 x 40 mL Vial	Cool 4°C, pH <2 HCl	7 days (unpreserved) , 14 days (preserved)
Volatile Organic Compounds (VOCs)	Soil, Sediment	5035	8260C	3 x 5035 kit, MeOH pres. vial	Cool 4°C, Freeze <-7°C	48 hours (4°C) to freeze, 14 days to analysis
Ethylene Dibromide (EDB)	Aqueous	5030	8011	3 x 40 mL Vial	Cool 4°C, pH <2 HCl	7 days (unpreserved) , 14 days (preserved)
Priority Pollutant VOCs	Aqueous	NA	624	3 x 40 mL Vial	Cool 4°C, pH <2 HCl	14 days
Volatile Organic Compounds (VOCs)	Vapor	NA	8260C	Tedlar Bag	None	3 days

Volatile Organic Compounds (VOCs)	Vapor	NA	TO-15	Summa Canister	None	30 days
Semivolatile Organic Compounds (SVOCs)	Aqueous	3510	8270D	1 L Amber Glass	Cool 4°C	7 days to extraction, 40 days to analysis
Semivolatile Organic Compounds (SVOCs)	Soil, Sediment	3550	8270D	4 oz Glass	Cool 4°C	14 days to extractions, 40 days to analysis
Priority Pollutant SVOCs	Aqueous	NA	625	1 L Amber Glass	Cool 4°C	7 days to extraction, 40 days to analysis
Polynuclear Aromatic Hydrocarbons (PAHs)	Aqueous	3510	8270D SIM	500 mL Amber Glass	Cool 4°C	7 days to extraction, 40 days to analysis
Polynuclear Aromatic Hydrocarbons (PAHs)	Soil, Sediment	3550	8270D SIM	4 oz Glass	Cool 4°C	14 days to extractions, 40 days to analysis
Organochlorine Pesticides	Aqueous	3510	8081	1 L Amber Glass	Cool 4°C	7 days to extraction, 40 days to analysis
Organochlorine Pesticides	Soil, Sediment	3550	8081	4 oz Glass	Cool 4°C	14 days to extractions, 40 days to analysis
Polychlorinated Biphenyls (PCBs) as Aroclors	Aqueous	3510	8082	1 L Amber Glass	Cool 4°C	1 year
Polychlorinated Biphenyls (PCBs) as Aroclors	Soil, Sediment	3550	8082	4 oz Glass	Cool 4°C	1 year
Organochlorine Herbicides	Aqueous	3500	8151	1 L Amber Glass	Cool 4°C	7 days to extraction, 40 days to analysis
Organochlorine Herbicides	Soil, Sediment	3550	8151	4 oz Glass	Cool 4°C	14 days to extractions, 40 days to analysis
Organophosphorus Pesticides	Aqueous	3510	8081	1 L Amber Glass	Cool 4°C	7 days to extraction, 40 days to analysis
Organophosphorus Pesticides	Soil, Sediment	3550	8081	4 oz Glass	Cool 4°C	14 days to extractions, 40 days to analysis
Explosives	Aqueous	NA	8330	1 L Amber Glass	Cool 4°C	7 days to extraction, 40 days to analysis
Explosives	Soil, Sediment	NA	8330	4 oz Glass	Cool 4°C	14 days to extractions, 40 days to analysis
Dioxins/Furans	Aqueous	NA	8280, 8290, 1613	1 L Amber Glass	Cool 4°C	28 days to extract, 45 days to analysis
Dioxins/Furans	Soil, Sediment	NA	8280, 8290, 1613	4 oz Glass	Cool 4°C, Freeze <-7°C	28 days to extract, 1 year if frozen

PCB Congeners	Aqueous	NA	1668	1 L Amber Glass	Cool 4°C, pH <2 HCl	1 year
PCB Congeners	Soil, Sediment	NA	1668	4 oz Glass	Cool 4°C	1 year
1,4 Dioxane	Aqueous	5030	8260C	3 x 40 mL Vial	Cool 4°C	7 days to extraction, 40 days to analysis
1,4 Dioxane	Soil, Sediment	5035	8260C	4 oz Glass	Cool 4°C	14 days to extractions, 40 days to analysis
Perchlorate	Aqueous	NA	314.1	500 mL HDPE	Cool 4°C	28 days
Perchlorate	Soil, Sediment	NA	314.1	4 oz Glass	Cool 4°C	28 days
Alcohols	Aqueous	NA	8015	3 x 40 mL Vial	Cool 4°C	30 days
Alcohols	Soil, Sediment	NA	8015	4 oz Glass	Cool 4°C	30 days
Glycols	Aqueous	NA	8015	3 x 40 mL Vial	Cool 4°C	14 days
Glycols	Soil, Sediment	NA	8015	4 oz Glass	Cool 4°C	14 days
Metals (except Mercury)	Aqueous	3005	6010, 6020, 200.8	500 mL HDPE	Cool 4°C, pH <2 HNO_3	6 months
Metals (except Mercury)	Soil, Sediment	3050	6010, 6020, 200.8	4 oz Glass	Cool 4°C	6 months
Mercury	Aqueous	3005	1631, 7470	500 mL HDPE	Cool 4°C, pH <2 HNO_3	28 days
Mercury	Soil, Sediment	3050	1631, 7471	4 oz Glass	Cool 4°C	28 days
Hexavalent Chromium	Aqueous	NA	SM3500-CR-D	500 mL HDPE	Cool 4°C	28 days
Hexavalent Chromium	Soil, Sediment	NA	SM3500-CR-D	4 oz Glass	Cool 4°C	30 days to extraction, 7 days to analysis
Waste Characterization Parameters						
TCLP Metals	Solid	1311, 3005	6010, 6020, 200.8	4 oz Glass	Sample - Cool 4°C TCLP	

TCLP Mercury	Solid	1311, 3005	1631, 7470	4 oz Glass	Sample - Cool 4°C TCLP	28 days to extraction, 28 days to analysis
TCLP VOCs	Solid	1311, 5030	8260C	4 oz Glass	Sample - Cool 4°C TCLP	
TCLP SVOCs	Solid	1311, 3510	8270D	4 oz Glass	Sample -Cool 4°C, TCLP	
TCLP Pesticides	Solid	1311, 3510	8081, 8082	4 oz Glass	Cool 4°C	
Ignitability (Flashpoint)	Liquid	NA	1010	40 mL Vial	Cool 4°C	
Ignitability (Flashpoint)	Solid	NA	1030	4 oz Glass	Cool 4°C	
Corrosivity (pH)	Liquid	NA	9040	40 mL Vial	Cool 4°C	
Corrosivity (pH)	Solid	NA	9045	4 oz Glass	Cool 4°C	
BTU	NAPL	NA	NA	40 mL Vial	None	
BTU	Solid	NA	NA	4 oz Glass	None	
General Chemistry Parameters						
SPLP Extraction	Soil	1312	NA	4 oz Glass	Cool 4°C	Per analytical method
Dissolved Gasses	Aqueous	NA	RSK 175	3 x 40 mL Vial	Cool 4°C	14 days
Volatile Fatty Acids	Aqueous	NA	SM5560C	500 mL HDPE	Cool 4°C	Analyze ASAP
Acidity	Aqueous	NA	305.1, SM2310B	500 mL HDPE	Cool 4°C	14 days
Alkalinity	Aqueous	NA	310.1, SM2320B	500 mL HDPE	Cool 4°C	14 days
Ammonia	Aqueous	NA	SM4500-NH3H	500 mL HDPE	Cool 4°C, pH <2 H2SO4	28 days
Biological Oxygen Demand (BOD)	Aqueous	NA	405.1, SM5210B	1 L HDPE	Cool 4°C	48 hours

Chemical Oxygen Demand (COD)	Aqueous	NA	410.4, SM5220C	500 mL HDPE	Cool 4°C, pH <2 H2SO4	28 days
Bromide	Aqueous	NA	300.0, 9056	500 mL HDPE	Cool 4°C	28 days
Chloride	Aqueous	NA	325.1, SM4500-Cl-E	500 mL HDPE	Cool 4°C	28 days
Chlorine, Total residual	Aqueous	NA	SM4500-Cl-B	500 mL HDPE	Cool 4°C	Analyze ASAP
Color	Aqueous	NA	110.2, SM2120B	500 mL HDPE	Cool 4°C	48 Hours
Total Cyanide	Aqueous	NA	335.2, 9010, SM4500-F-C	500 mL HDPE	Cool 4°C	14 days
Total Cyanide	Soil, Sediment	NA	SM4500	4 oz Glass	Cool 4°C/NaOH	14 days
Amenable Cyanide	Aqueous	NA	335.1, 9010, SM4500-CN-G	500 mL HDPE	Cool 4°C/NaOH	14 days
Ferrous Iron	Aqueous	NA	SM3500-FE-D	500 mL HDPE	Cool 4°C	Analyze ASAP
Fluoride	Aqueous	NA	340.2, 9214, SM4500-F-C	500 mL HDPE	Cool 4°C	28 days
Hardness	Aqueous	NA	SM2340B	500 mL HDPE	1 mL 1:1 HNO3	6 months
Hexane Extractable Materials	Aqueous	NA	1664	1 L Amber Glass	4 mL 1:1 H2S04	28 days
Hexane Extractable Materials	Soil, Sediment	NA	9071	4 oz Glass	Cool 4°C	28 days
Moisture Content	Soil, Sediment	NA	160.3	4 oz Glass	Cool 4°C	NA
Total Kjeldahl Nitrogen (TKN)	Aqueous	NA	351.2	500 mL HDPE	1 mL 1:1 H2SO4	28 days
Nitrate - Nitrogen	Aqueous	NA	353.2, SM4500-NO3F	500 mL HDPE	Cool 4°C	2 days
Nitrate + Nitrite - Nitrogen	Aqueous	NA	353.2, SM4500-NO3E	500 mL HDPE	Cool 4°C	28 days
Orthophosphate	Aqueous	NA	365.2, SM4500-P-E	500 mL HDPE	Cool 4°C, pH <2 H2SO4	28 days

Total Phenolics	Aqueous	NA	SM5530	500 mL Amber Glass	0.5 mL 1:1 H2SO4	28 days
Phosphate	Aqueous	NA	365.2, 300, 9056	500 mL HDPE	Cool 4°C, pH <2 H2SO4	28 days
pH	Aqueous	NA	9040	500 mL HDPE	Cool 4°C	24 hours
pH	Soil, Sediment	NA	9045	500 mL HDPE	Cool 4°C	28 days
Phosphorus	Aqueous	NA	SM4500-P	500 mL HDPE	0.5 mL 1:1 H2SO4	28 days
Settleable Solids	Aqueous	NA	SM2540F	500 mL HDPE	Cool 4°C	48 hours
Total Dissolved Solids (TDS)	Aqueous	NA	SM2540C	500 mL HDPE	Cool 4°C	7 days
Total Suspended Solids (TSS)	Aqueous	NA	SM2540D	500 mL HDPE	Cool 4°C	7 days
Volatile Solids	Aqueous	NA	SM2540E	500 mL HDPE	Cool 4°C	7 days
Specific Conductance	Aqueous	NA	SM2510B	500 mL HDPE	Cool 4°C	28 days
Sulfate	Aqueous	NA	SM4500	500 mL HDPE	Cool 4°C	7 days
Sulfide	Aqueous	NA	SM4500-S2-E	500 mL HDPE	Zinc Acetate + NaOH	Analyze ASAP
Sulfite	Aqueous	NA	SM4500-SO3-B	500 mL HDPE	Cool 4°C	48 hours
Temperature	Aqueous	NA	SM2550B	500 mL HDPE	NA	Analyze ASAP
Total Organic Halogens (TOX)	Aqueous	NA	9076, S5320B	500 mL HDPE	Cool 4°C, 2 mL 1:1 H2SO4	28 days
Total Organic Halogens (TOX)	Soil, Sediment	NA	9076	4 oz Glass	Cool 4°C	28 days
Turbidity	Aqueous	NA	180.1, SM2130B	500 mL HDPE	Cool 4°C	48 hours
Total Organic Carbon (TOC)	Aqueous	NA	415.1, 9060, SM5310B	500 mL HDPE	Cool 4°C, pH <2 HCl	28 days

Total Organic Carbon (TOC)	Soil, Sediment	NA	Plumb 1981	4 oz Glass	Cool 4°C	28 days
Microbiological						
Bacteria Plate Count	Aqueous	NA	9215	250 mL Sterile Nalgene	0.2 mL 10% Na2S2O3	6 hours
Chlorophyll	Aqueous	NA	0200H	250 mL Sterile Nalgene	0.2 mL 10% Na2S2O3	30 hours
Coliform, Fecal and Total	Aqueous	NA	9221, 9222, 9223	250 mL Sterile Nalgene	0.2 mL 10% Na2S2O3	6 hours