# *Cleanup Action Plan/ Construction Contingency Plan Boylston Property 714 East Pike/715 East Pine Street Seattle, Washington*

*Prepared for*
*Seattle Core Development Site I, LLC*

*September 20, 2013*
*17859-03*

HARTCROWSER

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Prepared by
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# CLEANUP ACTION PLAN/
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# BOYLSTON PROPERTY
# 714 EAST PIKE/715 EAST PINE STREET
# SEATTLE, WASHINGTON

## 1.0 INTRODUCTION

This cleanup action plan (CAP) and construction contingency plan (CCP) describes the proposed remedial actions at the Boylston Property (Site) and provides a basis for identifying potential environmental issues, guidance for materials handling, and worker health and safety requirement during site development. The CAP will include both the proposed remedial actions that will be conducted as part of the site development and management of any residual impacted soil (if any). The CCP portion of the CAP/CCP includes the procedures to follow for any suspected environmental impacts that may be encountered during site development.

This CCP/CAP was prepared on behalf of Seattle Core Development Site I, LLC, which has re-entered the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) and intends to conduct the proposed remedial actions in general accordance with requirements listed in the Washington State Model Toxics Control Act (MTCA – WAC 173-340-360).

Additional information about the environmental conditions on the Site is presented in the remedial investigation (RI) report dated January 31, 2013 (Hart Crowser 2013) and focused feasibility study (FFS) dated September 20, 2013 (Hart Crowser 2013). A site plan identifying historical and current features is presented on Figure 2. The areas of impacted soil by historical releases of total petroleum hydrocarbons (TPH) from on-site operations and former underground storage tanks (USTs) are identified on Figure 3. The area of metal impacts from automobile spring manufacturing activities is identified on Figure 4.

### *1.1 Current Planned Development Project Description*

Seattle Core Development Site I, LLC, will redevelop the Site beginning in approximately mid-December 2013. We understand that the redevelopment will include three levels of underground parking, street-level retail space, and six floors of residential units above the retail level.

Excavating for underground parking will require removal and disposal of soil from a large portion of the Site. The proposed footprint of the parking area is

shown on Figure 2. The excavation for the parking structure is expected to extend vertically to 35 feet. Some areas of the Site will only be minimally disturbed to approximately 4 feet below grade for footing excavation and grading during site development. These minimally excavated areas will be covered by concrete pavement. The current redevelopment plans as discussed in the FFS include excavation of all known areas of impacted soil.

## 2.0 PROPERTY BACKGROUND

The Site covers approximately 54,000 square feet (1.26 acres) in Seattle, Washington (Figure 1), in the Capitol Hill neighborhood. The Site occupies most of the block that is bounded by East Pike and East Pine Streets and Boylston and Harvard Avenues.

As shown on Figure 2, the Site includes two buildings (one located at 714 East Pike and one at 715 East Pine Street) and three parking lots (west, east, and southwest). The property was the former BMW Seattle dealership location and was used for various historical operations, including an automobile spring manufacturer and an auto repair facility.

### *2.1 Regulatory Status*

The former owner of the Site was granted a No Further Action (NFA) determination in 1999 based on prior site investigations and implementation of institutional controls (i.e., a restrictive covenant). The RI includes a copy of the previously issued NFA determination and the applicable Restrictive Covenant.

In 2012, the current owner, Seattle Core Development Site I, LLC, re-entered the Site into the VCP. The proposed redevelopment of the Site will include excavation to approximately 35 feet deep and will require removal and disposal of impacted soil from a substantial portion of the Site. Some areas of the Site will only be minimally disturbed for footing excavation and grading during redevelopment (less than 4 feet below grade).

Hart Crowser has submitted to Ecology, on behalf of Seattle Core Development Site I, LLC, a RI report dated January 31, 2013, and a FFS report dated, September 20, 2013. The RI summarizes results of past investigations, and the FFS presents the remedial alternatives that were developed and evaluated and the most appropriate alternative selected for the Site based on present and future land use.

Pursuant to negotiations and written agreement with Ecology, the ongoing investigation of the Site has been permitted to proceed despite the restrictive covenant. Seattle Core Development Site I, LLC, has already submitted a request to terminate the restrictive covenant per WAC 173-340-440(12) because the redevelopment is necessarily inconsistent with the current terms and conditions of the restrictive covenant. Ecology has indicated its agreement to terminate the restrictive covenant, but has requested that the formal termination process (along with required public notice and comment) be postponed until this CAP was prepared and submitted.

## *2.2 Project Geology and Hydrogeology*

The geologic units at the Site consist of Fill, Till, and Advanced Outwash sand units. The Fill unit consists of silty, gravelly Sand with concrete or brick fragments with an approximate thickness of 5 to 10 feet. Underlying the Fill unit, is a Till unit that consists of dense, silty, gravelly Sand to sandy Silt. The Advanced Outwash unit consists of sand and gravel with little silt and was observed in the deeper borings with depths ranging from 25 to 40 feet below ground surface. Three borings (HCE-2, HCE-5, and HCE-9) encountered a loose silty Sand to Sand zone between 30 and 35 feet deep. Most of the planned excavation will be within the Fill and Till units. In some areas, the excavation could break into the Outwash unit and the loose Sand zones.

Except for in the two monitoring wells that were installed, groundwater was not detected in any of the other explorations to depths of 49 feet. In push probe HC-10, located east of the building, a limited amount of perched water was encountered at a depth of approximately 12.5 feet. A sample could not be collected because of the limited volume of available water in the push probe.

Groundwater was encountered in monitoring wells MW-1 and MW-2 at 45 and 51 feet below ground surface, respectively. Groundwater samples were collected from these monitoring wells. Groundwater was observed in the Advanced Outwash unit in both monitoring wells. Groundwater levels could fluctuate depending on groundwater conditions including depth and volume, which may be caused by variations in rainfall, temperature, season, and other factors.

The surrounding area topography slopes down to the west and south toward Elliott Bay, located approximately 1 mile southwest of the Site. The property elevation is higher to the northeast along East Pine Street and Harvard Avenue (approximate elevation 290 feet). The ground floor of the former BMW dealership building is at street level on East Pike Street (approximate elevation

280 feet). Based on surrounding area topography, groundwater is likely to flow to the west/southwest, toward Elliott Bay.

### *2.3 Nature and Extent of Contamination*

Subsurface contamination at the Site appears to have been caused by: (1) releases from former USTs and prior auto-service operations associated with the former BMW dealership; and (2) former operations of the automobile spring manufacturer before 1989. The TPH contamination from former UST releases appears to have been primarily located in the central area of the Site. Figure 3 shows the approximate distribution and depth of the TPH-impacted soils. Most of the impacted soil is within the upper 10 to 20 feet, with one anomalous historical sample location (TPH5922) where one soil sample at a depth of 40 feet exceeded MTCA Method A soil cleanup levels.

The metal impacts from the former automobile spring manufacturer also appear to have been primarily located in the central area of the Site. Figure 4 shows the approximate distribution of the metal-impacted soil. Metals-impacted soil appears to be limited to the upper 10 feet. Two of three historical samples analyzed for TCLP metals in the central area exceeded the Dangerous Waste designation criteria for leachable lead. An additional 16 soil samples recently collected between 1 and 11.5 feet deep in this area were analyzed for TCLP lead, cadmium, and zinc. None of those soil samples exceeded the Dangerous Waste designation criteria.

Groundwater was encountered in the two deep monitoring wells between 45 and 51 feet below ground surface. Based on the groundwater sampling results, groundwater does not appear to have been impacted by TPH, VOCs, or metals.

There are two areas where the chemicals of concern (TPH, cadmium, and lead) are identified:

- **Central Area.** TPH concentrations in soil exceed MTCA Method A soil cleanup levels within the upper 10 to 30 feet, with one localized area to 40 feet. Total metal (lead and cadmium) concentrations in soil exceed MTCA Method A soil cleanup levels within the upper 8 to 10 feet.

- **Northeastern Area (Adjacent to Auto and Motorcycle Shops).** TPH was detected in boring HCE-6 located further north in the Former Maintenance Shop Area in the upper 10 feet. The source of TPH may be historical releases from the motorcycle shop and auto repair facility located east of the Site.

## *2.4 Chemicals of Concern*

We compared chemical occurrences to applicable MTCA Method A cleanup levels to identify chemicals of concern for each medium at the Site. These chemicals of concern are as follows:

- **Soil.** Diesel-range TPH (TPH-D), gasoline-range TPH (TPH-G), heavy oil-range TPH (TPH-O), lead, and cadmium.

- **Groundwater.** None.

## *2.5 Potential Exposure Pathways*

### 2.5.1 Direct Contact with Soil

TPH-D and TPH-G is primarily in shallow soil within the upper 20 feet. The potential for direct contact exposure is minimal due to the presence of asphalt and concrete pavement above the affected area (beneath the Boylston and surrounding properties).

### 2.5.2 Groundwater Protection

Groundwater is not impacted

### 2.5.3 Potential Vapor Intrusion

The potential for vapor intrusion from known contamination (TPH-G) on the Site is minimal due to the planned remedial actions that will be undertaken as part of the redevelopment plans. The Site will include three floors of underground parking to a depth of approximately 35 feet. All areas of contaminated soil are anticipated to be removed during excavation, such that there should be no known TPH-G-impacted soil or any known impacted soil remaining under the building footprint.

## *2.6 Remedial Action Objectives*

Cleanup actions at the Site are designed to address the following Remedial Action Objectives:

- **Prevent Direct Contact with Contaminated Soil.** Prevent direct contact with impacted soil exhibiting concentrations above MTCA unrestricted cleanup levels.

- **Protect Groundwater.** Address impacted soil to eliminate any potential for future groundwater impacts.

- **Mitigate Potential Vapors.** Address potential vapors from residual soil impacts that may remain under or around the proposed building.

Achieving Method A cleanup levels in all soil throughout the Site may not be fully possible because of the impracticability of removing the isolated areas of TPH-impacted soil outside of the planned excavation footprint or property boundary. Any residual petroleum hydrocarbons exceeding MTCA Method A cleanup levels that are left in place can be addressed by appropriate institutional controls such as a deed restriction and maintenance of paved areas.

## *2.7 Cleanup Standards*

Cleanup standards include cleanup levels and points of compliance (POCs) as described in WAC 173-340-700 through WAC 173-340-760. Cleanup standards must also incorporate other state and federal regulatory requirements applicable to the cleanup action and/or its location as appropriate. The following sections summarize current applicable cleanup standards for the Site.

### 2.7.1 Cleanup Levels

Table 1 summarizes the current cleanup levels (CULs) selected for the Site COCs. MTCA Method A soil CULs have been selected for the Site. Prior to cleanup, these cleanup levels may be modified if additional volatile/extractable petroleum hydrocarbon analysis is performed on soil samples collected during construction.

**Table 1 – MTCA Cleanup Levels**

| | | Constituent of Concern | | | | |
|---|---|---|---|---|---|---|
| **Medium** | **Units** | **Hydrocarbons** | | | **Metals** | |
| | | Diesel-Range | Gasoline-Range | Heavy-Oil Range | Lead | Cadmium |
| Soil [a] | mg/kg | 2000 | 100/30 [b] | 2000 | 250 | 2 |

Notes:
(a) MTCA Method A cleanup level.
(b) 100 mg/kg for gasoline mixtures without benzene and the total of ethylbenzene, toluene, and xylenes are less than 1% of the gasoline mixture; 30 mg/kg for all other gasoline mixtures.

### 2.7.2 ARARs

The selected cleanup action will comply with federal, state, and local Applicable or Relevant and Appropriate Requirements (ARARs). Applicable requirements are federal and state laws or regulations that legally apply to a hazardous substance, cleanup action, location, or other circumstance at the Site. Relevant and appropriate requirements are those federal and state regulations that do not legally apply but address situations sufficiently similar that they may warrant application to the cleanup action.

The following ARARs have been identified for the Site:

- **Model Toxics Control Act (MTCA 70.105D RCW, Chapter 173-340 WAC).** MTCA contains detailed requirements and Washington State's expectations for cleanup of contaminated sites.

- **State Environmental Policy Act (SEPA – 43.21 RCW, Chapter 197-11 WAC).** An environmental checklist is necessary as part of any permitting activity within the City of Seattle and pursuant to MTCA.

- **Minimum Standards for Construction and Maintenance of Wells (Chapter 173-160 WAC).** This regulation contains requirements for abandonment and construction of resource protection wells.

- **State Clean Air Act (RCW 70.94), General Regulations for Air Pollution Sources (Chapter 173-403 WAC), and Toxic Air Contaminant New Source Review Guidelines.** Emissions during any on-site operations may be subject to these regulations and will require a Notice of Construction Permit from the Puget Sound Clean Air Agency (PSCAA).

## 3.0 REMEDIAL ALTERNATIVES FOR CLEANUP ACTION

The remediation alternatives combine technologies that are applicable to impacted soil and soil vapor at the Site. Candidate remedial technologies were identified and screened to develop potential cleanup alternatives for further evaluation in the 2013 FFS. The remedial technologies considered in the screening process include methodologies capable of achieving the remedial action objectives for site soil and soil vapor.

## *3.1 Remediation Alternative Descriptions*

The technologies retained in the screening process were separated into three remediation alternatives for further evaluation (Alternatives 1 through 3). The components of the remediation alternatives developed for the Site are summarized below. All alternatives include compliance monitoring to meet WAC 173-340-410.

Alternative 1 consists of the following components:

- Excavation and off-site disposal of all known impacted soil; and
- Compliance monitoring.

Alternative 2 consists of the following components:

- Excavation and off-site disposal of impacted soil within the planned development excavation;
- Implementation of a concrete cap to cover remaining impacted soil outside the proposed building footprint following shallow soil excavation;
- Institutional controls, such as a restrictive covenant; and
- Compliance monitoring and maintenance.

Alternative 3 consists of the following components:

- Excavation and off-site disposal of impacted soil within the planned development excavation;
- Implementation of a concrete cap to cover remaining impacted soil outside the proposed building footprint following shallow soil excavation;
- Installation of a passive vapor intrusion mitigation system;
- Institutional controls, such as a restrictive covenant; and
- Operation, maintenance, and monitoring.

## *3.2 Selected Remedial Alternative*

Alternative 1 was selected in the 2013 FS and includes the off-site disposal of all known impacted soil excavated as part of the planned redevelopment of the Site.

Excavation within the proposed development area will remove all of the known impacted soil in the central and northeastern area. Continued lateral excavation would not extend outside of the development footprint. The depth of excavation will be determined by the proposed development plan to a maximum depth of 35 feet within the footprint of the building and underground

parking garage. The remaining areas will be excavated to a maximum depth of 4 feet in the areas around the proposed building and underground parking structure where the soil is structurally unfit for redevelopment. One exception to this general approach is associated with one area in the southwest portion of the building footprint, which will be overexcavated to remove TPH-impacted soil at an approximate depth of 40 feet.

Potentially impacted soil will be segregated from suspected clean soil and stockpiled separately. Based on current and historical data, most of the excavated impacted soil will be sent off site for disposal at a Subtitle D landfill. Based on previous metal data, there will be a small percentage of metals-impacted soil that meets the Dangerous Waste criteria and will be disposed of at a Subtitle C landfill. A conservative estimate is that approximately 30 percent of the total volume of impacted soil is metals-impacted soil. Based on conservative lateral and vertical excavation estimates, approximately 2,500 cy of material will be excavated and disposed of including the 280 cy of the material that is assumed to be Dangerous Waste.

## *3.3 Rationale for Selecting the Cleanup Action*

Section 173-340-360(10) of the MTCA regulation states that the draft CAP should include a preliminary determination that the cleanup action complies with subsections (2) and (3) of WAC 173-340-360. As specified in subsections (2) and (3), the selected cleanup action is designed to accomplish the following.

### 3.3.1 Protection of Human Health and the Environment

Implementation of the preferred remedial alternatives will minimize potential exposures from each of the pathways identified as being of potential concern. For the current redevelopment, excavating impacted soil from the Site is the most effective alternative for minimizing direct contact. Although not anticipated, containment and isolation of residual impacted soil (if any) is the most reasonable and cost-effective alternative for minimizing direct contact with residual impacted soil that is left in place.

### 3.3.2 Compliance with Cleanup Standards per WAC 173-340-700 through -760

The goal of this cleanup action is to prevent direct contact with affected soil and maintain and protect groundwater quality by excavating known impacted soil.

### 3.3.3 Use of Permanent Solutions to the Maximum Extent Practicable per WAC 173-340-360 (4), (5), (7), and (8)

Excavation at the Site is a preferred technology because it permanently removes contaminants from the Site. The preferred remedy is protective of human health and the environment, can be effectively implemented, and is cost-effective. It is the most practicable alternative for addressing the primary exposure pathways of concern.

### 3.3.4 Compliance with Applicable State and Federal Laws per WAC 173-340-710

The cleanup action will comply with all relevant laws and requirements, as required in WAC 173-340-710. A detailed analysis of federal, state, and local laws and regulations that pertain to this project is provided in Section 2.7.2.

### 3.3.5 Provide Compliance Monitoring per WAC 173-340-410

During implementation of remedial actions, performance monitoring will be conducted to confirm that cleanup actions have attained cleanup levels and treatment goals. After remedial actions are completed, confirmation monitoring will be conducted to confirm that cleanup actions have attained cleanup levels and performance standards. Protection monitoring will be used to ensure that human health and the environment are being adequately protected during construction and operation of the cleanup actions.

### 3.3.6 Provide for a Reasonable Restoration Time Frame per WAC 173-340-360

The proposed cleanup action provides for a reasonable restoration time frame. Once cleanup activities at the Site are completed, the potential exposure pathways for soil will be either entirely eliminated or effectively controlled.

## *3.3 Schedule for Implementing Cleanup Action*

Seattle Core Development Site I, LLC expects to redevelop the property beginning in mid-December 2013. Remediation would take place during excavation for foundation installation and underground parking.

## 4.0 CONSTRUCTION CONTINGENCY PLAN (CCP)

This CCP addresses procedures to be followed if suspected environmental impacts are encountered during excavation and construction work at the Site.

### *4.1 Potential Areas of Environmental Concerns*

Areas with potential environmental concerns on the current planned development area, based on historical use of the property and results from past investigations and sampling and analysis, are identified on Figures 3 and 4 along with the known areas discussed in the CAP.

Known and potential constituents of concern on the Site have been primarily TPH, lead, and cadmium. Based on the extensive investigations that have been conducted on the Site and the planned remedial actions, the only remaining potential areas of impacted soil may be isolated along property boundaries in the southwest and northeast areas adjacent to the apartment building and motorcycle repair shop, respectively.

This CCP provides a basis for identifying potential issues for materials handling and worker health and safety requirements. Discussion of excavation work in this CCP refers to general contractor earthwork excavation and drilling outside of the planned remedial actions unless otherwise noted.

It has been assumed for this CCP that existing building demolition will be completed and that associated concerns with asbestos, lead-based paint, PCB-containing light fixtures, and other building-related hazardous material concerns will be resolved before implementing cleanup actions or beginning general contractor construction excavation.

### *4.2 Criteria for Contaminant Identification*

The following list presents a common-sense guide for identifying materials that may be classified as hazardous or regulated substances under state and federal regulations. Site personnel shall use this list to determine whether potential contamination may be present.

Suspected hazardous materials are characterized by a wide range of properties. Soil and other materials encountered during excavation activities shall be suspected of containing potentially hazardous or otherwise regulated constituents if they are distinctively characterized by one or more of the following properties.

### 4.2.1 Visual Appearance

- Oily or greasy appearance with visible oil droplets, film, or sheen;
- Tar, chemical sludge, or gummy resinous substance;
- Distinct color changes (red, blue, green, etc.);
- Foam, scum, gel, slime, or soapy liquid material;
- Fibrous material, particularly white or gray;
- Powder, grit, or machine-formed pellets indicative of chemicals;
- Metal containers such as drums and tanks, or pipelines;
- Molten slag with glassy, metallic, rock-like, or clinker appearance;
- Electrical equipment such as transformers, batteries, or capacitors;
- Mist or smoky discharge; or
- Unnatural color flecks or smears in the soil.

### 4.2.2 Odors

- Gasoline;
- Paint thinner;
- Furniture polish;
- "Magic marker" pen;
- Rotten eggs or "skunky" odor;
- Mothballs;
- Sewage; or
- Other solvent or chemical-like odors.

It is not the intent of the CCP to have field personnel smell the soil, but rather using their sense of smell as an indication of potential contamination. Other means of identifying the potential concern will then be used.

### 4.2.3 Sudden Onset of Health Effects

- Dizziness;
- Nausea;
- Itching of skin;
- Headaches;
- Eye, nose, or throat irritation or discomfort;
- Blurred vision;
- Burning sensation in nose, throat, or on skin; or
- Other unexpected or unexplainable physical illnesses or symptoms.

While health effects may result from many causes, they must never be relied upon to detect hazardous materials. The above warning signs, if noted with a

sudden and unexpected onset, may indicate the potential presence of hazardous materials.

### *4.3 Responsibilities*

Table 2 describes the responsibilities for notification, field procedures, and coordination of off-site disposal efforts for suspected materials encountered during site excavation and construction. The actions taken in accordance with this list shall be documented using the form provided in Attachment 1, or equivalent.

**Table 2 - Notification and Follow-Up Actions**

| Action | | Responsible Parties |
|---|---|---|
| 1. | Develop site-specific plan for suspected materials handling, sampling, analysis, and disposal. | Owner's Environmental Representative (OER), Hart Crowser, Inc. |
| 2. | Initiate notification sequence. | Any Person Who Discovers Potential Environmental Issue |
| 3. | Field screen suspected materials with PID screening. | OER |
| 4. | Segregate and stockpile suspected materials for observation and sampling (or otherwise isolate area of concern). | Excavation Contractor |
| 4A. | Pump out water with suspected contaminants from excavation areas (if encountered) and temporarily store on site in Baker tanks. | Excavation Contractor |
| 5. | Stake-out and number/label suspected soil stockpiles and collect characterization samples for lab testing. | OER |
| 5A. | Maintain stockpile in protected manner until transported for disposal. Maintain staked identification number. | Excavation Contractor |
| 6. | Collect characterization samples to test for presence of petroleum contaminated soil (PCS) or chemically affected material. | OER and Testing Lab |
| 7. | Collect and analyze verification samples to determine quality of soils remaining in excavation area where suspected soils were removed. | OER |
| 8. | Sign Dangerous Waste Disposal Manifests or Solid Waste Disposal Characterization Certification. | Owner |
| 9. | Select off-site disposal facilities for regulated materials, construction debris, and non-regulated solid waste. | Owner |
| 10. | Prepare letter to disposal facility with compiled laboratory testing results, and prepare agency notifications and annual report(s) for Owner's signature. | OER |
| 11. | Coordinate shipment of regulated materials for off-site disposal (including stockpiling at interim off-site storage facility, if necessary). | Excavation Contractor, Hazardous Soil Contractor, and Transporter |
| 12. | Provide truck trip tickets to OER (cc:'s to Owner and excavation contractor) that document delivery to disposal facility. | Transporter |

### *4.4 Notification Process*

Soil, groundwater (although not anticipated), debris, or other materials with suspected contamination may be discovered by the Contractor, OER, or other personnel during site excavation activities. The Owner shall be notified immediately by whoever makes the discovery. The Owner shall promptly notify the OER for further assessment and testing. The Owner or OER shall promptly notify the Contractor so that the Contractor is aware of the potential extent of the issue. Table 3 will be used to notify the responsible parties. The form included in Attachment 1 shall be used to record the incident information and to document the notification process.

**Table 3 - Contact Information for Responsible Parties**

| Party | Address | Contact | Contact Numbers |
|---|---|---|---|
| Owner – Seattle Core Development Site I, LLC | 505 5th Avenue South, Suite 900 Seattle, WA 98104 | Jeff Johnson | 206-930-2230 (cell) |
| Contractor (General) – TBD | | | |
| Subcontractor (Excavation) – TBD | | | |
| Subcontractor – Regulated Soil Trucking TBD | | | |
| Subcontractor – Regulated Soil Trucking (Non-Hazardous) TBD | | | |
| Subcontractor – Regulated Soil Trucking (Hazardous) TBD | | | |
| Hazardous Soil Disposal Facility – Waste Management or other | 6350 South 143rd Street Tukwila, Washington 98168 | Kristin Castner | 503-493-7834 503-493-7822 (fax) |
| Regulated Water Trucking | TBD | | |
| Regulated Water Disposal Facility | TBD | | |
| Owner's Environmental Representative (OER) – Hart Crowser, Inc. | 1700 Westlake Avenue North, Suite 200 Seattle, WA 98109-3056 | Julie Wukelic Angie Goodwin | (206) 324-9530 206-255-2852 (Julie cell) 206-954-2549 (Angie cell) (206) 328-5581 (fax) |

Note: The responsible parties or any updates will be filled in as information becomes available.

At the point of discovery of any suspected material, normal excavation and construction activities involving the suspected material shall cease, pending

evaluation by the OER in consultation with the Owner and other affected parties. The suspected material shall not be further disturbed or touched without appropriate worker protection and environmental precautions.

Some environmental conditions could potentially require reporting to Ecology. These conditions, as further detailed in Ecology's May 25, 1990, Site Discovery - Release Reporting Policy 101(Section 5), include:

- Presence of hazardous substances that exceed applicable threshold exposure limits for site personnel or the public, or which could present an explosion hazard;
- Presence of hazardous substances that could cause an immediate injury to human health or the environment;
- Presence of unconfined "free" petroleum product or other organic liquids in soil or groundwater;
- Presence of materials that would be designated as a Dangerous Waste under state Dangerous Waste regulations (Chapter 173-303 WAC);
- Releases of petroleum hydrocarbons from regulated USTs, and removal/ closure of regulated USTs; and
- Releases of hazardous substances to surface waters at concentration that exceeds applicable state water quality criteria (Chapter 173-201A WAC) and other applicable regulations.

No persons shall make reports to Ecology unless specifically directed to do so, in writing, by the Owner.

### *4.5 Field Procedures*

Once notified about the potential presence of suspect material(s), the OER shall observe the suspect material(s) and affected areas to determine the type and extent of the material.

The OER shall also determine appropriate handling and sampling methods for the materials.

The Contractor shall notify the OER prior to excavation and stockpiling of any suspected or confirmed regulated materials. The Contractor shall notify the OER of the locations of all soil stockpiles containing suspected materials.

### 4.5.1 Control of Contamination

Incompatible suspected materials shall not be stored or mixed together until the type and extent of constituents, and the nature and degree of risk associated with contact of the separate materials have been determined. The OER shall determine whether incompatible materials may be present and notify the Contractor as to appropriate handling and storage procedures.

### 4.5.2 Control of Contaminant Release

Where excavation of suspected material(s) is necessary, such excavation shall only be accomplished following field and/or chemical evaluation by the OER. The OER shall determine whether:

- Measures may be necessary to mitigate dust emissions, runoff, fumes, etc., to control the migration of potentially hazardous materials into other areas (cross contamination), or to dewater an excavation;

- Personal protective safety equipment, and/or other engineered systems are needed for worker safety; and/or

- On-site monitoring is needed to detect increased concentrations of potentially hazardous materials.

The need for and extent of any special construction measures will depend on the type and amount of hazardous substances encountered during excavation, and the expected or known concentrations of these substances. The OER shall confer with the Owner and Contractor regarding the recommended approach for controlling contaminant releases or minimizing the potential for migration.

### 4.5.3 Segregation and Stockpiling

Suspected material(s) shall be excavated or separated from other debris by the Contractor, and then stockpiled on plastic sheeting in piles that do not spill over the edge of the plastic. All stockpiles shall be marked by the OER with wooden stakes using a unique numbering system to reference the point of origin of the material on the site, or through other means. The Contractor shall see that the stockpile stakes are maintained until the stockpiles are trucked off site.

Excavated soil, drilling spoils, and other materials suspected of containing regulated materials shall be controlled in a manner to prevent them from mixing with other clean soil at the Site. The Contractor shall cover all suspected soil stockpiles with additional plastic sheeting as necessary to prevent wind erosion

and runoff during precipitation. Any free liquids issuing from soil stockpiles shall be contained with sorbent berms and absorbed by applying granular sorbent or absorbent pads or pigs. The Contractor shall further protect the stockpiles, as necessary, from disturbance by water, wind, animal, or human contact. No vehicular traffic shall be allowed on or between soil stockpiles, as they might cause erosion or damage to the stockpiles.

The Contractor shall also handle and protect suspected materials in a manner to protect workers and the environment. Worker protection during excavation and handling shall be the responsibility of the Contractor.

Prior to commencing excavation, the OER and Contractor shall identify specific areas on a site plan for temporarily stockpiling of suspected or confirmed regulated materials. Suspected materials shall be segregated based on their compatibility with other suspected materials, and based on their physical properties using the common-sense criteria, field screening instruments, and results of chemical analysis as provided by the OER. If necessary, the Contractor (in conjunction with the soil transporter) may identify an interim off-site storage site for temporary storage of soil stockpiles prior to disposal. Stockpiling protocols for interim off-site locations are the same as those for on-site stockpiling. The Contractor and soil transporter shall maintain the numbered stockpile stakes at the interim storage locations until the soil is shipped for final disposal. Interim off-site storage sites shall be approved in writing by the Owner prior to off-site transportation.

The Contractor and transporter shall continue to track stockpiles and associated truck trip numbers during temporary off-site storage. Stockpiles shall not be mixed together in common truckloads unless approved in advance by the OER.

Also, suspected material from the excavation and stockpiles shall not be removed from the site until testing is accomplished to characterize constituent types and concentrations, and the materials are designated for disposal. The decision to move suspected materials off the site to a disposal facility shall be recorded in a written memorandum from the Contractor to OER and Owner.

### 4.5.4 Documentation and Recordkeeping

The OER shall keep records specific to the project site to track and document discovery and stockpiling of suspected materials. The tracking forms shall include the following information:

- Date and time of discovery of suspected material;
- Person or party discovering material;

- Person or party making notification to Owner;
- Date and time of notification of OER;
- Specific locations of suspected material and stockpile(s) and the unique stockpile number provided by the OER;
- Manner of handling and method of stockpile;
- Suspected or confirmed types and concentration of constituents, and other pertinent information;
- Disposal decision;
- Disposal facility;
- Date and time of notification to Contractor regarding disposal notification; and
- Date and time of removal from site.

Recordkeeping shall also involve tracking field observations, results of chemical analyses, truck trip ticket transportation records provided by the transporter, correspondence with landfills and other off-site disposal facilities, and report(s) generated from the work. The OER shall copy correspondence from disposal facilities confirming acceptance of regulated materials for disposal (i.e., Bill of Ladings) to the Owner and Contractor.

### *4.6 Excavation Dewatering*

Although no groundwater is expected to be encountered during excavation, the nature of the site fill soil, and presence of possible leaky utility lines make it possible that localized zones of perched subsurface water may encountered at shallower depths within the planned excavation footprint.

Water accumulating in shallow excavations on the site shall be removed and disposed of properly. Common-sense criteria discussed above shall be used as indicators of potential contamination. Any water discharge to the storm sewer will be permitted as appropriate. No characterization sampling and analysis are planned or required unless contamination is suspected.

Also, the chemical quality of any water discharged into the METRO sanitary sewer system shall be verified in accordance with current METRO sampling and analytical requirements. If unacceptable for discharge to the storm or sanitary sewer system, water from excavation dewatering shall be temporarily stored on site by the Contractor (in an aboveground Baker tank) or shipped directly off site using a vacuum truck. The OER shall coordinate wastewater sampling, analysis, and disposal arrangements, and provide results of chemical analysis to the Contractor.

## *4.7 Field Screening Methods*

The OER shall use on-site field instrumentation and screening procedures to supplement the common-sense criteria for characterizing and screening of suspect hazardous materials.

For detection of petroleum-related constituents and other VOCs in contaminated materials, a PID, bucket test to observe for petroleum sheen, or similar instrument or methodology will be used. The PID detects volatile organic vapors released directly from contaminated materials during excavation, and from stockpiled materials. Alternately, the PID may be used to detect volatile organic vapors accumulating in the headspace of sample jars filled about one-half full with representative soil samples.

Soils excavated or spoils generated in the identified areas will be carefully screened with the PID.

Other field screening procedures may be followed as to the nature of the suspect material. The OER shall collect samples for additional laboratory chemical analyses of suspected materials to verify constituent types and concentrations, or to corroborate and confirm screening results.

## *4.8 Characterization Sampling and Chemical Analysis*

The OER shall examine the suspected materials and, as deemed necessary and appropriate, conduct characterization sampling and analysis to identify waste designation characteristics of the material under state Dangerous Waste regulations (Chapter 173-303 WAC), the Washington State Model Toxics Control Act (MTCA - Chapter 173-340 WAC), and other applicable standards (e.g., landfill or disposal facility requirements). The OER shall collect samples using appropriate clean sampling equipment and place them in glass jars with Teflon lids. Preliminary laboratory testing will be performed based on results of field screening measures. Characterization sampling, analysis, or other additional testing may be required pending preliminary results to comply with regulatory criteria to designate waste for disposal or other treatment.

Samples collected shall be of sufficient quantity and type for chemical analysis to be performed. The samples shall be representative of materials in the area being evaluated. Composite samples of stockpiled soil shall be made by combining equal portions from a maximum of five locations in the stockpile, including the interior of the pile. For samples destined for VOC analysis, discrete samples will be collected to minimize volatilization of constituents.

The samples shall be obtained using clean sampling equipment and shall be placed in clean glass sample containers. The non-dedicated sampling equipment shall be cleaned prior to and between samples. Equipment shall be cleaned by brush-scrubbing in a non-phosphate detergent solution, double rinsing in tap water, and final rinsing with deionized water. Chain of custody forms shall accompany the collected samples to the analytical laboratory.

The OER shall also collect soil verification samples to verify the quality of soil remaining in areas where suspect soil has been excavated. Sample analytical results shall be provided to the Owner and Contractor to verify that the excavation has met regulatory criteria prior to continued excavation or backfilling.

### *4.9 UST Removal Protocols*

Based on the known use of previous USTs, the age of the buildings, and the presence of a boiler room and vent pipes, additional USTs may be discovered during excavation and construction activities.

If unknown USTs are discovered, the Contractor shall use an International Fire Code Institute-licensed assessor and decommissioner for removal and closure of any encountered USTs. The Contractor shall follow protocols established under the following regulations and guidance documents for removal or closure of USTs:

- State UST Regulations (Chapter 173-360 WAC);
- Ecology (2003) Guidance for Site Checks and Site Assessments for Underground Storage Tanks; and
- Applicable OSHA Confined Space Regulations and Guidance Criteria.

These criteria apply to potential USTs if discovered during the course of the excavation work. In the event that USTs are discovered, the Contractor shall notify the Owner and OER immediately upon discovery. A UST closure notification form is provided in Attachment 2 for planning purposes. Ecology currently requires a 30-day notification period prior to removal of regulated USTs, but may approve closure on an expedited basis in emergency situations where product release may be a concern. Fuel oil USTs are exempt from the Ecology notification requirements. A City of Seattle Fire Department closure application form must also be submitted prior to removal of site USTs, including fuel oil USTs. Copies of the Ecology notification and Fire Department application forms are provided in Attachment 2.

The Contractor shall provide copies of all notification, UST disposal documentation, and other UST closure records to the Owner and OER.

The OER will observe the Contractor's activities during closure of USTs and collect representative samples to document subsurface conditions. The OER will summarize UST closure activities in a memo or report to the Owner that includes chemical analysis results from soil sampling during UST assessment and closure. If the UST is regulated under Chapter 173-360 WAC, the OER will prepare a closure report to Ecology on behalf of the Owner.

## *4.10 Management of Suspected Areas of Environmental Concern*

During excavation activities, the subcontractor will be working in the areas of potential environmental concerns as shown on Figures 3 and 4. The OER field representative will oversee and document excavation activities in suspected areas, and will perform necessary soil field screening and sampling of the suspected areas besides the known areas of environmental concern.

During excavation in suspected areas of impacts, field screening methods detailed in Section 4.7 will be used to segregate excavated soil into three categories: known impacted soil, potentially impacted soil, and suspected clean soil. These soils will be stockpiled separately on visqueen, and engineering controls such as berms, temporary visqueen covers, or other appropriate measures will be used to prevent precipitation contact, runoff, and erosion from stockpiles.

Soil samples will be collected by the OER and submitted to a laboratory for analysis to characterize stockpiles of interest. Soil impacted above MTCA Method A cleanup levels will be transported to an Ecology-approved disposal or recycling facility. Clean soil from the general excavation will be disposed of at an off-site disposal/reuse facility as agreed upon between the Owner and the Contractor. Soil below MTCA Method A cleanup levels that exhibit odors or staining may not be accepted at the facility accepting the clean soil. This type of soil may be suitable for recycling facilities or it may be disposed of at the same off-site disposal/reuse facility as the soil above MTCA Method A cleanup levels. Soil stockpile characterization is discussed further in Section 4.10.2.

### 4.10.1 Soil Screening and Verification Sampling and Analysis

During excavation and/or drilling in suspected areas of concern, screening of the subsurface soil will be made by visual, olfactory, and Photoionization Detector (PID) methods. Obvious discoloration or staining of the soil and odor from the soil will be used as indicators of the presence of impacted soil. These methods

will be supplemented by use of a PID. Soil samples will be collected from the excavator bucket or drilling spoil stockpiles, placed in a sealed container, and the headspace vapor measured with the PID. Sheen testing will be employed to indicate the presence of heavier, less volatile diesel- and oil-range TPH. All field measurements and observations will be recorded.

When excavation side wall screening measurements indicate that the impacted soil has been removed (or a physical limitation to excavation is reached), verification soil samples will be collected. One sample will be collected per discrete side wall less than 50 linear feet (lf) in length. For side walls longer than 50 lf, one sample will be collected per 50 lf of side wall or fraction thereof. Duplicate samples will be collected at a frequency of 10 percent.

Samples will be submitted for laboratory analysis of diesel- and oil-range TPH by Method NWTPH-Dx, total metals, TCLP for lead and cadmium, and VOCs by EPA Method 8260B (if necessary). Laboratory testing will be conducted on a rapid turnaround basis so as to expedite the excavation process.

### 4.10.2 Soil Stockpile Characterization

Samples will be collected from all suspected stockpiles and submitted for laboratory analysis to characterize impacted soil stockpiles for appropriate off-site disposal. Samples will be analyzed for diesel- and oil-range TPH by Method NWTPH-Dx, total metals, TCLP for lead and cadmium, and VOCs by EPA Method 8260B (if necessary).

Discrete samples will be collected from each suspected stockpile at the following frequencies, based on estimated stockpile volume: three to six samples for up to 100 cubic yards (cy); six to ten samples for up to 500 cy; eight to twelve samples for up to 1,000 cy; and ten to sixteen samples for up to 2,000 cy. One additional sample will be collected for each additional 500 CY over 2,000 CY. Duplicate samples will be collected at a frequency of 10 percent. Hart Crowser's field representative will determine the appropriate number of samples to collect based on visual estimation of stockpile volume.

## *4.11 Disposal Options for Regulated Materials*

When field screening and/or characterization analysis indicates that excavated and stockpiled materials are designated Dangerous Waste or have contaminants that exceed regulated levels, the materials must be disposed of or treated off site. Disposal and treatment options are highly dependent on the material characteristics and applicable regulations at the time the hazardous components of the material are identified.

### 4.11.1 Petroleum-Contaminated Soil (PCS)

There are two cost-effective options for handling soil in this category. One option is to load the excavated soil onto railcars or trucks and haul it as a problem waste to a local landfill (e.g., Rabanco's Roosevelt Regional Landfill located in Klickitat County, Eastern Washington). Generally, problem waste landfills accept PCS for disposal with TPH concentrations ranging from 200 ppm up to 20,000 ppm. A copy of an example sample disposal request letter to Waste Management is provided in Attachment 3.

An alternate to landfill disposal of PCS is transporting and reprocessing the soil via asphalt or concrete batching. With this method, PCS is temporarily stockpiled on the site or at another selected area, with an impermeable berm and liner, and later transported to the processing plant. Information typically required by local plants is outlined on the example form in Attachment 4.

During processing, petroleum compounds in the excavated PCS are volatilized while being recycled into concrete, asphalt, or subgrade fill for roadbeds. The advantage of recycling PCS is that it is converted into a non-regulated material, minimizing the generator's liability.

### 4.11.2 Metals Contaminated Soil—Potential Dangerous Waste

Soil contaminated with c metals may be classified as a designated Dangerous Waste under Chapter 173-303 WAC. When suspect soil is classified as a designated Dangerous Waste, an involved process is needed to treat or dispose of the material at a permitted Dangerous Waste management facility. The choice of disposal site depends on the type and concentrations of contaminants determined to be in the soil material. For Dangerous Waste that can be landfilled at a permitted treatment, storage, and disposal (TSD) facility, approval for disposal involves specific testing and paperwork activities under the Resource Conservation and Recovery Act (RCRA) and Chapter 173-303 WAC. A brief summary of these events is described in Section 4.12.2.

## *4.12 Soil Disposal and Documentation*

If soil material requires off-site disposal, the OER shall make preliminary arrangements to gain approval and authorization from disposal facilities and regulatory agencies, as necessary. Since disposal options depend on the type and quantities of materials involved and applicable regulations, specific recommendations for disposal shall be made by the OER at the time the substance is designated. The Owner shall authorize implementation of the

recommendations by the OER, and submit required letters and forms to the appropriate disposal facility and/or regulatory agencies for their approval.

### 4.12.1 Regional Landfill Disposal of PCS

For the disposal of soil materials to a regional landfill, the following procedure shall be used to notify appropriate parties and allow expedient handling, transport, and disposal of the materials.

Chemical analysis shall be performed by an acceptable laboratory that quantitates the parameters of interest based on the known history of the site and the likely constituents of concern. In this case, the appropriate tests shall be based on the overall concentration of TPH. Specific analytical requirements for non-TPH constituents are often determined based on historical knowledge of the source material and landfill requirements on a case-by-case basis.

A letter shall be sent to the landfill to arrange for disposal of PCS. The letter shall include:

- The Owner and locations of the material;
- The characteristics of the material including Laboratory Reports;
- The name of the intended transporter of the material;
- The quantity to be shipped from the site to the landfill; and
- The billing arrangement for disposal fee for dumping the material.

Specific information for the letter shall be included at the time of disposal. Additional information regarding the nature and concentration of TPH constituents may also be required by the landfill operator. When preparing to ship materials, the landfill shall be called to verify schedule and confirm they are expecting the material. Similar notification and waste designation criteria are required for concrete or asphalt batching.

### 4.12.2 Disposal of Designated Hazardous Substance—Contaminated Soil

For the treatment/disposal of a designated Dangerous Waste under Chapter 173-303 WAC at a permitted TSD facility, the following protocol shall be used to comply with regulatory and facility requirements:

- The Owner (as the Dangerous Waste generator) along with the OER shall designate the suspected Dangerous Waste under procedures detailed in WAC 173-303-070 (3). This procedure may require laboratory analysis if

sufficient information on the chemical history of the source of the material is not known.

- A waste product questionnaire (WPQ), provided by the TSD facility, shall be completed by the generator (Owner) for the selected TSD facility that characterizes the waste material under the chemical and physical characteristics as detailed in the WPQ.

- A Hazardous Waste Generator Identification Number shall be obtained by the Owner from Ecology (if a number was not already obtained).

- An EPA-licensed transporter who complies with the Dangerous Waste regulations shall haul the material to the TSD facility using a Hazardous Waste Manifest (HWM). Transporter contract arrangements shall be coordinated through the Owner.

- The receiving TSD facility shall return a signed copy of the HWM within 35 days to the generator (Owner).

- If the generator (Owner) does not receive the signed HWM within 35 days, the generator shall make documented inquiry to the TSD facility as to the disposition of the material.

- If the generator still does not receive a signed HWM within 45 days, the generator shall submit an exception report to Ecology.

### *4.13 Verification Sampling and Analysis*

For areas where suspected contaminated material has been removed by excavation and remaining underlying soil is expected to be clean, the OER shall collect soil verification samples for analysis to establish the environmental condition of the underlying soil. These data are necessary to determine appropriate off-site disposition of the remaining clean material. Verification samples shall be collected as discrete or composite (five-point) samples and analyzed for chemical parameters appropriate to the conditions of the excavation area and site use history.

### *4.14 Material Handling*

Spoils from excavation or drilling of suspected impacted soil will be temporarily piled and segregated into separate stockpiles by the Contractor for further sampling and chemical testing by the OER to determine appropriate disposal options.

Anyone coming into contact with the contaminated soil shall follow the site-specific Health and Safety Plan (HASP). If visible dust, particulates, or noticeable odors are present, stop work and determine the appropriate personal protective equipment to be used.

### *4.15 Documentation and Disposal*

The OER shall make initial arrangements for disposal at a regional landfill, an approved asphalt recycler; or, if necessary, through an EPA-approved disposal facility in the event that RCRA- or state-designated Dangerous Wastes are encountered.

The OER shall sample the material, arrange for testing, and complete the necessary documentation for the materials to be disposed of.

The Owner shall confirm with the landfill or other disposal facility the schedule, quantity of material to be disposed of, and the billing arrangement for the disposal fee.

If material is subsequently disposed of as either construction debris or clean fill, the recipients of the material shall be advised by the Contractor of its contents.

All test results for sampled materials shall be made available to the affected parties as indicated in Table 3.

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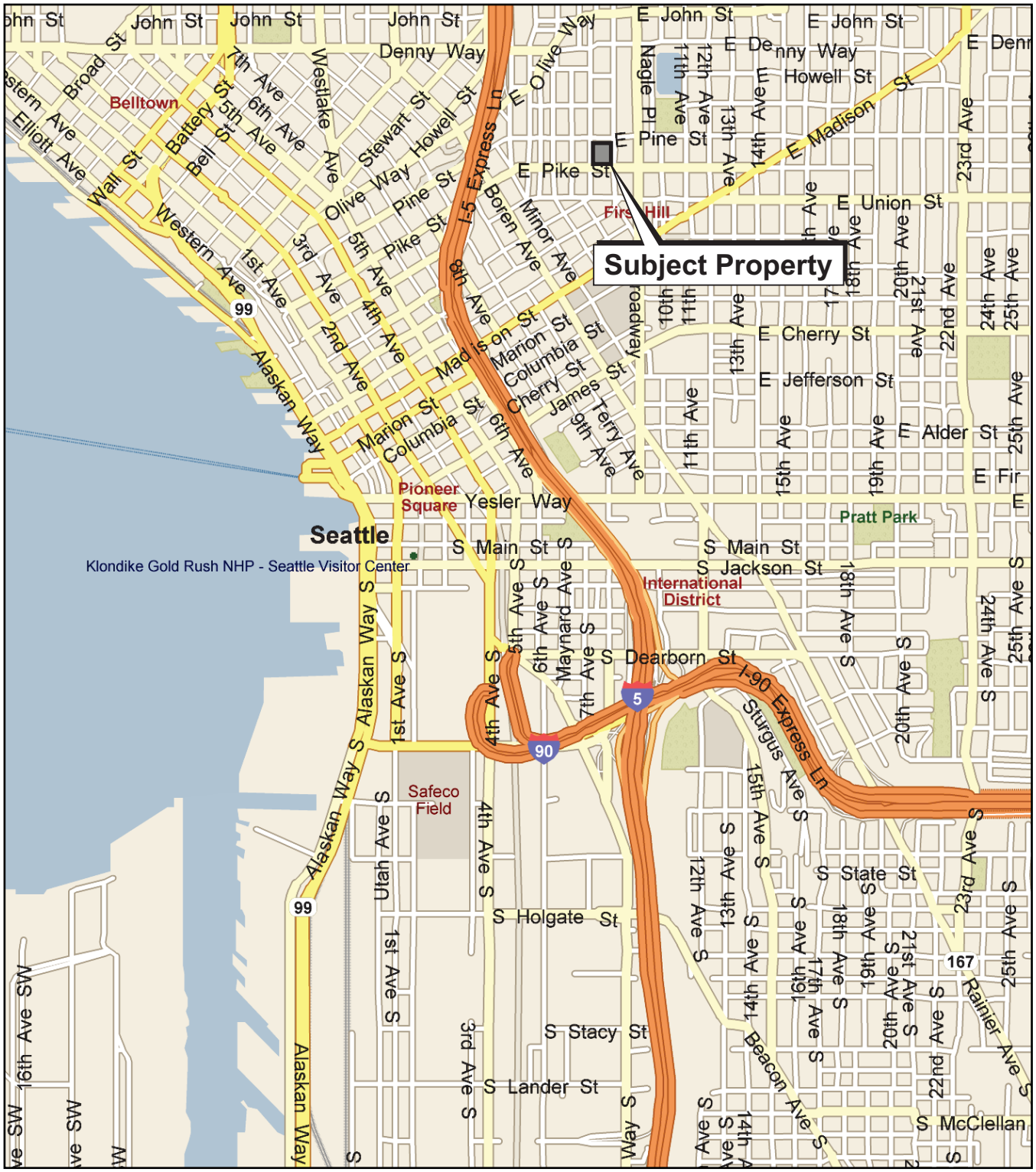



***Note:*** Base map prepared from Microsoft Streets and Trips 2002.

0 2,000 4,000

Approximate Scale in Feet

N

Seattle Core Development Site I
Seattle, Washington

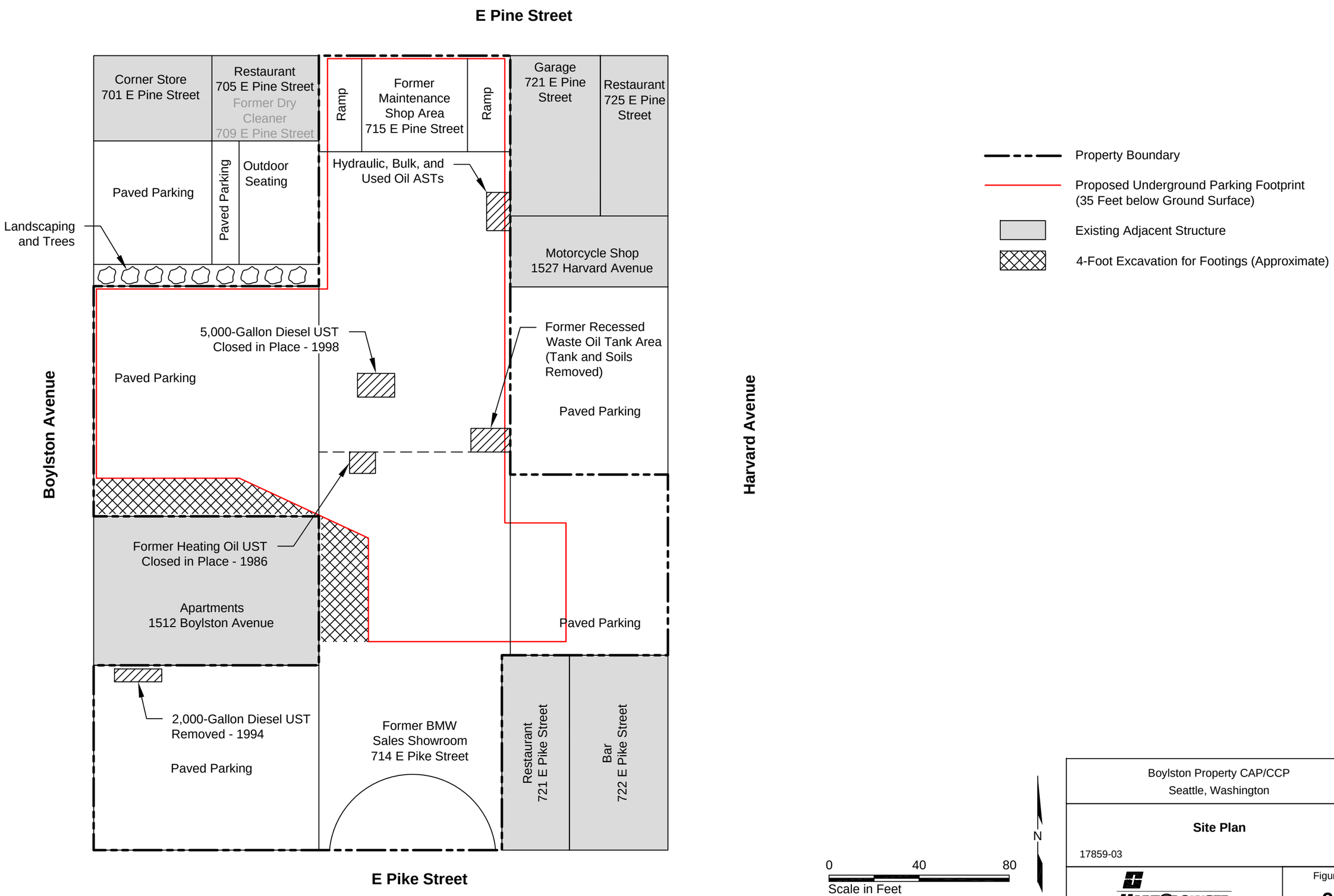
**Vicinity Map**

17859-03 9/13

HARTCROWSER

Figure
**1**

EAL 09/06/13 1785903-AA.cdr




Boylston Property CAP/CCP
Seattle, Washington

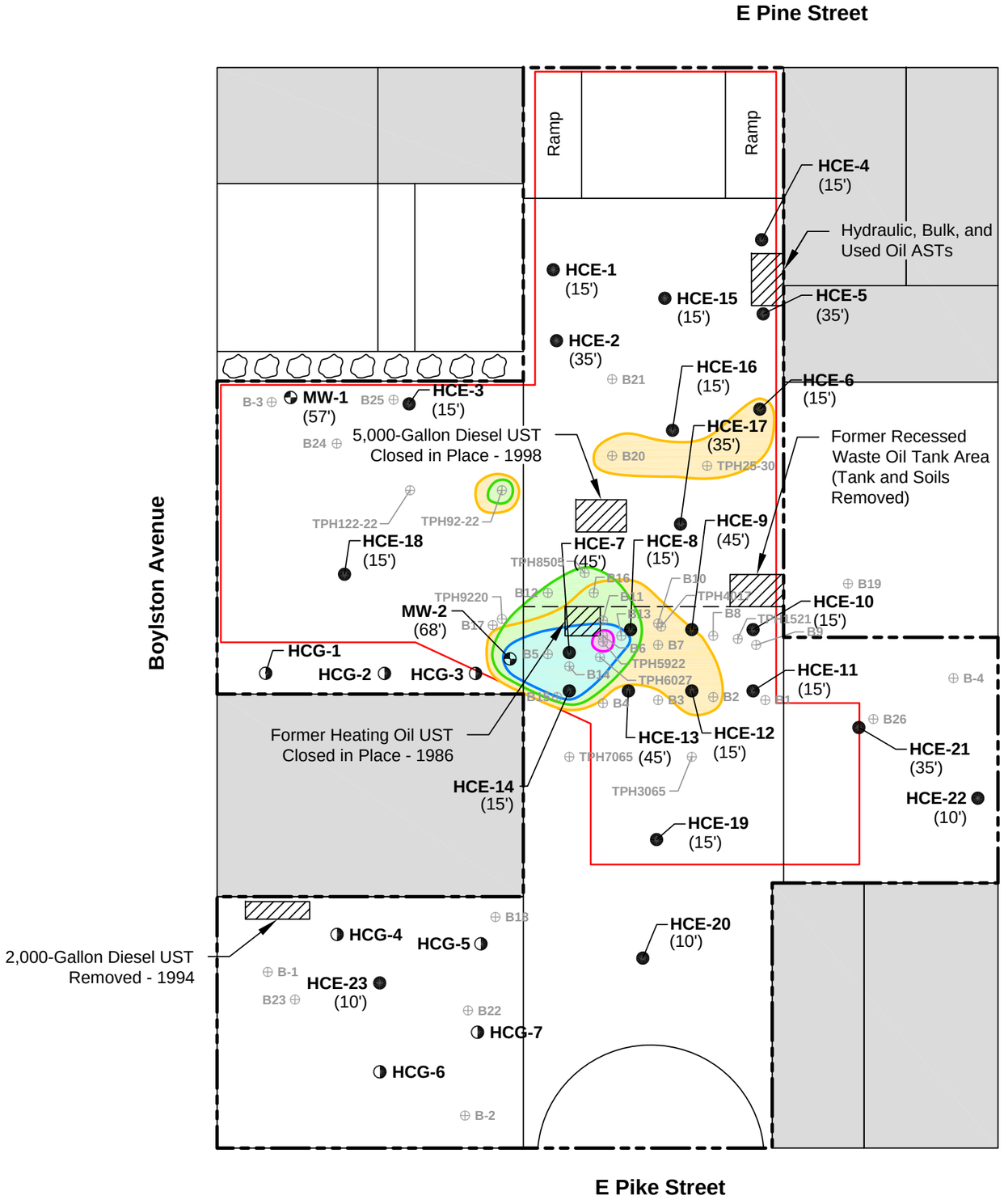
**Site Plan**

17859-03 9/13

HARTCROWSER

Figure **2**

EAL 09/19/13 1785903-009.dwg




Boylston Property CAP/CCP
Seattle, Washington

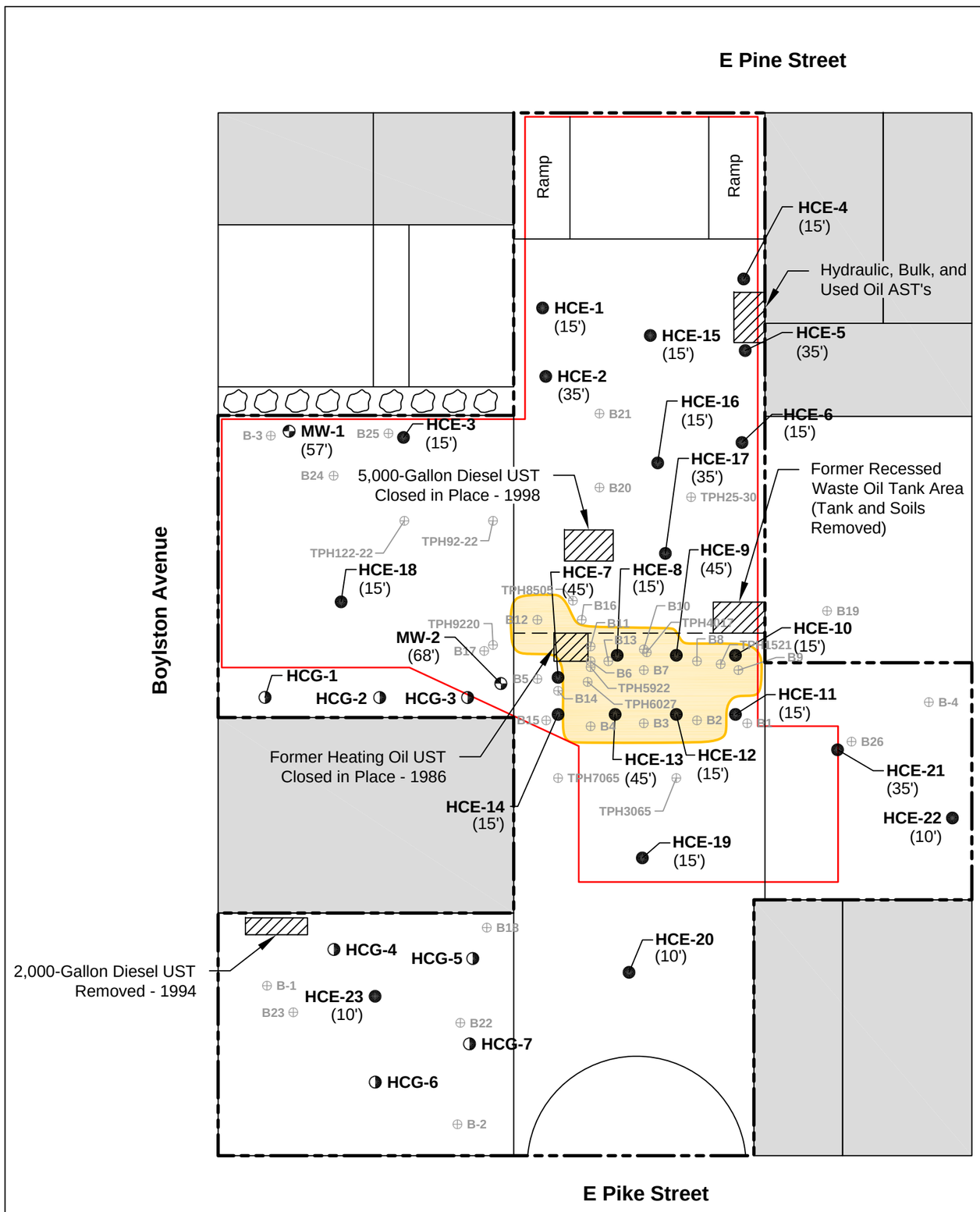
**TPH Impacts in Soil**

17859-03 9/13

HARTCROWSER

Figure **3**

EAL 09/19/13 1785903-010.dwg




Exploration Location and Number

HCE-1 (15') Exploration Depth

MW-1 Monitoring Well

HCG-4 Geotechnical Push Probes (9/17/12)

B23 Historical Boring (Approximate Location)

Property Boundary

Proposed Underground Parking Footprint (35 Feet below Ground Surface)

Existing Adjacent Structure

Approximate Area of Metal Impacts from 0-10' Depth Range

***Note:*** **Metal impacts include soils with metal concentrations exceeding MTCA Method A cleanup levels and Dangerous Waste Criteria exceedances for Lead.**

0 40 80

Scale in Feet

N

Boylston Property CAP/CCP
Seattle, Washington

**Metal Impacts in Soil**

17859-03 9/13

HARTCROWSER

Figure 4

EAL 09/19/13 1785903-011.dwg

## ATTACHMENT 1
## NOTIFICATION FORM FOR DISCOVERY OF SUSPECTED OR KNOWN CONTAMINATION

## NOTIFICATION FORM

This record serves to document information, actions, and notification regarding the discovery of and response to the presence of suspected and known contamination on the project.

1.0 Date/Time of Event/Incident

2.0 Person Filling Out Form

Name: _____

Phone Number: _____

3.0 Description of Condition

_____

_____

_____

4.0 Person Discovering Condition

Name: _____

Phone Number: _____

5.0 Action Taken

_____

_____

_____

6.0 Notifications

6.1

6.2

6.3

6.4

6.5

7.0 Stockpile Information

| ID Number | Description | Approximate Volume | Samples | Tests | Disposition |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**ATTACHMENT 2**
**WASHINGTON STATE DEPARTMENT OF ECOLOGY**
**UST CLOSURE NOTIFICATION FORM**

**CITY OF SEATTLE FIRE DEPARTMENT**
**UST CLOSURE APPLICATION FORM**

WASHINGTON STATE DEPARTMENT OF ECOLOGY

# UNDERGROUND STORAGE TANK
# Closure and Site Assessment Notice

See back of form for instructions

FOR OFFICE USE ONLY
Site ID #:_____
Owner ID #: _____

Please ✓ the appropriate box(es)
❑ Temporary Tank Closure ❑ Change-In-Service ❑ Permanent Tank Closure ❑ Site Check/Site Assessment

## Site Information

Site ID Number _____
(Available from Ecology if the tanks are registered)
Site/Business Name _____
Street
Site Address _____
City/State _____
Zip Code _____ Telephone (___) _____

## Owner Information

UST Owner/Operator _____
Mailing Address _____
Street
_____
P.O. Box
City/State _____
Zip Code _____ Telephone (___) _____

**Owners Signature** _____

## Tank Closure/Change-In-Service Company

Service Company _____
Certified Supervisor _____ Decommissioning Certification No. _____
**Supervisor's Signature** _____ Date _____
Address _____
Street P.O. Box
_____ Telephone (___) _____
City State Zip Code

## Site Check/Site Assessor

Certified Site Assessor _____
Address _____
Street P.O. Box
_____ Telephone (___) _____
City State Zip Code

## Tank Information

| Tank ID | Closure Date | Closure Method | Tank Capacity | Substance Stored |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**Contamination Present at the Time of Closure**

❑ Yes ❑ No ❑ Unknown
Check unknown if no obvious contamination was observed and sample results have not yet been received from analytical lab.

❑ Yes ❑ No
If contamination is present, has the release been reported to the appropriate regional office?

To receive this document in an alternative format, contact the TOXICS CLEANUP PROGRAM at 1-800-833-6388 (VOICE) OR 711 (TTY).

ECY 020-94 (Rev. 6-99)

# Instructions

AFTER COMPLETING THIS FORM. RETURN TO:

TOXICS CLEANUP PROGRAM
DEPARTMENT OF ECOLOGY
P.O. BOX 47655
OLYMPIA, WA 98504-7655

**Please Read Carefully**

**This form is to be completed by the tank owner and submitted to Ecology within 30 days of tank closure.** Mark the appropriate box(es) for temporary tank closure, permanent tank closure, change-in-service, or site assessment.

**Permanent Closure and Change-In-Service require a site assessment be performed.**

## Site and Owner Information

Fill in the site and owner information. Include the Ecology site number, if known; also, be sure to provide telephone numbers so that any problems can be resolved quickly. **The tank owner MUST sign this form.**

## Tank Closure/Change-In-Service Company and Site Check/Site Assessor

List the closure company and fill in the site assessor information for permanent closure or change-in-service. Ask to see the closure company supervisor's ICC Certification and make sure that the certified supervisor signs this form.

**Please note: Individuals performing services MUST be certified by the International Code Council (ICC), or other nationally recognized association by which they demonstrate appropriate knowledge pertaining to USTs or have passed another qualifying exam approved by the Department.**

## Tank Information and Contamination Present at Time of Closure

Please fill in the tank information requested using tank ID numbers previously reported to Ecology. In the column entitled "Closure Method," indicate what manner of closure was used, such as closure in place or removal. Check the appropriate box(es) indicating if contamination is present and has been reported. Contamination found or suspected at the site must be reported to the appropriate Ecology regional office within 24 hours [see below for telephone numbers]. **If contamination is confirmed, a site characterization report must be submitted to the regional office within 90 days; if contamination is not confirmed, then this form, a site assessment checklist, and a site assessment report must be submitted to the above address within 30 days.**

| Central | Eastern | Southwest | Northwest |
|---|---|---|---|
| (509) 574-2490 (voice) | (509) 329-3400 (voice) | (360) 407-6300 (voice) | (425) 649-7000 (voice) |
| (509) 454-7673 (TDD) | (509) 329-3569 (TDD) | (360) 407-6306 (TDD) | (425) 649-4259 (TDD) |

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The following tanks are exempt from notification requirements:

- Farm or residential tanks, 1,100 gallons or less, used to store motor fuel for personal or farm use only. The fuel must not be for resale or used for business purposes.
- Tanks used for storing heating oil that is used on the premises where the tank is located.
- Tanks with a capacity of 110 gallons or less.
- Equipment or machinery tanks such as hydraulic lifts or electrical equipment tanks.
- Emergency overflow tanks, catch basins, or sumps.

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**For more information, call toll free in the state of Washington 1-800-826-7716 (Message).**

Your
Seattle
Fire Department

# APPLICATION FOR TEMPORARY PERMIT

## Code 7908 Commercial Tank Removal/Decommissioning

**Permit Fee: $152.00**

_____ / _____
**Date Issued** **Expiration Date**

TO BE COMPLETED BY PERMIT APPLICANT (PLEASE PRINT)

| | | |
|---|---|---|
| FIRM NAME | | |
| MAILING ADDRESS | SUITE | |
| CITY | STATE | ZIP |
| OPERATION ADDRESS | | |
| CONTACT PERSON | PHONE NUMBER ( ) | |

Number of Tank(s): _____ Tank Size(s): _____

Product(s) Previously Contained: _____

☐ Removal (Marine Chemist inspection and certificate required for all tanks regardless of size or contents)

☐ Abandonment-in-Place (Marine Chemist certificate required for tanks previously containing Class I flammable liquids and unknowns)

Hot Work: ☐ Yes (Separate Seattle Fire Department hot work permit required)
☐ No

**Please include a check made payable to the CITY OF SEATTLE with this application.**

Permit applications may be submitted in person weekdays from 8:00 a.m. to 4:30 p.m., or mailed to:

Seattle Fire Department
Fire Marshal's Office—Permits
220 Third Avenue South, Second Floor
Seattle, WA 98104-2608

Permit processing: (206) 386-1025
www.seattle.gov/fire

**Call 386-1450, at least 24 hours prior to needed inspection time to arrange for an appointment.**

**TANKS MAY BE REMOVED/DECOMMISSIONED ONLY AFTER FIRE DEPARTMENT INSPECTION**

**No hot work is allowed on the tank system prior to issuance of this Fire Department permit!**

Permission is hereby granted to remove or decommission the tank(s) identified in this permit in accordance with the attached conditions, all noted special conditions, and all applicable provisions of the Seattle Fire Code, federal, state and local regulations. **THIS PERMIT IS NULL AND VOID IF PERMIT CONDITIONS ARE NOT ATTACHED**

**Special permit conditions:** _____

_____

_____

| *FMO USE* | *APPROVED BY* | |
|---|---|---|
| **Receipt No.:** _____ | **Inspector:** _____ | **SFD ID#** _____ |
| **Check No.:** _____ | **Name of Marine Chemist** _____ | **Certificate #** _____ |
| **Application ID#:** _____ | **Date:** _____ | |

(9/05)

# COMMERCIAL TANK REMOVAL/DECOMMISSIONING PERMIT CONDITIONS

1. Two (2) portable fire extinguishers each having a minimum rating of 40 BC shall be on site within 50 feet of the operation. Fire extinguishers shall be inspected, approved and certified annually.

2. Rope or ribbon barricades shall be provided circling 10 feet from the operation or be enclosed in a fenced yard.

3. "No Smoking" signs shall be posted in readily visible locations.

4. No hot work is allowed on a tank system prior to issuance of this permit and the tank is certified "Safe for Hot Work" by a Marine Chemist. Hot work means any activities involving riveting, welding, burning, brazing, soldering, heating, grinding, drilling, cutting with a chop saw or "Sawzall", abrasive blasting, use of powder-actuated tools, scraping or contact of the tank with mechanized equipment, or similar spark-producing operations.

5. A separate temporary Seattle Fire Department permit (Code 4913) or a validation number assigned in conjunction with an annual hot work permit (Code 4911 or 4912) is required prior to any hot work operations.

6. Permits may cover multiple tanks located at the same address. If additional tanks are to be removed or abandoned at later dates, separate permits shall be obtained. Each address location requires a separate permit application regardless of whether multiple address locations are physically next to one another.

7. Additional fees will be charged if inspectors are required to work other than normal business hours. (Normal business hours are Monday through Friday, 8:00 a.m. to 4:30 p.m.)

8. No excavation of the tank is permitted prior to inspection by the Seattle Fire Marshal's Office.
   **Exception:** Removal of the top layer of asphalt or concrete only with no removal of dirt, pea gravel or soil over the underground storage tank. Further excavation may be allowed by a Seattle Fire Department Special Hazards Inspector prior to the initial inspection depending on conditions and if the tank has been inerted by a Marine Chemist who is present on site. The name of the inspector and the time permission was given shall be made available at time of inspection.

9. Prior to inspection, to ensure tanks are completely free of all flammable or combustible liquids, a receipt or certificate must be on site indicating the tanks have been pumped and rinsed by an approved company. Product and rinse water must be disposed of in an approved manner.

10. For tanks being decommissioned in place that previously containing Class I liquids a Marine Chemist certificate must be issued and available on site for inspection certifying that the tank has been properly inerted prior to filling.

11. No tank shall be filled prior to an inspection by the Seattle Fire Marshal's Office.

12. Tanks being decommissioned in place must be filled with a lean concrete mixture. Filling with foam is prohibited.

13. A Marine Chemist's certificate verifying the tank has been properly inerted or is otherwise certified "Safe for Hot Work" shall be issued and available on site for inspection for each tank being removed regardless of the product previously contained.

14. If tanks are being removed, the tanks' atmosphere must be inert using one of the following approved methods:
    - Dry ice (pellets or chunks of solid $CO_2$). Minimum 30 lbs per 1000 gallons of air space is recommended.
    - Compressed $CO_2$ gas in cylinders (Note: This method may only be performed by a Certified Marine Chemist).
    - Purging with air (gas-freeing) using Venturi tube apparatus, with proper bonding and grounding and after the tank has been pumped and rinsed by an approved company.

15. A maximum reading of less than 6% of oxygen must be obtained prior to the removal of the tanks if $CO_2$ is used to inert the tank or

16. A reading of less than 10% LEL, preferably 0% LEL, must be obtained prior to removal of the tank if the air purging method of gas-freeing is used.

17. All local, state and federal regulations for confined space entry shall be complied with prior to entering an underground storage tank.

18. Tanks with baffles to prevent movement of liquid must be certified gas-freed or inerted by a Marine Chemist or a Petroleum Industry Safety Engineer regularly engaged in that business prior to removal.

19. Tanks being removed must be removed from the ground and relocated to a remote, approved facility on the same day that the permit is issued.

20. During the hauling or transport of petroleum underground storage tanks that have not been cleaned and gas-freed, these tanks must be inerted to less than 6% oxygen. All openings are to be cap closed and secured except for one 1/8" hole drilled through a cap. These tanks are to be sprayed painted with "INERTED, DO NOT ENTER" or "INERTED WITH $CO_2$, NOT SAFE FOR WORKERS".

# ATTACHMENT 3
# EXAMPLE WASTE MANAGEMENT AND DISPOSAL REQUEST LETTER

**EXAMPLE WASTE MANAGEMENT AND DISPOSAL REQUEST LETTER**

(Date)

Waste Management
70 S. Alaska Street
Seattle, Washington 98134

Attn: Disposal Coordinator

Re: Request of Disposal Clearance for Petroleum-Contaminated Soil (PCS)
Boylston Project Site
714 East Pike/715 East Pine Street.
Seattle, Washington

Dear _____:

On behalf of Seattle Core Development Site I, LLC, I am requesting a memorandum of clearance for disposal of Petroleum Contaminated Soil (PCS). Material from the excavation of the above-referenced project was removed from _____ (*example: around a former underground fuel storage tank*). The material is similar to _____ (*example: heavy diesel fuel.* The soil is intended for disposal at the Roosevelt Regional Landfill. I have enclosed preliminary chemical analysis reports from _____ Laboratory that indicate a range of TPH at between 200 and 10,000 ppm TPH. These data represent a composite sample of the stockpiled material from the excavation. The quantity of material for disposal is not expected to exceed _____ tons. The material will be hauled by _____(hauling contractor) sometime during the period from _____ to _____.

Because the schedule for site development is dependent upon removal of this soil, your quick consideration of this request is appreciated.

If you have any further questions, please feel free to call me at _____.

Sincerely,

**HART CROWSER, INC.**

# ATTACHMENT 4
# WASTE PROFILE DOCUMENTATION

Petroleum Contaminated Soil
Soil Application Form

## GENERAL INFORMATION

Applicant
Company Name: _____
Contact: _____ Phone: _____
Title: _____

Soil Removal Contractor
Company Name: _____
Company Address: _____
_____
Property Owner: _____
Owners Address: _____

Site Information
Site Address: _____
_____

Current & Previous Use of Property (check all that apply):

| | | | |
|---|---|---|---|
| ☐Fueling Stations | ☐Inorganic Chemicals | ☐Plastic & Rubber | ☐Paints or Solvents |
| ☐Agriculture Chemicals | ☐Residential | ☐Primary Metals | ☐Metal Coating & plating |
| ☐Metal Forging, Stamping | ☐Electronic Equipment | ☐Lumber & Wood Products | ☐Retail |
| ☐Recycling | ☐Junk/ Salvage Yard | ☐Wrecking Yard | ☐Landfill |
| ☐Oil & Gas Mining | ☐Metals Mining | ☐Mining non-metallic mat'ls. | ☐Other Manufacturing |

Source of Contamination: _____

## SOIL DATA

Estimated Amount: _____ Tons Excavation _____

Attach test results showing:

| | |
|---|---|
| ☐Total RCRA metals | ☐WTPH -D (WTPH-D EXTENDED) |
| ☐Moisture Content | ☐BTEX |
| ☐Percent Physical Contam. | ☐WTPH-G |
| ☐Sampling Plan & Procedures | ☐Other tests as required |

## CERTIFICATION

The above information is true and correct to the best of my knowledge, and is representative of the actual material to be delivered to Associated Environmental Services:

Signed: _____ Date: _____
Authorized Representative