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INTERIM ACTION PROGRESS REPORT

Property:
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Prepared for:
Touchstone SLU LLC
2025 First Avenue, Suite 1212
Seattle, Washington

Report Date:
January 22, 2016

Interim Action Progress Report

Prepared for:

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Seattle, Washington 98121

Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington 98121

Project No.: 0731-004

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January 22, 2016

SoundEarth Strategies

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ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
cis-1,2-DCE	cis-1,2-dichloroethene
CFR	Code of Federal Regulations
Clear Water	Clear Water Services, LLC of Lynnwood, Washington
COC	chemical of concern
CTI	City Transfer, Inc. of Sumner, Washington
CVOC	chlorinated volatile organic compound
DPD	(City of Seattle) Department of Planning and Development
DRPH	diesel-range petroleum hydrocarbons
Ecology	Washington State Department of Ecology
EDR	Engineering Design Report
EOS PRO	an oil/water emulsion provided by EOS Remediation, LLC of Raleigh, North Carolina
EPA	U.S. Environmental Protection Agency
F&BI	Friedman & Bruya, Inc. of Seattle, Washington
GRPH	gasoline-range petroleum hydrocarbons
HASP	Health and Safety Plan
IAP	Interim Action Plan, prepared by SoundEarth Strategies, Inc., dated August 21, 2013
ICC	International Code Council
LCL	Lease Crutcher Lewis of Seattle, Washington
Malcolm	Malcolm Drilling Company, Inc. of Kent, Washington
mg/kg	milligrams per kilogram
MTCA	Washington State Model Toxics Control Act

ACRONYMS AND ABBREVIATIONS (CONTINUED)

NAVD88	North American Vertical Datum of 1988
NWTPH	Northwest Total Petroleum Hydrocarbon
ORPH	oil-range petroleum hydrocarbons
PCE	tetrachloroethene
PID	photoionization detector
Progress Report	Interim Action Progress Report
the Property	307 Fairview Avenue North, Seattle Washington
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
Revised SAP	Revised Post-Excavation Evaluation Sampling and Analysis Plan
RCRA	Resource Conservation and Recovery Act RCRA
ROW	right-of-way
Site	soil, soil vapor, and/or groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons; tetrachloroethene; trichloroethene; cis-1,2-dichloroethene; and/or vinyl chloride in soil, soil vapor, and groundwater beneath the Property and portions of the Boren Avenue North, Thomas Street, and Terry Avenue rights-of-way
SM	Standard Method
SoundEarth	SoundEarth Strategies, Inc.
TCE	trichloroethene
TCLP	toxicity characteristic leaching procedure
Touchstone	Touchstone SLU LLC
USCS	Unified Soil Classification System
UST	underground storage tank
VC	vinyl chloride
WAC	Washington Administrative Code

1.0 INTRODUCTION

On behalf of Touchstone SLU LLC (Touchstone), SoundEarth Strategies, Inc. (SoundEarth) has prepared this Interim Action Progress Report (Progress Report) to document the ongoing interim remedial activities at the Troy Laundry Property located at 307 Fairview Avenue North in Seattle, Washington (the Property). The location of the Property is shown on Figure 1. An interim action is currently in progress and being conducted under the authority of the First Amendment of Agreed Order No. DE 8996 between Touchstone and the Washington State Department of Ecology (Ecology).

An Interim Action Plan (IAP; SoundEarth 2013a) was approved as a conceptual plan by Ecology on October 10, 2013. An Engineering Design Report (EDR; SoundEarth 2013b) was prepared to include Property-specific details necessary to implement the IAP. Ecology approved the EDR on March 4, 2014. The ongoing interim action is being conducted in accordance with the IAP and EDR.

The interim action was designed to coincide with redevelopment of the Property. This Progress Report describes the activities and results for interim action activities conducted between February 2014 and June 2015.

1.1 PURPOSE

The Washington State Model Toxics Control Act (MTCA) and the First Amendment of Agreed Order No. 8996 define the purpose of an interim action as:

> …technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance; that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed; or that is needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study or design of a cleanup action (WAC 173-340-430).

The objective of this Progress Report is to document the progress of the ongoing interim action and to confirm that the interim action has been conducted in substantial compliance with the IAP and EDR. This Progress Report includes a summary of the interim action cleanup standards including goals and remediation levels, a discussion of the implementation of the interim action components detailed in the IAP and EDR, results of the interim action, and components remaining to complete the interim action.

1.2 ORGANIZATION

This Progress Report is organized into the following sections:

- **Section 2.0, Project Background.** This section provides a brief description of the Property features and location; a summary of the future and historical uses of the Property; and a brief summary of previous investigations.
- **Section 3.0, Cleanup Standards.** This section presents the cleanup standards, including chemicals of concern (COCs), media of concern, remediation levels, and goals for the on-Property interim action.

- **Section 4.0, Selected Interim Action.** This section provides a summary of the interim action components that will be implemented in order to remediate soil and groundwater containing concentrations of COCs exceeding the remediation levels beneath the Property.
- **Section 5.0, Interim Action.** This section describes the components conducted as part of the interim action, including permitting, health and safety, shoring, excavation, and injection activities. In addition, applicable subsections present results from key components.
- **Section 6.0, Compliance Monitoring.** This section describes the protection, performance, and confirmational monitoring that is conducted as part of the interim action.
- **Section 7.0, Conclusions.** This section provides the conclusions of the completed phases of the interim action based on the compliance monitoring results.
- **Section 8.0, Planned Interim Action Work.** This section describes the upcoming work planned for the interim action.
- **Section 9.0, Limitations.** This section discusses document limitations.
- **Section 10.0, References.** This section lists the references cited in this document.

2.0 PROJECT BACKGROUND

The following section is a brief description of the Property, a description of the future land use and redevelopment plan for the Property, and a summary of previous environmental investigations. Additional background information and references are provided in the Draft Remedial Investigation Report (SoundEarth 2012a), Draft Feasibility Study Report (SoundEarth 2012b), and Draft Addendum—Supplemental Remedial Investigation Report (SoundEarth 2012c).

2.1 PROPERTY DESCRIPTION

The Property is located on a topographically low-lying area within the South Lake Union neighborhood near the downtown area of Seattle. The Property is listed as 307 Fairview Avenue North in Seattle, Washington, and is currently owned by TB TS/RELP LLC.

The Property was initially developed prior to 1893 with residences. Residences exclusively occupied the Property until 1925, when the Boren Investment Company Warehouse was constructed on the northwestern corner of the Property. The Troy Laundry Building was constructed between 1926 and 1927, and the Mokas Building was constructed in 1960.

According to historical records, by 1948 the Property operated as one of the Pacific Northwest's largest laundry and dry cleaning facilities. At least 15 underground storage tanks (USTs) containing heating oil, fuel, and dry cleaning solvents, as well as several aboveground storage tanks containing propane, washwater, water-softening agents, dry cleaning solvents, and heating oil, were used on the Property. The Mokas Building was demolished in 2013. The Boren Investment Company Warehouse and the Troy Laundry building were demolished in 2014 as part of the redevelopment of the Property. Figure 2 depicts the Property prior to redevelopment and includes historical Property features.

2.2 FUTURE LAND USE

The Property is in the process of being redeveloped with two office towers: one 12-story tower and one 13-story tower. The project includes the construction of a mixed-use development that will extend lot-line to lot-line. Development plans include approximately 817,000 square feet of office space, 5,000

square feet of street level retail space, five levels of underground parking to accommodate up to 1,120 vehicles, and public open space between the two towers.

2.3 SUMMARY OF PREVIOUS INVESTIGATIONS

The results of previous remedial investigations confirmed the presence of gasoline-, diesel-, and oil-range petroleum hydrocarbons (GRPH, DRPH, and ORPH, respectively) and chlorinated volatile organic compounds (CVOCs), including tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and/or vinyl chloride (VC) in soil, soil vapor, and groundwater beneath the Property and portions of the Boren Avenue North, Thomas Street, and Terry Avenue rights-of-way (Site). The highest concentrations of CVOCs and GRPH as Stoddard solvent were located near the center of the Property by the loading dock, which is consistent with historical building plans that indicated the bulk of the dry cleaning operations were conducted in the central portion of the Property (Figure 2).

The highest concentrations of PCE in soil were present at depths ranging from 3 to 10 feet below ground surface (bgs) in the center of the Property. PCE soil concentrations in this area exceeded ten times the Universal Treatment Standard for PCE (60 milligrams per kilogram [mg/kg]) and the dangerous waste threshold (14 mg/kg). In February 2011, AECOM, on behalf of Seattle Times and Century Pacific, LP, designed and installed a soil vapor extraction system at the Property to address the concentrations of PCE in soil that exceeded the dangerous waste threshold. The system was operated from February to December 2011, and was successful in reducing PCE concentrations in the soil to less than the dangerous waste threshold of 14 mg/kg.

Migration of PCE in soil has generally been vertical to depths of up to 65 feet bgs, or approximately 10 to 15 feet above the primary water-bearing zone, in the areas explored. Generally, PCE was detected in soil from the west Property boundary to approximately the centerline of the Property. Based on the results of soil analytical data collected on and to the west of the Property, any soil contamination extending into the adjoining Boren Avenue North right-of-way (ROW) is likely limited in extent. In addition, a deeper zone (84 to 86 feet bgs) of soil contamination was also identified within Thomas Street. The source of the contamination has not been confirmed and is inconsistent with data and observations associated with earlier investigations conducted on the Property and within the adjoining ROWs.

Relatively low concentrations of PCE and associated degradation products have been detected within the primary water-bearing zone encountered at depths ranging from approximately 50 to 90 feet bgs (approximate elevation of 15 to 18 feet North American Vertical Datum of 1988 [NAVD88]) at the Property. Groundwater collected from the approximately 498-foot-deep supply well formerly located in the center of the Property, which extended into an aquifer located approximately 300 feet deeper than the primary water-bearing zone, did not contain detectable concentrations of CVOCs or GRPH as Stoddard solvent. The results of sampling conducted at the supply well demonstrate that the deeper aquifer beneath the Property has not been impacted by a release from the former Property operations.

GRPH as Stoddard solvent was also observed in soil and groundwater beneath the Property and the adjoining ROWs. In all samples where concentrations of GRPH exceeded the MTCA Method A cleanup level in soil and groundwater, CVOCs were also detected.

3.0 CLEANUP STANDARDS

The analytical results of previous investigations were used to establish cleanup standards for the Property that comply with the MTCA cleanup regulations specified in Chapter 173-340 of the Washington Administrative Code (WAC 173-340) and with applicable state and federal laws. This section

summarizes the COCs, media of concern, remediation levels, and goals established for the interim action.

3.1 CHEMICALS OF CONCERN

The primary COCs include the chemicals that were used for the historical dry cleaning activities: PCE and TCE (a degradation product of PCE). These COCs were detected primarily beneath the western half of the Property and portions of the Boren Avenue North and Thomas Street ROWs. Although an elevated concentration of TCE (5.2 micrograms per liter [µg/L]) was detected in groundwater collected from monitoring well MW02 in Harrison Street in May 2011, TCE concentrations detected in subsequent sampling have not exceeded the MTCA Method A cleanup level.

Secondary COCs identified for the Site include cis-1,2-DCE, VC, GRPH (as Stoddard solvent), DRPH, and ORPH.

3.2 MEDIA OF CONCERN

Soil was the primary medium of concern during the initial phases of the interim action. After completing the excavation and removal of the contaminated soil, groundwater became the primary medium of concern. Secondary media of concern include soil vapor and indoor air by virtue of vapor transport from groundwater and/or soil. At the time this Progress Report was prepared, groundwater treatment is ongoing and the vapor intrusion evaluation has not been conducted. Additional information regarding the proposed implementation of the interim action groundwater treatment and vapor intrusion evaluation is provided in the EDR.

3.3 REMEDIATION LEVELS

Remediation levels for the interim action were established in the EDR and are listed below. The portion of the interim action described in this Progress Report focuses on the remediation levels for soil and groundwater.

Remediation Levels for Soil

COC	Remediation Level (mg/kg)	Source
PCE	0.05	MTCA Method A, Table Value; WAC 173-340-740(2)(b)(i)
TCE	0.03	
GRPH	100	
DRPH	2,000	
ORPH	2,000	

NOTES:
COC = chemicals of concern
DRPH = diesel-range petroleum hydrocarbons
GRPH = gasoline-range petroleum hydrocarbons
mg/kg = milligrams per kilogram
MTCA = Washington State Model Toxics Control Act
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethene
TCE = trichloroethene
WAC = Washington Administrative Code
VC = vinyl chloride

Remediation Levels for Groundwater

COC	Remediation Level (µg/L)	Source
GRPH	1,000	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
PCE	5	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
TCE	5	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)
cis-1,2-DCE	16	MTCA Method B, Standard Formula; WAC 173-340-720(4)(b)(iii)(A) (noncarcinogenic)
VC	0.2	MTCA Method A, Table Value; WAC 173-340-720(3)(b)(i)

NOTES:
µg/L = micrograms per liter
cis-1,2-DCE = cis-1,2-dichloroethene
COC = chemicals of concern
GRPH = gasoline-range petroleum hydrocarbons
MTCA = Washington State Model Toxics Control Act
PCE = tetrachloroethene
TCE = trichloroethene
WAC = Washington Administrative Code
VC = vinyl chloride

Remediation Levels for Indoor Air

COC	Remediation Level ($\mu g/m^3$)	Source
GRPH[(1)]	140	Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, Review DRAFT, October 2009, Publication No. 09-09-047; Appendix B, Method B; updated April 6, 2015.
PCE	9.62	
TCE	0.37	
cis-1,2-DCE	NR	
VC	0.28	

NOTES:
[(1)]This is the lowest of the three screening level values for air-phase petroleum hydrocarbon fractions.
$\mu g/m^3$ = micrograms per cubic meter
cis-1,2-DCE = cis-1,2-dichloroethene
GRPH = gasoline-range petroleum hydrocarbons
NR = not researched
PCE = tetrachloroethene
TCE = trichloroethene
VC = vinyl chloride

3.4 INTERIM ACTION GOALS

The interim action goals were presented in the EDR, and are used to both evaluate the effectiveness of the interim action and determine if remediation levels for the interim action have been achieved. Once the remediation levels have been attained at the defined interim action goals, the impacts present at the Property will no longer be considered a threat to human health or the environment.

3.4.1 Interim Action Goal for Groundwater

The interim action goal for groundwater is defined as the uppermost level of the saturated zone extending vertically to the lowest depth that potentially could be impacted by the COCs throughout the Property. To demonstrate compliance with the interim action goal, groundwater remediation levels shall be attained in all groundwater from the outer boundary of the hazardous substance plume beneath the Property and the adjacent ROWs.

3.4.2 Interim Action Goal for Soil

The interim action goal for direct contact exposure is throughout the Property from the ground surface to 15 feet bgs, which is a reasonable estimate of the depth of soil that could be excavated and distributed at the soil surface as a result of post-development activities. All on-Property soil containing concentrations of COCs above the direct-contact threshold will be overexcavated and removed from the Property during the implementation of the interim action. In order to be protective of groundwater, all on-Property soil containing concentrations of COCs

above the remediation levels will be overexcavated. The Revised Post-Excavation Evaluation Sampling and Analysis Plan (Revised SAP) will be implemented to evaluate whether the interim action goal for soil is achieved.

3.4.3 Interim Action Goal for Indoor Air

Cleanup standards and points of compliance for indoor air have not been promulgated as of the date of this document; however, indoor air cleanup levels have been published as draft guidance (Ecology 2009) and updated on April 6, 2015. The interim action goal will be the standard point of compliance per WAC 173-340-750(6), which is ambient air throughout the Property. The Revised SAP will be implemented at a later date to evaluate whether the interim action goal for indoor air has been achieved.

4.0 SELECTED INTERIM ACTION

The interim action incorporates several active remedial technologies to ensure that risks to human health and the environment are addressed to the extent possible. The selected technologies take advantage of the previously unavailable access to the subsurface provided by the redevelopment project. The selected technologies include the following:

- Excavation and disposal of contaminated soil
- Dewatering
- Reductive dechlorination (anaerobic bioremediation)
- Interim action vapor intrusion evaluation

Additional information regarding the conceptual plan and proposed implementation of the selected technologies is provided in the IAP and EDR.

5.0 INTERIM ACTION

This Progress Report describes the activities for the interim action that were completed between February 2014 and June 2015. Lease Crutcher Lewis (LCL) of Seattle, Washington, is the general contractor for the Property redevelopment. LCL and their subcontractors assisted in select tasks of the interim action. The interim action and associated pre-interim action components are discussed in greater detail in the following sections.

5.1 PERMITTING

Prior to beginning redevelopment activities, Touchstone submitted a Land Use Application for the redevelopment project, which included a State Environmental Policy Act review. In addition, Touchstone submitted an application to City of Seattle's Landmarks Preservation Board for approval of the proposed new construction and partial demolition of the Troy Laundry Building and the Boren Investment Company Warehouse. The City of Seattle's Landmarks Preservation Board granted a Certificate of Approval. Following review of the Land Use Application and receipt of the City of Seattle's Landmarks Preservation Board Certificate of Approval, the City of Seattle Department of Planning and Development (DPD) issued Master Use Permit No. 3012675 on November 22, 2013.

On December 20, 2013, the City of Seattle DPD issued Permit Nos. 6380479 and 6380480 for the demolition of the Troy Laundry Building and the Boren Investment Company Warehouse, respectively. Both permits required the preservation of the historical facades.

On June 16, 2014, the City of Seattle DPD issued Permit No. 6367485. The permit approved shoring and excavation plans for the redevelopment of the Property. Because excavation and shoring activities continued after October 31, 2014, Touchstone submitted a grading season extension to the City of Seattle DPD. The City of Seattle DPD issued Permit No. 6439443, which allowed for excavation and shoring to occur between November 1, 2014, and March 31, 2015.

Construction dewatering required an authorization to discharge recovered groundwater and surface water to the sanitary sewer. The King County Wastewater Treatment Division issued Minor Discharge Authorization No. 921-01, and the City of Seattle issued Permit No. 6422319. The application and permit allowed wastewater from construction dewatering to be discharged through the combined sewer system owned and operated by the City of Seattle and King County.

Well injections for reductive dechlorination of the groundwater do not require a permit; however, the injection wells were required to be registered with Ecology's Underground Injection Control Program. The injection wells are rule-authorized as Underground Injection Control Site Number 32755.

Copies of applicable permits are provided in Appendix A.

5.2 SITE-SPECIFIC HEALTH AND SAFETY PLAN

SoundEarth prepared a site-specific Health and Safety Plan (HASP) in accordance with WAC 173-340-810, WAC 296-843, and Part 1910-120 of Title 29 of the Code of Federal Regulations (29 CFR 1920-120) and is included in the IAP.

The HASP was provided to contractors for their review to ensure that health and safety components related to implementing the interim action could be incorporated into each contractor's HASP. In addition, pre-construction health and safety meetings with LCL and appropriate subcontractors were conducted. Each subcontractor was responsible for maintaining their respective HASPs to identify potential physical and chemical hazards associated with their own work practices and consistent with LCL's HASP.

The main hazards associated with the interim action included contact with contaminated soil and groundwater and working around heavy equipment and machinery. LCL established an exclusion zone with delineators, caution tape, and/or spray paint, around areas with COCs. Site controls, such as boot wash stations, were placed at the edge of the exclusion zone.

SoundEarth field-screened ambient air during the excavation and shoring activities to monitor petroleum hydrocarbon and PCE levels in the breathing zone of personnel and equipment operators, and at the Property boundaries. Ambient air field screening was conducted using a photoionization detector (PID) and colorimetric gas detector tubes. Results of ambient air monitoring are discussed in Section 6.1.

5.3 SUBSURFACE INVESTIGATIONS FOR CONTAINED-OUT DETERMINATION

In October 2013, SoundEarth submitted a request to Ecology for a contained-out determination for F002-listed soil. On January 8, 2014, Ecology requested additional soil data to determine if soil is consistent with Ecology's contained-in policy. Ecology requested soil samples from locations in the central portion of the Property where the highest PCE concentrations had historically been detected,

and from the vicinity of three former USTs that were previously inaccessible and reportedly part of the former Stoddard solvent system. A work plan was provided to Ecology which detailed the scope of work for collecting soil samples from borings and decommissioning the USTs. Additional details are provided below.

5.3.1 Borings

SoundEarth conducted a supplemental subsurface investigation on February 20, 2014. Push-probe drilling services were provided by ESN Northwest of Olympia, Washington. A SoundEarth geologist observed drilling activities and collected soil samples for laboratory analysis at select boring locations. Six push-probe borings (P15 through P20) were advanced in locations approved by Ecology. The locations of the borings are depicted on Figure 3.

Total depths of the push-probe borings ranged from approximately 8 to 15 feet bgs. The borings were continuously sampled from the ground surface to the maximum depth explored using a 4- or 5-foot probe rod driven with a 140-pound-per-square-inch hydraulic hammer. The sampler was lined with disposable polyvinyl chloride (PVC) sleeves that were removed and opened to reveal the sample for each driven sampling interval.

Soil samples were described in general accordance with the Unified Soil Classification System (USCS) and screened in the field for potential evidence of contamination. Field screening included making visual observations and notations of odor, and conducting soil sample headspace analysis using a PID to detect the presence of volatile organic vapors. Headspace analysis was conducted by placing soil from each sample interval into a sealable plastic bag and allowing the sample to warm for several minutes. The probe of the PID was then inserted into the bag, and the highest reading obtained over an approximately 30-second interval was recorded. The USCS soil descriptions, visual and olfactory notations for the samples, and PID readings were recorded on the boring log forms (Appendix B).

Soil samples were placed directly into laboratory-prepared sample containers labeled with unique laboratory identification numbers. The containers were placed in an iced cooler and transported for laboratory analysis to Friedman & Bruya, Inc. (F&BI) of Seattle, Washington, under standard chain-of-custody protocols. Selected soil samples obtained from push-probe borings P15 through P17 were analyzed for toxicity characteristic leaching procedure (TCLP) PCE by U.S. Environmental Protection Agency (EPA) Methods 1311 and 8260. Selected soil samples obtained from push-probe borings P18 and P19 were analyzed for CVOCs by EPA Method 8260C. Soil samples were not analyzed from push-probe boring P20 due to shallow refusal.

The push-probe borings were backfilled with bentonite and an appropriate surface seal. Soil cuttings were placed into an appropriately labeled 16-gallon steel drum and transported to the designated staging area in the Troy Laundry Building, pending profiling, transportation, and disposal.

5.3.2 UST Decommissioning

Historical records indicated that in 1985 three USTs that were used in Stoddard solvent dry cleaning operations were taken out of service and closed-in-place. Due to the location beneath the foundation of the Troy Laundry Building, the USTs were not accessible for removal. Ecology and the Seattle Fire Department approved the USTs to be cleaned and filled with sand in-place until subsequent access provided for removal of the USTs.

During redevelopment of the Property, demolition activities provided access to the USTs. Prior to UST removal, SoundEarth submitted a Request to Waive 30 Day Waiting Period to Ecology. On February 26, 2014, the three USTs were decommissioned and removed from the Property. SoundEarth provided an International Code Council (ICC)-certified UST Site Assessor and conducted a site assessment in general accordance with Ecology's *Guidance for Site Checks and Site Assessments for Underground Storage Tanks* (Ecology 2003). SoundEarth contracted with EcoCon, Inc. and Northwest Marine Chemist Inc., both of Tacoma, Washington, to provide for an ICC-certified UST Decommissioner and a National Fire Protection-certified Marine Chemist. LCL and Rhine Demolition LLC of Tacoma, Washington, provided construction support during removal of the USTs. The location of the former USTs and sample locations are shown on Figure 3. Applicable documents for the UST decommissioning are included in Appendix C.

Measurements indicated that the USTs were located within a single tank cavity and had capacities of approximately 350-gallons, 1,000-gallons, and 3,000-gallons. The USTs appeared to be in good condition with the exception of the 350-gallon UST, which had one small visible hole in the side. During the removal of the USTs, Stoddard solvent odor was observed in the soil surrounding the USTs. Discrete soil samples were collected from each of the four sidewalls of the excavation at a depth of approximately 6 feet bgs. A discrete bottom sample was collected approximately 1 to 2 feet below the bottom of each UST.

Fill material that was used to decommission the USTs in 1985 was removed from the USTs and placed in stockpile SP01 on a concrete slab and covered with plastic sheeting. Three discrete soil samples were collected from Stockpile SP01 to profile the soil for waste disposal purposes. Soil excavated from the vicinity of the USTs was placed in stockpile SP02 in the excavation and covered with plastic sheeting. One composite soil sample was collected from stockpile SP02 to profile the soil for waste disposal purposes. Soil cuttings were placed into roll-off container and transported to the designated staging area in the Troy Laundry Building, pending profiling, transportation, and disposal.

Soil samples were placed directly into laboratory-prepared sample containers labeled with unique laboratory identification numbers. The containers were placed in an iced cooler and transported for laboratory analysis to F&BI, under standard chain-of-custody protocols. Soil samples were submitted for laboratory analysis of GRPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx; DRPH and ORPH by Method NWTPH-Dx; benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021B; and CVOCs by EPA Method 8260C.

5.3.3 Results

Results from the samples collected during the subsurface investigation and the UST decommissioning to ensure soil was consistent with Ecology's contained-in policy are summarized below. Laboratory analytical reports are provided in Appendix D. Analytical results for soil samples collected during this investigation are presented in Table 1 and illustrated on Figure 3.

- TCLP concentrations detected in soil samples collected from push-probe borings P15 through P17 were below the PCE Regulatory Level listed in Table 1 of 40 CFR 261.24.
- Concentrations of PCE ranged from 0.11 to 0.56 mg/kg in soil samples collected from push-probe borings P18 and P19.

- Three soil samples collected from the north and west sidewalls of the UST excavation and beneath the 350-gallon UST contained concentrations of PCE above the laboratory reporting limit.
- Three soil samples collected beneath the 350-gallon and 1,000-gallon USTs and from the west sidewall contained concentrations of GRPH ranging from 540 to 1,600 mg/kg.
- Soil samples collected from stockpile SP01 did not contain concentrations of CVOCs, DRPH, ORPH, GRPH, and BTEX above the laboratory reporting limits. Soil in stockpile SP01 was profiled with a clean soil disposal facility and transported off Property.
- The composite soil sample collected from stockpile SP02 contained concentrations of PCE and GRPH above the applicable interim action remediation levels. The soil was placed in a lined and covered roll-off bin and transported to the designated staging area on the Property, pending a contained-out determination approval letter from Ecology.

5.4 CONTAINED-OUT DETERMINATION APPROVAL

Ecology reviewed the results of the subsurface investigations described above and approved SoundEarth's request for a contained-out determination on March 26, 2014. Ecology's approval allowed for the generation of 140,000 tons of F002-listed waste-contaminated soil to be managed as non-dangerous waste. Ecology determined that the concentrations of PCE in soil were below risk-based levels and exempt from management as dangerous wastes.

In January 2015, SoundEarth submitted an addendum to the contained-out approval letter to Ecology. The addendum requested the approval to dispose of 1,700 tons of soil with concentrations of PCE from an area that was not included in the original contained-out approval letter. On January 29, 2015, Ecology provided a second contained-out determination approval letter. The approval allowed for the generation of approximately 1,700 tons of F002-listed waste-contaminated soil to be managed as non-dangerous waste. The second contained-out approval letter required that the soil be disposed of by March 18, 2015.

Extensions and an addendum to the contained-out approval letter were requested from Ecology during the interim action. Additional information is provided below. Copies of Ecology's contained-out determination approval letters are included in Appendix E.

5.4.1 Extensions

Ecology's contained-out determination approval letter required that PCE-contaminated soil be disposed of by September 30, 2014. SoundEarth requested an extension of Ecology's contained-out determination approval letter to allow for disposal of soil until December 31, 2014. The extension was approved by Ecology on September 9, 2014.

SoundEarth requested a second extension to allow for disposal of PCE-contaminated soil until January 31, 2015. On December 17, 2014, Ecology approved the request for a second extension to the contained-out determination approval letter. Copies of Ecology's contained-out determination extension letters are included in Appendix E.

5.4.2 Addendum

On July 10, 2014, a concrete vault was discovered in the southeast portion of the Property. Field screening of soil in the vicinity of the vault indicated the potential presence of COCs. Soil samples collected in this area confirmed that CVOCs were present in soil in the immediate vicinity of the vault. Field screening and additional soil samples were collected to identify the extent of CVOC-impacted soil.

On July 16, 2014, SoundEarth requested an addendum to Ecology's contained-out determination approval letter to allow for soil generated in the vicinity of the concrete vault to be exempt from management as dangerous wastes under Ecology's contained-in policy. Ecology approved the addendum to allow for approximately 250 tons of CVOC-impacted soil to be excavated and removed from this area during excavation activities. Additional information about this discovery is discussed in Section 5.11.1.1. A copy of Ecology's contained-out determination addendum is included in Appendix E.

5.5 ECOLOGY NOTIFICATION

In accordance with the First Amendment of Agreed Order No. DE 8996, the following benchmarks were required to be completed prior to implementation of the interim action:

- Interim Action Benchmark 1: Notification to Ecology of submittal of City of Seattle permit applications for the redevelopment project.
- Interim Action Benchmark 2: Notification to Ecology of receipt of a City of Seattle building permit for the redevelopment project.
- Interim Action Benchmark 3: Notification to Ecology of receipt of commitments for financing necessary for redevelopment project completion.

On behalf of Touchstone, SoundEarth submitted a letter dated June 27, 2014, to Ecology with notification that the above benchmarks had been achieved and that Touchstone was proceeding with implementation of the IAP and EDR.

5.6 SITE PREPARATION AND MOBILIZATION

Site controls were established to ensure the work zone was properly secured. The entire perimeter of the Property was fenced-off with points of ingress and egress clearly marked. The access points to the Property were monitored by authorized personnel during construction activities and locked during non-business hours.

Prior to beginning excavation activities, temporary erosion and sediment control measures were established as part of the larger Property redevelopment. Once all temporary erosion and sediment control measures were implemented in accordance with the construction project plan and approved by the City of Seattle DPD, construction equipment and supplies were mobilized to the Property.

5.7 SEATTLE LANDMARK PRESERVATION AND DEMOLITION

Prior to the demolition of the Troy Laundry Building and the Boren Investment Company Warehouse, historical facades of the buildings were supported using micropiles and bracing. The micropiles and bracing were installed in accordance with City of Seattle's Landmarks Preservation Board's Certificate of Approval and City of Seattle DPD permits. Following installation of micropiles and bracing, the Troy Laundry Building and Boren Investment Company Warehouse were demolished, while preserving portions of the south and east facades of the Troy Laundry Building and north and west facades of the

Boren Investment Company Warehouse. Demolition activities were conducted by Rhine Demolition LLC of Tacoma, Washington, and were completed in July 2014.

5.8 MONITORING WELL DECOMMISSIONING

Seven monitoring wells (MW06, MW08 through MW12, and MW14) were decommissioned by Malcolm Drilling Company, Inc. (Malcolm) of Kent, Washington in accordance with WAC 173-160-460. Six of the monitoring wells were located within the excavation area. One monitoring well was located within the Thomas Street ROW and was impacted by construction activities. Copies of the Resource Protection Well Reports documenting well decommissioning are provided in Appendix B.

5.9 SHORING

Prior to implementation of the interim action, a shoring system was designed to allow for excavation of on-Property soil to elevations ranging from 35 to 28 feet NAVD88 across the Property. In addition, the shoring system was designed to accommodate overexcavation along a portion of the west sidewall to excavate soil with concentrations of PCE above the remediation level to an approximate elevation of 20 feet NAVD88.

5.9.1 Shoring Design Subsurface Investigation

The preliminary shoring design allowed for excavation on the south sidewall to an approximate elevation of 35 feet NAVD88 (65 feet bgs). In March 2014, SoundEarth conducted a supplemental subsurface investigation to evaluate if the preliminary shoring design provided for sufficient depth to excavate on-Property soil with concentrations of COCs above the remediation levels on the south portion of the Property.

Borings B51, B52, and B53 were advanced in the north sidewalk of the Thomas Street ROW from March 25 through 27, 2014. Hollow-stem auger drilling services were provided by Holt Services, Inc. of Edgewood, Washington. A SoundEarth geologist observed drilling activities and collected soil samples for laboratory analysis at select boring locations. Figure 4 depicts the boring locations and analytical results from the borings.

The hollow-stem auger borings were advanced to elevations ranging from approximately 16 to 10 feet NAVD88 (82.5 to 90 feet bgs). Soil cuttings were field screened at 10-foot intervals from ground surface to an approximate elevation of 30 feet NAVD88. Beginning at an approximate elevation of 30 feet NAVD88 (70 feet bgs), relatively undisturbed, discrete soil samples were collected from each soil boring at 2.5 or 5-foot intervals to the maximum depth explored.

Soil samples were described in general accordance with the USCS and screened in the field for potential evidence of contamination. Field screening included making visual observations and notations of odor, and conducting headspace analysis using a PID to detect the presence of volatile organic vapors. Headspace analysis was conducted by placing soil from each sample interval into a sealable plastic bag and allowing the sample to warm for several minutes. The probe of the PID was then inserted into the bag, and the highest reading obtained over an approximately 30-second interval was recorded. The USCS soil descriptions, visual and olfactory notations for the samples, and PID readings were recorded on the boring log forms (Appendix B).

Soil samples were placed directly into laboratory-prepared sample containers labeled with unique laboratory identification numbers. The containers were placed in an iced cooler and transported for laboratory analysis to F&BI, under standard chain-of-custody protocols. Select

soil samples were submitted for laboratory analysis of CVOCs by EPA Method 8260C, GRPH by Method NWTPH-Gx, and BTEX by EPA Method 8021B. Laboratory analytical reports are provided in Appendix D.

The hollow-stem auger borings were backfilled with bentonite and an appropriate surface seal. Soil cuttings were placed into appropriately labeled 55-gallon steel drums and transported to the designated staging area in the Troy Laundry Building pending profiling, transportation, and disposal.

The horizontal locations and ground surface elevations were surveyed by SoundEarth and LCL. Elevations were surveyed relative to NAVD88.

5.9.2 Shoring Design Subsurface Investigation Results

Soil types encountered during drilling generally consisted of silty sand and sandy gravel. A moist to wet sand unit with moderate to strong Stoddard solvent odors and elevated PID readings was encountered at elevations ranging from approximately 17 to 13 feet NAVD88 in borings B51 and B52. The moist to wet sand unit was also encountered in boring B53; however, Stoddard solvent odors and elevated PID readings were not encountered.

Laboratory analytical results for the soil samples obtained from the borings are summarized below. Laboratory analytical reports are provided in Appendix D. Analytical results for soil samples collected during this investigation are presented in Table 2 and illustrated on Figure 4.

- Concentrations of PCE exceeding the MTCA Method A cleanup level were detected in soil samples collected from borings B51 and B52 at elevations ranging from 15.85 to 14.54 feet NAVD88.
- Concentrations of GRPH, ethylbenzene, and total xylenes exceeding applicable MTCA Method A cleanup levels were detected in a soil sample collected from boring B51 at an elevation of 15.85 feet NAVD88.
- Concentrations of COCs in soil samples collected in the vadose zone in this portion of the Property were below applicable laboratory reporting limits.

On-Property historical groundwater elevations ranged from 14.41 (monitoring well MW09) to 16.08 (monitoring well MW06) feet NAVD88, indicating that contamination was encountered in the primary water-bearing zone. Therefore, vadose zone soil was not impacted and an alteration of the engineering design for the excavation shoring system was not required. In addition, soil contamination encountered in the primary water-bearing zone will be treated via reductive dechlorination and the injection program.

5.9.3 Shoring Installation

Malcolm installed shoring at the Property from July to December 2014. Shoring was installed according to the design of the project civil and structural engineer, Magnusson Klemencic Associates of Seattle, Washington. The shoring consisted of soldier piles, timber lagging, walers, and tiebacks around the perimeter of the Property. Malcolm installed soldier piles by drilling boreholes with a solid-stem auger drill rig. The boreholes were advanced to elevations ranging from 10 to 22 feet NAVD88. A total of 171 soldier piles were lowered into the boreholes and grouted in place. The shoring system allowed for excavation of on-Property soil to elevations ranging from 35 to 28 feet NAVD88 across the Property. In addition, the shoring system was

able to accommodate for overexcavation along a portion of the west sidewall to an approximate elevation of 20 feet NAVD88.

5.10 PERCHED ZONE DEWATERING

During previous investigations, an apparent contaminated perched groundwater zone was observed near the center of the Property at an approximate elevation of 75 feet NAVD88. The extent of the perched interval was based on soil boring field observations during previous remedial investigations in this area. To prevent potential cross contamination of contaminated perched groundwater onto clean overburden soil during excavation activities, dewatering wells were designed and installed to remove the perched groundwater prior to excavation in this area.

On July 23, 2014, Malcom installed five temporary dewatering wells within the perched groundwater zone using a hollow-stem auger drill rig (Figure 5). The dewatering wells were installed with a bottom elevation of approximately 70 feet NAVD88 and constructed of 4-inch-diameter blank PVC casing, flush-threaded to 15 feet of 0.020-inch slotted well screen. The bottom of each of the wells was fitted with a threaded PVC bottom cap. The annulus of the monitoring wells was filled with #10/20 silica sand to a minimum height of 1 foot above the top of the screened interval.

Perched groundwater was not encountered during dewatering well drilling activities or during subsequent depth-to-water measurements in the wells. Because groundwater was not detected in any of the dewatering wells, SoundEarth concluded that the perched groundwater observed during previous remedial investigations was currently not present in the central portion of the Property. Malcolm decommissioned the temporary dewatering wells in accordance with WAC 173-160-460. Copies of the Resource Protection Well Reports documenting well construction and decommissioning are provided in Appendix B.

5.11 EXCAVATION

Excavation for Property redevelopment was conducted between July 2014 and February 2015. City Transfer, Inc. (CTI) of Sumner, Washington, was the earthworks contractor responsible for excavation and transportation of soil. A SoundEarth geologist observed excavation activities.

The Property was excavated from approximately lot-line to lot-line as part of the redevelopment project, which was referred to as the Redevelopment Excavation Area. Crushed rock was laid down to create a haul truck road from the northeast corner to the southwest corner of the Property. CTI used excavators to excavate and load soil into haul trucks staged on the haul road. Once the shoring system was installed to a depth of approximately 20 feet bgs, two soil conveyor belt systems were installed to load excavated material to the haul truck staging areas on Thomas Street and Harrison Street.

The portion of the Property with soil containing concentrations of COCs exceeding remediation levels was referred to as the Remedial Excavation Area. The EDR presented the estimated extent of the Remedial Excavation Area, which was developed using analytical data collected during previous subsurface investigation activities and the RockWorks 3D modeling software program. SoundEarth, LCL, and CTI used a soil management grid system, which divided the Property into 10-foot by 10-foot grid cells, to readily identify and classify each grid cell for excavation and off-Property disposal. LCL utilized a Leica Geosystems GS08 and CS10 Field Controller, a global navigation satellite system receiver, to survey horizontal locations and vertical elevations of grid cells and sample locations. In the event that the global navigation satellite system receiver could not connect to satellites, horizontal and vertical grid cell and sample locations were measured with a tape measure using the shoring wall as a reference point.

The EDR identified the following soil classifications to apply to each grid cell to efficiently direct the real-time segregation of excavated soil and loading of roll-off containers and haul trucks:

- **Dangerous Waste Soil Suitable for Land Disposal—**No soil exhibiting PCE concentrations greater than the Washington State dangerous waste criteria of 14 mg/kg is anticipated to remain on the Property following the operation of the soil vapor extraction system in 2011.
- **Non-Dangerous Soil (Contained-Out)**—Soil exhibiting PCE concentrations less than 14 mg/kg but above the laboratory reporting limit (0.025 mg/kg) as sourced from an F-listed waste material requires disposal as Resource Conservation and Recovery Act (RCRA) hazardous waste. Soil in this category was managed in accordance with Ecology's contained-out determination approval letters, and transported off Property to a RCRA Subtitle D facility using roll-off containers and haul trucks. The preferred disposal option for the interim action included transporting roll-off containers by railroad to either Waste Management's Columbia Ridge Landfill in Arlington, Oregon, or Republic Services Roosevelt Regional Landfill in Roosevelt, Washington. Both disposal facilities had limited availability of roll-off containers and insufficient capacity for transporting roll-off containers on the railroad. In the event that soil could not be efficiently transported by roll-off containers, haul trucks were used as a secondary transportation option so that ongoing property development would not be disrupted. Haul trucks were transported directly to Waste Management's Greater Wenatchee Regional Landfill in Wenatchee, Washington. The final extent of the Remedial Excavation Area for this soil classification is shown on Figures 6A through 6H.
- **Clean Fill—**Soil that does not contain detectable concentrations of PCE or other COCs. Soil in this category was transported off Property to either Cedar Mountain Reclamation in Maple Valley, Washington, or Green Valley Private Plot in Sumner, Washington.

During excavation activities, discoveries of additional petroleum-contaminated soil outside the modeled extent of the Remedial Excavation Area, as described in Section 5.11.1, required an additional soil classification:

- **Petroleum-Contaminated Soil—**Soil exhibiting indications of petroleum contamination, including staining, petroleum hydrocarbons odors, elevated PID readings, and detectable concentrations of petroleum hydrocarbons. Soil from this category was transported off Property with haul trucks to Waste Management's Alaska Street Reload and Transfer Station in Seattle, Washington, prior to disposal as alternate daily cover at Columbia Ridge Landfill in Arlington, Oregon. The final extent of the Remedial Excavation Area for the soil classification is shown on Figure 7.

Once soil was excavated to the final extent of the Redevelopment Excavation Area, soil samples were collected to evaluate the performance of the excavation portion of the interim action and to document that soil exceeding the remediation levels had been removed from the Property. The soil samples were collected in general accordance with the Revised SAP, which includes a detailed description of soil sampling activities, including sampling locations, handling procedures, laboratory analysis requirements, and quality assurance/quality control (QA/QC) protocols. Soil sample locations collected at the final extent of the Redevelopment Excavation Area were based on a vertical and lateral grid system that was based on soil analytical results from previous investigations. Additional sidewall samples were collected on 5-foot vertical grids along portions of Boren Avenue North and Thomas Street near areas where previous soil analytical data indicated the presence of COCs. Floor soil samples were collected on an

approximate 50-foot lateral grid system in areas where less than two samples were obtained with concentrations below applicable remediation levels.

A total of 164 soil samples were collected from the sidewalls and 20 soil samples were collected from the floor of the Redevelopment Excavation Area. In addition, numerous samples were collected to confirm the conditions at the limits of the Remedial Excavation Area, many of which were collected from the floor of the Redevelopment Excavation Area. The additional samples collected are described in the paragraphs below. Analytical results for soil samples collected from the sidewalls and floor of the Redevelopment Excavation Area are presented in Tables 3 and 4, respectively. Figure 8 depicts the vertical gird sample locations, and analytical data collected on the sidewalls are shown on Figures 9 through 12. Figure 13 depicts the analytical results from soil samples collected from the floor of the Redevelopment Excavation Area.

In addition to soil samples collected at the extent of the Redevelopment Excavation Area, soil sampling and field screening were conducted to refine the extent of the Remedial Excavation Area, provide additional analytical data for the clean fill disposal facilities, and assess any discoveries encountered during excavation. Discoveries encountered during this portion of the interim action are discussed in Section 5.11.1. CTI used an excavator to pothole in soil sampling locations selected by SoundEarth. Discrete soil samples were collected from the center of the excavator bucket using disposable plastic sampling tools and transferred directly to laboratory-prepared sample containers labeled with unique laboratory identification numbers. The containers were placed in an iced cooler and transported for laboratory analysis to F&BI, under standard chain-of-custody protocols. Samples were analyzed for one or more of the following: CVOCs by EPA 8260C, DRPH and ORPH by NWTPH-Dx, GRPH by NWTPH-Gx, and BTEX by EPA 8021B or EPA 8260C. In addition, two soil samples were analyzed for extractable petroleum hydrocarbons by Method NWEPH and volatile petroleum hydrocarbons by Method NWVPH.

Results from soil samples and field screening were used to adjust the soil classifications for each grid cell presented in the EDR. As each grid cell was classified using existing analytical data and analytical data collected during the interim action, SoundEarth communicated the specific grid soil classification to LCL and CTI for excavation and disposal.

A total of 466 soil samples were collected and analyzed for PCE to confirm the conditions at the limits of the Remedial Excavation Area. Of these soil samples, 84 contained detectable concentrations of CVOCs. All of these soil samples were collected from within the Redevelopment Excavation Area and were overexcavated during the interim action, with the exception of the samples collected from the floor of the excavation. Samples that were left in place on the floor of the excavation were below laboratory reporting limits and/or applicable remediation levels. Analytical results for these soil samples are presented in Table 5 and illustrated on Figures 6A through 6H. Five of the 466 soil samples (DD2-90.5, DD2-89.5, DD6-91.5, GG2-91.5, and GG5-91.5) were collected from the soil loading area on the haul road to evaluate if soil spillage had occurred. Minor soil spillage was identified and the soil was classified as non-dangerous soil (contained-out)**.** The analytical results from these 5 samples are not presented on figures but are included in Table 5.

Groundwater was not observed infiltrating from sidewalls or the floor of the excavation. Therefore, with the exception of the samples collected from the dewatering system (Section 5.12), no groundwater samples were collected during excavation activities.

5.11.1 Discoveries

A communication plan was implemented that outlined the response action and notification procedure for discoveries of potential contamination sources or areas of contaminated soil that may be encountered during excavation activities. During this portion of the interim action, equipment operators observed conditions outside the Remedial Excavation Area that were indicative of potential contamination. LCL and SoundEarth personnel were alerted of the following potential issues:

- Obvious petroleum staining, sheen, or colored hues in soil or standing water.
- Presence of gasoline- or oil-like vapor or odor.
- The presence of buried pipes, conduits, USTs, or unexplained metallic objects or debris.

SoundEarth personnel evaluated the above conditions and developed sampling plans to characterize and manage the material. Additional details for each discovery are provided in the sections below.

5.11.1.1 Vault in the Southeast Portion of the Property

On July 10, 2014, a concrete vault was encountered by an excavator operator at the location indicated on Figure 6B. The vault was filled with dark black soil and debris, including lint, fabric, and wood fragments. Strong hydrocarbon odors, sheen, and elevated PID reading were observed from the material in the vault. The vault was surrounded by a dark blue to gray silt, with no indications of contamination.

A discrete soil sample was collected from the material in the vault and analyzed for CVOCs, DRPH, ORPH, GRPH, and BTEX. Analytical results indicated that CVOCs were detected at concentrations above the laboratory reporting limit. Additional soil samples were collected in the vicinity of the vault and analyzed for CVOCs. Analytical results and field screening indicated that CVOCs were not present in soil located in the vicinity of the vault. The analytical results were submitted to Ecology and a contained-out determination addendum was requested. Following Ecology's approval, soil in this area was classified as non-dangerous soil (contained-out). Ecology's contained-out determination addendum for this discovery is discussed in Section 5.4.2.

During the removal of the vault and non-dangerous soil (contained-out) in its vicinity, SoundEarth continually field screened soil for evidence of contamination with the use of a PID and made visual and olfactory observations. Once field screening indicated that the soil had been removed, additional soil samples were collected from the extent of the vault excavation. Soil sample results indicated that concentrations of CVOCs were below laboratory reporting limits at the vault excavation limits, confirming that the non-dangerous soil (contained-out) surrounding the vault had been removed. The location and extent of the vault excavation is shown on Figure 6B.

5.11.1.2 UST #1

On July 11, 2014, an excavator operator encountered an UST in the south central portion of the Property at the location shown on Figure 14. In the process of discovery, the top of the UST was accidently damaged. Sand was observed within the UST, indicating that the tank had been previously decommissioned. Measurements of the tank exterior indicated that the UST was

approximately 550-gallons in capacity. During initial observations, no hydrocarbon odors or soil staining were observed in the vicinity of the UST. LCL's subcontracted ICC-certified UST Decommissioner recommended that the UST be taken off Property as scrap metal due to the previous decommissioning and damaged state of the UST. LCL and CTI provided support during removal of the UST.

During removal of the UST, SoundEarth provided an ICC-certified UST Site Assessor and conducted a site assessment in general accordance with Ecology's *Guidance for Site Checks and Site Assessments for Underground Storage Tanks* (Ecology 2003). Elevated PID readings and a faint hydrocarbon odor were observed in soil directly beneath the UST. Six discrete soil samples were collected from the UST excavation and analyzed for one or more of the following: DRPH, ORPH, GRPH, BTEX, and CVOCs.

One soil sample (Z17-85) contained a concentration of GRPH that exceeded the remediation level. The remaining samples were below the laboratory reporting limits for all analyzed COCs. Based on the sampling results, soil in this area was classified as petroleum-contaminated soil. Analytical results for discoveries are presented in Table 6. The location of the former UST, sample locations, and analytical results are shown on Figure 14.

5.11.1.3 USTs #2 through #4

Historical records indicated that four 2,000-gallon gasoline USTs were installed north of the Troy Laundry Building. In 1966, the USTs were reportedly removed during an addition to the Troy Laundry Building. On July 15, 2014, an excavator operator encountered three USTs in a single tank cavity north of the Troy Laundry Building on the northeastern portion of the Property at the location shown on Figure 14. A fourth UST was not encountered. On July 18, 2014, the three USTs were decommissioned and removed from the Property.

Prior to UST closure, SoundEarth submitted a Request to Waive 30-Day Waiting Period to Ecology. On July 18, 2014, SoundEarth provided an ICC-certified UST Site Assessor to assist LCL's subcontracted UST Decommissioner and Marine Chemist to decommission and remove the three USTs. LCL and CTI provided support during removal of the USTs. Applicable documents for the UST closure are included in Appendix C.

Measurements of the tank exterior indicated that each of the three USTs had a capacity of approximately 2,000-gallons. The USTs appeared to be in good condition with no noticeable holes. Prior to removal of the USTs, water with petroleum residue was removed from the tanks with a vactor truck. During the removal of the USTs, hydrocarbon odor was observed in the soil to the south and west of the USTs. The USTs contained oily water, which was pumped from the USTs prior to removal. Groundwater was not encountered in the UST excavation.

A UST site assessment was conducted in general accordance with Ecology's 2003 guidance document. Six discrete soil samples were collected from the sidewalls of the UST excavation and a discrete bottom sample was collected below the bottom of each UST. The samples were analyzed for DRPH, ORPH, GRPH, and BTEX.

Concentrations of DRPH, ORPH, GRPH, and BTEX were below remediation levels and MTCA Method A cleanup levels in all of the soil samples; however, based on field screening results, soil in this area was classified as petroleum-contaminated soil. Analytical results for discoveries are presented in Table 6. The location of the former USTs, sample locations, and analytical results are shown on Figure 14.

5.11.1.4 UST #5

On August 15, 2014, an excavator operator uncovered a fifth UST in the south-central portion of the Property at the location shown on Figure 14. Measurements of the tank exterior indicated that the UST had a capacity of approximately 750 gallons. The UST was empty and was observed to be in good condition with no visible holes or pitting.

Prior to UST decommissioning, SoundEarth submitted a Request to Waive 30-Day Waiting Period to Ecology. On August 18, 2014, SoundEarth provided an ICC-certified UST Site Assessor to assist LCL's subcontracted UST Decommissioner and Marine Chemist to decommission and remove the three USTs. LCL and CTI provided support during removal of the USTs. Applicable documents for the UST decommissioning are included in Appendix C.

The UST was located within the Remedial Excavation Area, and soil from this area was slated for removal and already classified as non-dangerous soil (contained-out); therefore, a UST site assessment was not conducted. The location of the former UST is shown on Figure 14.

5.11.1.5 Petroleum-Contaminated Soil

At numerous locations at the Property, equipment operators reported the presence of soil with gasoline- or oil-like odors. SoundEarth continually observed excavation in this area and field screened for evidence of contamination with the use of a PID and made visual and olfactory observations. Discrete soil samples were collected in numerous locations and at various elevations and were analyzed for one or more of the following: DRPH, ORPH, GRPH, BTEX, and CVOCs. Analytical results indicated that soil in three areas was impacted with concentrations of GRPH above the remediation level. One of these areas was located in the northwest portion of the Property and was not adjacent to the Remedial Excavation Area for non-dangerous soil (contained-out). Upon discovery of this area, petroleum-contaminated soil was placed in four stockpiles (SP01 through SP04) and discrete samples were collected. Analytical results indicated that the stockpiles were above the GRPH remediation level and additional sampling continued in this area. The area is depicted on Figure 7. Two additional areas of petroleum-contaminated soil were located adjacent to the north and southeast of the PCE Remedial Excavation Area. Based on analytical results from samples collected at the boundary of the Remedial Excavation Area, non-dangerous soil (contained-out) did not extend further to the north or southeast; however, soil with indications of petroleum contamination continued to the north and southeast. Soil from these areas was classified as petroleum-contaminated soil. The locations of these areas are depicted on Figure 7.

SoundEarth continually observed excavation in these areas and conducted field screening and collected soil samples. Figure 7 depicts the petroleum-contaminated soil Remedial Excavation Areas that were above the GRPH remediation level, including elevations and analytical results. Soil located outside the areas depicted on Figure 7 was also classified as petroleum-contaminated soil based on laboratory analytical results that indicated soil was below the GRPH remediation level and observations made during field screening. Analytical results for discoveries are presented in Table 6. The sample locations are shown on Figure 7.

All of the soil samples that were collected from within the Property boundaries that contained concentrations of GRPH were overexcavated and removed from the Property. A small area of apparent petroleum-contaminated soil at an approximate elevation of 32 feet NAVD88 (45 feet bgs) was observed extending past the north sidewall shoring system beneath the Harrison Street ROW. All of the on Property soil with evidence of petroleum contamination was removed;

however, the shoring design for the excavation prevented removal of soil past the Property boundary into the Harrison Street ROW. Table 3 and Figure 12 provide analytical results for the north sidewall of the Redevelopment Excavation Area, which includes analytical results for the soil that was not accessible beneath the Harrison Street ROW.

5.11.2 Off-Property Disposal of Soil from Excavation

Soil disposal quantities for each soil classification are listed below:

- **Dangerous Waste Soil Suitable for Land Disposal.** Soil in this category was not encountered during this portion of the interim action.
- **Non-Dangerous Soil (Contained-Out).** During this portion of the interim action, 96,471.42 tons were excavated and disposed of at the facilities listed below:
  - Approximately 60,606 tons were disposed of at Waste Management's Greater Wenatchee Regional Landfill in Wenatchee Washington.
  - Approximately 19,171 tons were disposed of at Waste Management's Columbia Ridge Landfill in Arlington, Oregon.
  - Approximately 16,694 tons were disposed of at Republic Services Roosevelt Regional Landfill in Roosevelt, Washington.

Waste Management's Columbia Ridge Landfill and Republic Services Roosevelt Regional Landfill were the preferred disposal facilities. In the event that these facilities were not able to provide transportation for the excavated quantity of soil, Waste Management's Greater Wenatchee Regional Landfill was used as a disposal facility so that ongoing property development would not be disrupted.

Waste profile approval letters for each disposal facility, individual waste disposal tickets for each disposal facility, and a comprehensive list detailing disposal date, tonnage, disposal ticket number, and disposal facility for each truck containing soil classified as non-dangerous soil (contained-out) are provided in Appendix F.

- **Petroleum-Contaminated Soil.** During this portion of the interim action, 12,163.20 tons were excavated and disposed of at Waste Management's Alaska Street Reload and Transfer Station in Seattle, Washington, prior to disposal as alternate daily cover at Columbia Ridge Landfill in Arlington, Oregon. A waste profile approval letter, individual waste disposal tickets, and a comprehensive list detailing disposal date, tonnage, disposal ticket number, and disposal facility for each truck containing soil classified as petroleum-contaminated soil are provided in Appendix F.
- **Clean Fill.** According to CTI, approximately 213,000 loose cubic yards were excavated and disposed of at Cedar Mountain Reclamation in Maple Valley, Washington, and Green Valley Private Plot in Sumner, Washington.

5.12 CONSTRUCTION DEWATERING

A construction dewatering system was in place throughout the duration of the interim action excavation activities. LCL and Clear Water Services, LLC (Clear Water) of Lynnwood, Washington, operated the construction dewatering system. A low point in the excavation was used to collect wastewater generated by construction dewatering operations. Wastewater was pumped and stored in settlement

tanks located in the Thomas Street ROW where it was characterized in accordance with King County Minor Discharge Authorization No. 921-01 prior to discharge to the sanitary sewer.

Clear Water collected wastewater samples on three separate occasions. The samples were analyzed for PCE and TCE by EPA Method 8260C and/or hexane extractable materials by EPA Method 1664. In addition, Clear Water measured settleable solids, pH, and total flow. According to Clear Water, wastewater was discharged in accordance with applicable King County Discharge Limits. A total of 20,800 gallons of water was discharged to the sanitary sewer over the duration of this portion of the interim action. Clear Water's report is included as Appendix G.

5.13 MONITORING WELL INSTALLATION

In January and February 2015, monitoring wells MW17 through MW25 were installed to replace the on-Property monitoring wells that were decommissioned for the excavation. Drilling services were provided by Malcolm using an air-rotary drill rig. A SoundEarth geologist observed drilling activities. The locations of the monitoring wells are depicted on Figure 5.

Monitoring well MW17 was installed to an approximate elevation of 0 feet NAVD88 with 15 feet of well screen. Monitoring wells MW18 through MW25 were installed to an approximate elevation of -20 feet NAVD88 with 20 feet of well screen. Each monitoring well was constructed of 2-inch-diameter blank PVC casing, flush-threaded to 0.010-inch slotted well screen. The bottom of each of the wells was fitted with a threaded PVC bottom cap, and the top of each well was fitted with a 2-inch slip cap. The wells were completed at the surface with a flush-mounted, traffic-rated well box set in concrete.

Each monitoring well was completed with a grout seal extending down from the top of casing at an approximate elevation of 35 feet NAVD88, which was the approximate elevation for the base of the parking garage. The annulus of the monitoring wells were filled with a bentonite seal extending down from the bottom of the grout seal to approximately 1 to 2 feet above the screened portion of the well. The annulus of the monitoring wells was filled with 8720 sand extending from the bottom of the bentonite seal to total depth of the well. Borings logs for the monitoring wells are included in Appendix B.

The monitoring wells were developed by Malcom with the use of a submersible pump and consisted of surging and purging until the groundwater no longer appeared turbid, and the measured total depth in the well was equivalent to the overall length of the well. Turbidity was measured visually by SoundEarth field staff during development activities.

The horizontal locations and top of casing elevations were surveyed by SoundEarth and LCL. Elevations were surveyed relative to NAVD88.

5.14 INJECTION SYSTEM INSTALLATION

Following excavation activities, a groundwater injection system was installed in the bottom floor of the future parking garage. The purpose of the injection system is to accomplish the groundwater interim action goal using in-situ treatment of contaminated groundwater by reductive dechlorination.

Between November 2014 and February 2015, 103 injection wells were installed for the groundwater injection system. A total of 12 angled injection wells (AIW01 through AIW12) and 91 vertical injection wells (IW01 through IW91) were installed using an air-rotary drill rig. Drilling services were provided by

Malcolm. A SoundEarth geologist observed drilling activities. The locations of the injection wells are depicted on Figure 15.

Angled injection wells were installed beneath the Boren Avenue North ROW (AIW01 through AIW09) and the Thomas Street ROW (AIW10 through AIW12). The angled injection wells were installed to an approximate elevation of -22 feet NAVD88. The overall length of the angled injection wells ranged from 70 to 80 feet with well screen lengths ranging from 40 to 60 feet. The horizontal reach into the ROWs ranged from approximately 35.5 to 53 feet from the Property boundaries.

Vertical injection wells IW01 through IW91 were installed beneath the Property to an approximate elevation of -20 feet NAVD88. Each vertical injection well was installed with 35 feet of well screen, with screen intervals extending from elevation 15 to -20 feet NAVD88.

The injection wells were constructed using 2-inch-diameter, Schedule 40 PVC casing and well screens with 0.020-inch slot widths. A threaded PVC end cap was installed at the bottom of each well. A filter pack consisting of 8720 sand was placed around each well screen interval. Bentonite chips were hydrated and placed above the filter pack up to approximately 5 feet bgs and finished with a cement seal. The injection wells were completed with a 1-inch PVC ball valve and 1-inch male cam fitting, and a traffic-rated flush-grade surface monument set in concrete. The typical injection well design is depicted on Figure 16.

To avoid subsurface infrastructure for the Property redevelopment, injection wells IW33 through IW35, IW47, IW48, and IW53 were piped horizontally from beneath the concrete slab of the parking garage toward the parking garage wall with 2-inch-diameter, Schedule 40 PVC casing, and elbowed up through the parking garage floor. The injection wells were completed with a 1-inch PVC ball valve and 1-inch male cam fitting, and a traffic-rated flush-grade surface monument set in concrete.

The injection wells were developed by Malcom with the use of a submersible pump and consisted of surging and purging until the groundwater no longer appeared turbid and the measured total depth in the well was equivalent to the overall length of the well. Turbidity was measured visually by SoundEarth field staff during development activities.

The horizontal and vertical injection well locations and top of monument elevations were surveyed by LCL. Elevations were surveyed relative to NAVD88.

5.15 BASELINE GROUNDWATER SAMPLING

A baseline groundwater sampling event was conducted between May 5 and May 11, 2015. The purpose of the baseline groundwater sampling event was to establish baseline groundwater conditions, which will be used to evaluate the injection system progress, and to provide additional data on the groundwater flow at the Site. The baseline groundwater sampling results will be incorporated into the Site-wide remedial investigation.

The baseline groundwater sampling event was performed in general accordance with the Baseline Groundwater Sampling Work plan dated, May 20, 2015, and the EDR. Depth-to-water measurements were collected from monitoring wells MW01, MW04, MW07, MW15 through MW25 and injection wells IW04, IW06, and IW91. Groundwater samples were collected from monitoring wells MW04, MW07, MW13, MW15 through MW25 and injection wells IW04, IW06, and IW91. Monitoring wells MW02,

MW03, MW05, and MW13 were not accessible during depth-to-water measurements. Monitoring wells MW02, MW03, and MW05 were not accessible during groundwater sampling.

Upon arrival at the Site on May 5, 2015, SoundEarth personnel opened the accessible monitoring wells and injection wells IW04, IW06, and IW91 to allow for water levels to equilibrate with atmospheric pressure for a minimum of 45 minutes before groundwater level measurements were obtained. Groundwater levels were measured relative to the top of well casings to an accuracy of 0.01 feet using an electronic water level meter.

Following depth-to-water measurements, monitoring wells were purged and sampled in accordance with sample collection procedures for low-flow sampling described in the Revised SAP. All groundwater samples were submitted for the analysis of CVOCs by EPA Method 8260C, DRPH and ORPH by Method NWTPH-Dx, GRPH by Method NWTPH-Gx, and BTEX by EPA Method 8021B or 8260C. Laboratory analytical reports are provided in Appendix D. Purge water generated during the baseline groundwater sampling event was containerized and temporarily stored on the Property pending disposal.

Monitoring wells MW04, MW07, MW13, MW16, MW18, MW19, and MW23 through MW25 were sampled for natural attenuation and geochemical parameters to establish a baseline for the groundwater conditions post-excavation and prior to the commencement of the groundwater injection program. The natural attenuation and geochemical parameters sampling results will be incorporated into the Site-wide remedial investigation. Groundwater samples collected from these monitoring wells were submitted for the following analyses:

- Nitrate by EPA Method 300.0
- Sulfate by EPA Method 300.0
- Methane, ethane, and ethene by Method RSK 175
- Alkalinity by Standard Method (SM) 2320B
- Total manganese by EPA Method 200.8
- Total iron by EPA Method 200.8
- Ferrous iron by SM 3500
- Total organic carbon by SM 5310C
- Chloride by EPA Method 300.0

5.15.1 Baseline Groundwater Sampling Results

Groundwater elevations ranged from 10.07 feet NAVD88 (monitoring well MW18) to 13.19 feet NAVD88 (monitoring well MW15) below the top of the monitoring well casings (Table 7). Groundwater elevations were contoured using the water level measurements collected on May 5, 2015 (Figure 17). The groundwater contours indicate a groundwater flow direction to the east–southeast. Groundwater gradients are steeper west of the Property with an approximate gradient of 0.007 feet per foot between monitoring well MW15 and the west Property boundary. The gradient beneath the Property is relatively flat.

Laboratory analytical results from the baseline groundwater sampling event were compared to applicable remediation levels and MTCA cleanup levels. Results of the monitoring event are

presented in Tables 8 through 11 and on Figures 18 and 19. Laboratory analytical reports for the groundwater samples collected during the interim action are included in Appendix D.

- Concentrations of PCE exceeding the remediation level were detected in the groundwater samples collected from monitoring wells IW06, MW21, MW22, and MW23 located on the Property; and MW16 located in the Thomas Street ROW. The concentrations of PCE in the remaining groundwater samples were below the laboratory reporting limit and/or remediation level.
- Concentrations of TCE exceeding the remediation level were detected in the groundwater samples collected from wells IW04, IW06, MW18, MW19, and MW23 through MW25 located on the Property; MW04 and MW07 located in the Boren Avenue North ROW; MW15 located in the Terry Avenue North ROW; and MW16 located in the Thomas Street ROW. The concentrations of TCE in the remaining groundwater samples were below the laboratory reporting limit and/or remediation level.
- Concentrations of cis-1,2-DCE exceeding the remediation level were detected in the groundwater samples collected from monitoring wells MW22 and MW24 located on the Property and MW16 located in the Thomas Street ROW. The concentrations of cis-1,2-DCE in the remaining groundwater samples were below the laboratory reporting limits and/or remediation level.
- Concentrations of VC exceeding the remediation level were detected in the groundwater samples collected from monitoring well MW24 located on the Property and MW16 located in the Thomas Street ROW. The concentrations of VC in the remaining groundwater samples were below the laboratory reporting limits and/or remediation level.
- Concentrations of DRPH, ORPH, GRPH, BTEX, and trans-1,2-DCE in the groundwater samples collected from all of the monitoring wells were below the laboratory reporting limits, remediation levels, and/or MTCA cleanup levels.

5.16 INJECTION EVENT

The first groundwater injection event was conducted between May 12 and June 5, 2015, in general accordance with the EDR. SoundEarth used a skid-mounted injection system to inject a food-grade oil/water emulsion into injection wells IW01 through IW90 and angled injection wells AIW01 through AIW12. Injection well IW91 was not used during this injection event because it is being used as a replacement monitoring well for MW14. A SoundEarth engineer conducted the injection event using EOS PRO, an oil/water emulsion provided by EOS Remediation, LLC of Raleigh, North Carolina.

The injection event started in the downgradient injection wells located on the southeast portion of the Property and progressed towards the northwest. A ten-percent-by-volume EOS PRO solution was mixed with water with the aid of a metering pump. The EOS PRO solution was then pumped into the skid-mounted injection system where it was injected via a manifold into a maximum of ten wells simultaneously at pressures ranging for 0 to 11 pounds per square inch. Tubing and wellhead assemblies were used to connect the manifold to each injection well. Approximately 400 to 530 gallons of EOS PRO solution was injected into each injection well. After the targeted amount of EOS PRO solution was injected, approximately 100 gallons of clean water and 8 to 16 ounces of vitamin B_{12} supplement were injected into each injection well.

A total of 49,500 gallons of ten-percent-by-volume EOS PRO solution was injected during this initial injection event.

5.17 LABORATORY ANALYTICAL QA/QC

Upon receipt of the laboratory reports, SoundEarth's Project QA/QC Officer reviewed the chain of custody, sample identifications, holding and extraction times, preservation and cooler receipt, surrogate recoveries, blank samples, duplicate samples, matrix spike and matrix spike duplicate samples, surrogate recoveries, and percent completeness. If discrepancies in the items listed above were identified in a data set, the discrepancy was assessed to determine if the data were usable for the project. During this portion of the interim action, the data were considered useable.

Issues with the chain of custody forms were limited to incorrect sample identifications. The Project QA/QC Officer identified these issues upon receipt of the laboratory reports and ensured that the laboratory amended the reports to reflect the correct sample identifications. No other issues with the chain of custody forms were identified.

6.0 COMPLIANCE MONITORING

There are three types of compliance monitoring identified for the interim action (WAC 173-340-410): protection, performance, and confirmational monitoring. A paraphrased definition for each is presented below (WAC 173-340-410[1]).

- **Protection Monitoring**. To evaluate whether human health and the environment are adequately protected during interim action.
- **Performance Monitoring**. To document that the interim action has attained cleanup standards.
- **Confirmational Monitoring**. To evaluate the long-term effectiveness of the interim action, or once cleanup standards or other performance standards have been attained.

6.1 PROTECTION MONITORING

In accordance with the Site-specific HASP, SoundEarth monitored ambient air during excavation, shoring, and drilling activities for petroleum hydrocarbons and PCE in the breathing zone of personnel and equipment operators, and at the boundaries of the Property. Air monitoring was conducted using a PID and chemical-specific colorimetric gas detection tubes. Results of air monitoring indicated that petroleum hydrocarbon and PCE levels in ambient air did not exceed the applicable Occupational Safety and Health Administration permissible exposure limits or the National Institute for Occupational Safety and Health recommended exposure limits.

6.2 PERFORMANCE MONITORING

Performance monitoring included the collection of soil samples from the sidewalls and floor of the Redevelopment Excavation Area and soil samples during excavation and removal of any previously unidentified contamination. A quarterly groundwater monitoring program will be implemented to evaluate the effectiveness of the interim action.

6.2.1 Soil Performance Monitoring

Analytical results for the soil samples collected from the final limits of the Redevelopment Excavation Area are presented in Tables 3 and 4, and depicted in Figures 9 through 13.

Laboratory analytical reports for the soil samples collected during the interim action are included in Appendix D.

- Contaminant concentrations in all of the 20 soil samples collected from the floor of the Redevelopment Excavation Area were below the laboratory reporting limits and the remediation levels. In addition, numerous samples were collected to confirm the conditions at the limits of the Remedial Excavation Area, many of which were collected from the floor of the Redevelopment Excavation Area. Contaminant concentrations in all of the soil samples from the floor of the excavation were below applicable remediation limits or laboratory reporting limits.
- Contaminant concentrations in all of the 28 soil samples collected from the south sidewall (Thomas Street) were below the laboratory reporting limits and the remediation levels.
- Contaminant concentrations in all of the 12 soil samples collected from the east sidewall (Fairview Avenue North) were below the laboratory reporting limits and the remediation levels.
- Of the 125 soil samples collected from the west sidewall (Boren Avenue North), only 7 samples had concentrations of PCE, TCE, and/or GRPH that exceeded the applicable remediation levels. Concentrations of other primary or secondary contaminants of concern were either below the laboratory reporting limits and/or remediation levels.
- Of the 13 soil samples collected from the north sidewall (Harrison Street), only 1 sample had a concentration of GRPH that exceeded the applicable remediation level. Concentrations of other primary or secondary contaminants of concern were either below the laboratory reporting limits and/or remediation levels.
- Performance soil sampling conducted during excavation and removal of any previously unidentified contamination indicated that all soil with concentrations of COCs above applicable remediation levels was removed from the Property.

6.3 CONFIRMATIONAL MONITORING

Confirmational monitoring will commence once groundwater remediation levels have been achieved beneath the Property and the adjoining ROWs. Once the results from four sequential quarters of groundwater monitoring indicate that concentrations of COCs are less than the remediation levels, the groundwater will be considered to be compliant with the groundwater interim action goal. After achieving the groundwater interim action goal, an Interim Action Closure Report will be prepared.

7.0 CONCLUSIONS

Based on the results of compliance monitoring described above, the interim action goal for soil has been accomplished. Soil within the Redevelopment Excavation Area containing concentrations of COCs above the remediation levels was removed from the Property. In addition, the injection system was installed and began operation in accordance with the EDR.

In accordance with Section 8.4 of the EDR, Touchstone requests an interim action confirmation letter from Ecology that documents the completion of excavation of contaminated soil and confirms that all interim action requirements for soil have been accomplished, and that acknowledges the installation

and anticipated implementation of the groundwater injection system that is required under the Agreed Order.

8.0 PLANNED INTERIM ACTION WORK

Additional work is necessary to reduce COCs below applicable remediation levels and accomplish interim action goals for groundwater and indoor air. Work planned for the ongoing interim action includes implementing a quarterly groundwater monitoring program to evaluate the effectiveness of the excavation of contaminated soil and the injection program. If necessary, additional injection events will be conducted to treat groundwater beneath the Property and adjoining ROWs in accordance with the EDR. Prior to building occupancy, a vapor intrusion evaluation will be conducted. Following completion of the final groundwater monitoring event and the vapor intrusion evaluation, an Interim Action Closure Report will be prepared. Details on additional work for the interim action are provided in the EDR. The anticipated schedule for the interim action is provided in Table 12. Details on the remaining interim action components are provided in the EDR.

9.0 LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions and recommendations contained in this report are derived, in part, from data gathered by others, and from conditions evaluated when services were performed, and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We do not warrant and are not responsible for the accuracy or validity of work performed by others, nor from the impacts of changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the use of segregated portions of this report.

10.0 REFERENCES

SoundEarth Strategies, Inc. (SoundEarth). 2012a. *Draft Remedial Investigation Report, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington*. May 2.

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