STATE OF WASHINGTON
KING COUNTY SUPERIOR COURT

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, Plaintiff, v. PONTE GADEA SEATTLE LLC, a Delaware limited liability company, Defendant.	NO. 19-2-07344-6 SEA PROSPECTIVE PURCHASER CONSENT DECREE

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ATTORNEY GENERAL OF WASHINGTON
Ecology Division
PO Box 40117
Olympia, WA 98504-0117
360-586-6770

ATTORNEY GENERAL OF WASHINGTON
Ecology Division
PO Box 40117
Olympia, WA 98504-0117
360-586-6770

I. INTRODUCTION

A. The mutual objective of the State of Washington, Department of Ecology and Ponte Gadea Seattle LLC (Defendant) under this Decree is to: (1) resolve the potential liability of Defendant for contamination at the entire Troy Laundry Seattle Site (Site arising from a release or threatened release of hazardous substances, in advance of Defendant purchasing the Troy Block Property located at 399 Fairview Avenue North and 300 Boren Avenue North (collectively, the Property; and (2 provide substantial new resources to facilitate and expedite the investigation and cleanup of the Site for continued reuse. This Decree requires Defendant to (1) monitor groundwater quality beneath the Property and the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way; and (2) perform additional remedial actions, if necessary, to remediate groundwater contamination beneath the Property and the Boren Avenue and Thomas Street rights-of-way, pursuant to Exhibit A (Scope of Work and Schedule), including all attachments to Exhibit A.

B. Ecology has determined that these actions are necessary to protect human health and the environment.

C. The Complaint in this action is being filed simultaneously with this Decree. An Answer has not been filed, and there has not been a trial on any issue of fact or law in this case. However, the Parties wish to resolve the issues raised by Ecology's Complaint. In addition, the Parties agree that settlement of these matters without litigation is reasonable and in the public interest, and that entry of this Decree is the most appropriate means of resolving these matters.

D. By signing this Decree, the Parties agree to its entry and agree to be bound by its terms.

E. By entering into this Decree, the Parties do not intend to discharge non-settling parties from any liability they may have with respect to matters alleged in the Complaint. The Parties retain the right to seek reimbursement, in whole or in part, from any liable persons for sums expended under this Decree.

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F. This Decree shall not be construed as proof of liability or responsibility for any releases of hazardous substances or cost for remedial action nor an admission of any facts; provided, however, that Defendant shall not challenge the authority of the Attorney General and Ecology to enforce this Decree.

G. The Court is fully advised of the reasons for entry of this Decree, and good cause having been shown:

Now, therefore, it is HEREBY ORDERED, ADJUDGED, AND DECREED as follows:

II. JURISDICTION

A. This Court has jurisdiction over the subject matter and over the Parties pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D.

B. Authority is conferred upon the Washington State Attorney General by RCW 70.105D.040(4)(a) to agree to a settlement with any potentially liable person (PLP) if, after public notice and any required public meeting, Ecology finds the proposed settlement would lead to a more expeditious cleanup of hazardous substances. In addition, under RCW 70.105D.040(5), the Attorney General may agree to a settlement with a person not currently liable for remedial action at a facility who proposes to purchase, redevelop, or reuse the facility, provided that: (1) the settlement will yield substantial new resources to facilitate cleanup; (2) the settlement will facilitate and expedite remedial action consistent with the rules adopted under MTCA; and (3) Ecology determines based upon available information that the redevelopment or reuse of the facility is not likely to contribute to the existing release or threatened release, interfere with remedial actions that may be needed at the Site, or increase health risks to persons at or in the vicinity of the Site. RCW 70.105D.040(4)(b) requires that such a settlement be entered as a consent decree issued by a court of competent jurisdiction.

C. Ecology has determined that a release or threatened release of hazardous substances occurred prior to redevelopment at the Site that is the subject of this Decree, and that the actions to be taken pursuant to this Decree are necessary to protect public health and the

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PO Box 40117
Olympia, WA 98504-0117
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environment based on the planned future use of the Site as contemplated by the Parties under this Decree.

D. Defendant has not been named a PLP for the Site, and Defendant has certified under Section IX (Certification of Defendant) that it is not currently liable for the Site under MTCA. However, Defendant has entered into a purchase agreement to acquire the Property from TB TS/RELP LLC, the Seller and current owner of the Property. The Property comprises a portion of the Site. Defendant will incur potential liability under RCW 70.105D.040(1)(a) at the time it acquires the Property for performing remedial actions or paying remedial costs incurred by Ecology or third parties resulting from past releases or threatened releases of hazardous substances at the Site. This Decree settles Defendant's liability as described herein for this Site upon its purchase of the Property.

E. Ecology finds that this Decree will yield substantial new resources to facilitate investigation and cleanup of the Site; will lead to a more expeditious cleanup of hazardous substances at the Site in compliance with the cleanup standards established under RCW 70.105D.030(2)(e) and WAC 173-340; will promote the public interest by facilitating the continued reuse of the Property; and will not be likely to contribute to the existing release or threatened release at the Site, interfere with remedial actions that may be needed at the Site, or increase health risks to persons at or in the vicinity of the Site.

F. Ecology also finds that this Decree will advance the cleanup process at the Site because: (1) Defendant and Seller will cause to be established a dedicated account that will be used to finance the implementation of the work to be performed by Defendant pursuant to this Decree, and (2) Defendant and Seller will cause to be established a second dedicated account that will be used by Seller to finance the completion of a remedial investigation and feasibility study and the preparation of a draft cleanup action plan as required under Agreed Order No. DE 8996 (Agreed Order). In each case, the aforementioned dedicated accounts shall be used solely to finance the implementation of remedial actions at the Site such as investigation,

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characterization, cleanup, monitoring, and reporting. The funds in the accounts will not be used by Seller or Defendant to pursue or defend third party claims or to perform activities unrelated to work to be performed under this Decree or the Agreed Order, as applicable.

G. Ecology has determined that this Decree will provide a substantial public benefit by ensuring the continued reuse of a previously vacant or abandoned manufacturing or industrial facility.

H. Defendant has agreed to undertake the actions specified in this Decree and consents to the entry of this Decree under MTCA.

I. This Decree has been subject to public notice and comment.

III. PARTIES BOUND

This Decree shall apply to and be binding upon the Parties to this Decree, their successors and assigns. The undersigned representative of each Party hereby certifies that he or she is fully authorized to enter into this Decree and to execute and legally bind such Party to comply with this Decree. Defendant agrees to undertake all actions required by the terms and conditions of this Decree. No change in ownership or corporate status shall alter Defendant's responsibility under this Decree. Defendant shall provide a copy of this Decree to all agents, contractors, and subcontractors retained to perform work required by this Decree, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Decree.

IV. DEFINITIONS

Unless otherwise specified herein, all definitions in RCW 70.105D.020 and WAC 173-340-200 shall control the meanings of the terms in this Decree.

A. Site: The Site is referred to as the Troy Laundry Seattle Site, Cleanup Site ID No. 11690. Based on factors currently known to Ecology, the Site is generally located at 399 Fairview Avenue North and 300 Boren Avenue North in the South Lake Union neighborhood of Seattle, Washington. The Site constitutes a facility under RCW 70.105D.020(8). The Site is defined by where a hazardous substance, other than a consumer product in consumer use, has

been deposited, stored, disposed of, placed, or otherwise come to be located. As of the date of entry of this Decree, the nature and extent of contamination at the Site has not been fully characterized. Pursuant to the Agreed Order, the Seller remains obligated to complete a remedial investigation in order to define the Site boundaries.

B. Property: Refers to the real property that Defendant intends to purchase, which is located at 399 Fairview Avenue North (North Tower) and 300 Boren Avenue North (South Tower), as shown in Exhibit B (Property Diagram). A legal description of the Property is attached as Exhibit C. The Property comprises a portion of the Site.

C. Adjacent rights-of-way: Refers to the three rights-of-way immediately adjacent to the Property, as shown in Exhibit B (Property Diagram), where remedial activities will be performed under this Decree: Harrison Street to the north, Boren Avenue to the west, and Thomas Street to the south. Groundwater monitoring wells are located in all three adjacent rights-of-way, while the angled injection wells used for groundwater treatment are located only in the Boren Avenue and Thomas Street rights-of-way.

D. Defendant: Refers to Ponte Gadea Seattle LLC.

E. Parties: Refers to the State of Washington, Department of Ecology and Defendant.

F. Seller: Refers to TB TS/RELP LLC, the current owner of the Property.

G. Consent Decree or Decree: Refers to this Prospective Purchaser Consent Decree and each of the exhibits to this Decree. All exhibits and their attachments, as applicable, are integral and enforceable parts of this Prospective Purchaser Consent Decree.

V. FINDINGS OF FACT

Ecology makes the following findings of fact without any express or implied admissions of such facts by Defendant.

A. The Site is located in the South Lake Union neighborhood of Seattle, Washington. The Property, which is part of the Site, consists of approximately 2.51 acres. The Property is

bounded by Boren Avenue North to the west, by Thomas Street to the south, by Fairview Avenue North to the east, and by Harrison Street to the north. A diagram of the Property and the adjacent rights-of-way is attached as Exhibit B.

B. The Property operated primarily as an industrial laundry and dry cleaning facility from 1926 until 1985, during which time dry cleaning solvents, heating oil, and gasoline products were stored at the Property.

C. As many as 19 storage tanks (both aboveground and underground) were used to store hazardous substances on the Property.

D. Releases of dry cleaning solvents, including petroleum-based Stoddard Solvent and tetrachloroethene (PCE)-based chlorinated solvent, to soil and groundwater have been confirmed to have occurred at the Property prior to redevelopment.

E. Contaminants of concern identified in soil and groundwater during investigations of the Site include gasoline, diesel, and oil-range petroleum hydrocarbons, PCE, trichloroethylene (TCE), cis-1-2-dichloroethene (DCE), and vinyl chloride.

F. A soil vapor extraction (SVE) system was installed and operated on the Property from February 2011 through December 2011. This SVE system reduced concentrations of chlorinated solvents in soil to below "land-ban" dangerous waste concentrations within a specific source area located near the former loading dock in the center of the Property.

G. Touchstone SLU LLC purchased the Property in June 2011.

H. In May 2012, Touchstone SLU LLC and Ecology entered into the Agreed Order regarding the Site. Pursuant to the Agreed Order, Touchstone SLU LLC agreed to prepare and submit a Remedial Investigation and Feasibility Study Report (RI/FS Report) and a Draft Cleanup Action Plan (Draft CAP) for the Site.

I. Multiple environmental investigations and analyses of the Property and the Site have been performed. A bibliography of the technical reports documenting the investigations and analyses are included in Exhibit A (Scope of Work and Schedule). The investigations

identified concentrations of PCE, total petroleum hydrocarbons (including Stoddard Solvent), and other hazardous substances above potentially applicable regulatory cleanup and/or screening levels in the soil, groundwater, and soil gas on and beneath the Property, as well as beneath the Boren Avenue and Thomas Street rights-of-way immediately adjacent to the Property. Concentrations of PCE, TCE, and petroleum hydrocarbons (gasoline, diesel, and oil-range) above potentially applicable regulatory cleanup levels were detected in soil, at variable depths, from the ground surface to approximately 70 feet below ground surface (bgs) in the northern, southern, and western portions of the Property.

J. In August 2013, Touchstone SLU LLC and Ecology entered into a First Amendment of the Agreed Order (First Amendment). Pursuant to the First Amendment, Touchstone SLU LLC agreed to perform an interim action in conjunction with the redevelopment of the Property (Interim Action), as set forth in an Ecology-approved Interim Action Plan, dated August 21, 2013, and an Ecology-approved Engineering Design Report, dated February 13, 2014. In the First Amendment, Ecology confirmed that the circumstances at the Site warranted the performance of the Interim Action pursuant to WAC 173-340-430, with Touchstone SLU LLC retaining responsibility for completing the RI/FS Report and Draft CAP for the Site under the Agreed Order.

K. The Interim Action includes, without limitation, the following remedial activities: (1) excavation and off-site disposal of soil with concentrations of PCE, petroleum hydrocarbons, and other hazardous substances both above the regulatory cleanup levels and above laboratory detection levels, but below the MTCA Method A cleanup levels; (2) installation of an in-situ groundwater injection well network in the primary groundwater-bearing zone beneath and immediately adjacent to the Property; and (3) post-development indoor air vapor assessment activities.

L. From July 2014 through February 2015, elements of the Interim Action required under the First Amendment were performed during the redevelopment of the Property. Over

108,000 tons of contaminated soils were excavated from the Property and disposed at approved and licensed off-site facilities. Extensive performance and confirmational sampling confirmed that all contaminated soils with concentrations of hazardous substances above MTCA Method A cleanup levels were excavated and removed from the Property during the course of redevelopment.

M. An in-situ groundwater injection well network was installed during redevelopment in order to implement an Enhanced Reductive Dechlorination (ERD) groundwater treatment program. The ERD treatment system consists of 38 interior injection wells, 53 perimeter injection wells, and 12 angled injection wells. The 12 angled injection wells were installed on the Property but extend into the rights-of-way immediately adjacent to the Property to the west (Boren Avenue) and to the south (Thomas Street).

N. Currently, there are 16 existing groundwater monitoring wells serving to monitor groundwater beneath and immediately adjacent to the Property. Nine of those 16 monitoring wells are located on the Property (MW17 through MW25). The remaining seven monitoring wells are located in the adjacent rights-of-way as follows: two monitoring wells are installed in Harrison Street to the north (MW01 and MW26); four monitoring wells are installed in Boren Avenue North to the west (MW04, MW07, MW13, and MW27); and one monitoring well is installed in Thomas Street to the south (MW28, which is a replacement for former MW16 that was destroyed during utility installation by the City of Seattle). Additionally, five of the 103 injection wells installed and located on the Property (IW04, IW06, IW50, IW61, and IW91) have been used to sample and monitor groundwater for chlorinated volatile organic compounds (CVOCs) and geochemical parameters, with one of those injection wells (IW91) also used for monitoring and sampling groundwater quality for petroleum hydrocarbons. All other Site monitoring wells—including the existing well located in Terry Avenue North (MW15) and any additional wells that Ecology requires the Seller to install pursuant to the Agreed Order—will

be monitored and maintained by the Seller and are therefore not included in the scope of work required by this Decree.

O. The entire injection well network and existing groundwater monitoring well network, as well as the areas of influence of the groundwater treatment system both on-Property and in the Boren Avenue and Thomas Street rights-of-way, are depicted in Exhibit B (Property Diagram).

P. Three separate groundwater treatment injection events were performed to remediate the contaminated groundwater beneath the Property and the Boren Avenue and Thomas Street rights-of-way. The groundwater treatment injections were comprised of edible oil substrate (EOS) and bacteria. While significant reductions in the contaminant mass and the concentrations of CVOCs have been observed in groundwater beneath and immediately adjacent to the Property, residual concentrations of CVOCs remain in groundwater beneath and adjacent to the Property at levels exceeding MTCA Method A cleanup standards.

Q. A 5-inch thick concrete slab-on-grade (with a 6-foot, 6-inch-thick concrete mat slab underneath the elevator cores of each building) foundation was installed beneath the five levels of below-ground parking at the Property, along with a full-time active ventilation system (HVAC System) that creates positive pressure in all elevator shafts and occupied building spaces. The HVAC System for the parking garage is separate from the HVAC System for the overlying buildings, and is connected to the emergency power generator for operation during power outages. Additionally, a 15-mm vapor barrier was installed under the slab-on-grade foundation of the entire development.

R. On March 26, 2013, Touchstone SLU LLC and US RELP TB LLC, a Delaware limited liability company (RELP), formed TB TS/RELP LLC, a Washington limited liability company. On March 28, 2013, Touchstone SLU LLC transferred ownership of the Property to TB TS/RELP LLC. Touchstone SLU LLC and RELP are the sole members of TB TS/RELP

LLC, with RELP as the Manager of TB TS/RELP LLC. TB TS/RELP LLC is the Seller of the Property.

S. TB TS/RELP LLC became a Party to the Agreed Order pursuant to a Second Amendment to the Agreed Order, dated March 13, 2015 (Second Amendment).

T. In accordance with the Vapor Intrusion Assessment Plan prepared under the Agreed Order, indoor air sampling was conducted in February 2018 to determine if vapor intrusion could be present on the Property due to groundwater contamination and residual soil contamination along the western sidewall. One indoor air sampling event was performed at locations approved by Ecology. Analytical results obtained in March 2018 indicate no exceedances of any cleanup or screening levels for any contaminants of concern in indoor air on the Property. Pursuant to the Agreed Order, Ecology required Seller to perform supplemental indoor air sampling in five specific and discrete areas to ensure that the results are temporally and technically consistent with current conditions. Seller is currently scheduled to perform this supplemental indoor air sampling in the winter of 2018–2019.

U. Release(s) and/or potential release(s) of hazardous substances occurred at the Site prior to redevelopment. The following hazardous substances at the Site have been detected at concentrations above MTCA cleanup levels: (1) gasoline, diesel, and oil-range petroleum hydrocarbons, and CVOCs—specifically PCE and its degradation compounds TCE, DCE, and VC—in soil; and (2) CVOCs—specifically PCE and its degradation compounds TCE, DCE, and VC—in groundwater. Following performance of the previously-described remedial activities, CVOCs (specifically PCE and its degradation compounds TCE, DCE, and VC) in groundwater are the primary contaminants of concern, although there were sporadic and minor detections of hazardous substances in soil along the sidewalls of the excavation in areas outside of the Property boundary. These hazardous substances have been, and may continue to be, released at the Site into the environment.

V. On September 4, 2018, Defendant entered into a purchase and sale agreement with TB TS/RELP LLC, the current owner of the Property. Pursuant to this contract, Defendant intends to purchase the Property on or before February 27, 2019, or such other later date as agreed by Seller and Defendant.

W. Defendant proposes to: (1) perform compliance groundwater monitoring using the existing monitoring well network to ensure that groundwater beneath the Property and the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way (as illustrated in Exhibit B) poses no threat to human health and the environment, pursuant to Exhibit A (Scope of Work and Schedule); (2) perform additional groundwater treatment utilizing the existing ERD treatment system (consisting of thirty-eight (38) interior injection wells, fifty-three (53) perimeter injection wells, and twelve (12) angled injection wells extending into Boren Avenue and Thomas Street) if applicable cleanup levels are not met within a reasonable restoration timeframe, as described in Exhibit A (Scope of Work and Schedule); (3) implement institutional controls on the Property through an Environmental Covenant in substantially the form of Exhibit D; and (4) provide Property access to Seller to facilitate Seller's performance of its obligations under the Agreed Order. Defendant shall also provide access to the Property to other PLPs for the Site, provided that such PLPs enter into a written access agreement in a form and substance acceptable to Defendant and provided that such access is solely for the purpose of conducting remedial actions pursuant to an agreed order or consent decree entered into by and between such PLPs and Ecology.

X. Defendant agrees to cooperate and coordinate its remedial obligations under this Decree with Seller's remedial obligations under the Agreed Order to ensure that their respective remedial activities are not duplicative, and that the nature and extent of contamination at the Site is defined as required under the Agreed Order.

Y. All remedial activities shall be performed by Defendant in a manner consistent with MTCA and its implementing regulations, WAC 173-340.

Z. The application of MTCA Method A and B cleanup levels is appropriate for groundwater at the Site based on the planned future use of the Site as contemplated by the Parties under this Decree.

VI. WORK TO BE PERFORMED

This Decree contains a program designed to protect human health and the environment from the known release, or threatened release, of hazardous substances or contaminants at, on, or from the Site. All remedial actions conducted by Defendant at the Site shall be done in accordance with WAC 173-340.

A. Defendant shall implement the requirements of Exhibit A (Scope of Work and Schedule), including all attachments to Exhibit A. The scope of work required by this Decree includes performance of compliance groundwater monitoring; maintenance of the existing monitoring and injection well networks; implementation of institutional controls through an Environmental Covenant in substantially the form of Exhibit D; and performance of additional in-situ groundwater treatment if applicable cleanup levels are not met within a reasonable restoration timeframe. Defendant shall also be responsible for operating, maintaining, and repairing the HVAC System in the subsurface parking garage that creates positive pressure in the subsurface parking garage to mitigate the potential for vapor intrusion. Defendant shall also provide Property access to Seller to facilitate Seller's performance of its obligations under the Agreed Order.

B. Seller is a signatory on the Agreed Order, as amended, under which Seller is required to perform remedial investigation activities at the Site, to evaluate remedial alternatives for the Site, and to submit a Draft CAP for the Site. Defendant agrees to coordinate its work performed under this Decree with Seller's obligations under the Agreed Order to ensure that their respective remedial activities and efforts are not duplicative, and that the nature and extent of contamination is defined at the Site as required under the Agreed Order.

C. Pursuant to RCW 70.105D.040(5)(a), the Attorney General may resolve the liability of a prospective purchaser for partial cleanup of a Site. Defendant's obligations under this Decree are limited to remedial activities regarding groundwater contamination beneath the Property and in the adjacent rights-of-way, and Defendant will perform its obligations under this Decree as set forth in Exhibit A (Scope of Work and Schedule), including all attachments to Exhibit A.

D. All plans or other deliverables submitted by Defendant for Ecology's review and approval under Exhibit A (Scope of Work and Schedule) shall, upon Ecology's approval, become integral and enforceable parts of this Decree.

E. If Defendant learns of a significant change in conditions at the Site, including but not limited to a statistically significant increase in contaminant and/or chemical concentrations in soil, groundwater, or indoor air, Defendant, within seven business days of learning of the change in condition, shall notify Ecology in writing of said change and provide Ecology with any reports or records (including laboratory analyses and sampling results) relating to the change in conditions.

F. *Financial Assurances*. Pursuant to WAC 173-340-440(11), Defendant shall maintain sufficient and adequate financial assurance mechanisms to cover all costs associated with implementation of the requirements and obligations of Exhibit A (Scope of Work and Schedule), including monitoring requirements and corrective measures.

1. Within 60 days of the effective date of this Decree, Defendant shall submit to Ecology for review and approval an estimate of the costs associated with implementation of the requirements and obligations of Exhibit A that it will incur in carrying out the terms of this Decree. Within 60 days after Ecology approves the aforementioned cost estimate, Defendant shall provide proof of financial assurances sufficient to cover those costs in a form acceptable to Ecology.

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2. Defendant shall adjust the financial assurance coverage and provide Ecology's project coordinator with documentation of the updated financial assurance for:

   i. Inflation, annually, within 30 days of the anniversary date of the entry of this Decree; or if applicable, the modified anniversary date established in accordance with this section, or if applicable, 90 days after the close of Defendant's fiscal year if the financial test or corporate guarantee is used.

   ii. Changes in cost estimates, within 30 days of issuance of Ecology's approval of a modification or revision to Exhibit A (Scope of Work and Schedule) that result in increases to the cost or expected duration of the requirements and obligations of Exhibit A. Any adjustments for inflation since the most recent preceding anniversary date shall be made concurrent with adjustments for changes in cost estimates. The issuance of Ecology's approval of a revised or modified Exhibit A (Scope of Work and Schedule) will revise the anniversary date established under this section to become the date of issuance of such revised or modified Exhibit A.

G. *Institutional Controls*. As detailed in Exhibit A (Scope of Work and Schedule), institutional controls are required at the Property. An Environmental Covenant will be used to implement the institutional controls.

1. In consultation with Defendant, Ecology will prepare the Environmental Covenant consistent with WAC 173-340-440, RCW 64.70, and any policies or procedures specified by Ecology. The Environmental (Restrictive) Covenant shall restrict future activities and uses of the Property as agreed to by Ecology and Defendant. The Environmental (Restrictive) Covenant shall be substantially in the form attached as Exhibit D to this Decree.

2. After approval by Ecology, Defendant shall record the Environmental (Restrictive) Covenant for the Property with the office of the King County Recorder. Defendant shall provide Ecology with the original recorded Environmental (Restrictive) Covenant within 30 days of the recording date.

H. *Progress Reports*. Unless otherwise directed by Ecology, Defendant shall submit to Ecology written quarterly Progress Reports that describe the actions taken during the previous month to implement the requirements of this Decree. All Progress Reports shall be submitted by the first day of the quarter in which they are due after the effective date of this Decree. Unless otherwise specified in writing by Ecology, Progress Reports and any other documents submitted pursuant to this Decree shall be sent by electronic mail to Ecology's project coordinator. The Progress Reports shall include the following:

1. A list of on-site activities that have taken place during the quarter.
2. Description of any sample results which deviate from the norm.
3. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests.
4. Description of all deviations from Exhibit A (Scope of Work and Schedule) during the current quarter and any planned deviations in the upcoming quarter.
5. For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule.
6. All raw data (including laboratory analyses) received during the previous month (if not previously submitted to Ecology), together with a detailed description of the underlying samples collected.
7. A list of planned activities for the upcoming quarter.

I. Except in the case of an emergency, Defendant agrees not to perform any remedial actions at the Site outside the scope of this Decree without prior written approval of

Ecology. In the case of an emergency, Defendant must notify Ecology of the event and remedial action(s) as soon as practical, but no later than 24 hours after discovery of the emergency.

VII. DESIGNATED PROJECT COORDINATORS

The project coordinator for Ecology is:

Sunny Becker
Toxics Cleanup Program–NWRO
3190 160th Avenue SE
Bellevue, WA 98008
Phone: 425-649-7187
Email: sunny.becker@ecy.wa.gov

The project coordinators for Defendant are:

Tim Bodkin
AEI Consultants
3880 S. Bascom Avenue, Suite 109
San Jose, CA 95124
Phone: 408-559-7600 ext. 2013
Email: tbodkin@aeiconsultants.com

Tom Cammarata
SoundEarth Strategies
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102
Phone: 206-436-5940
Email: tcammarata@soundearthinc.com

Each project coordinator shall be responsible for overseeing the implementation of this Decree. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and Defendant and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Decree shall be directed through the project coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed as required by this Decree.

Any Party may change its respective project coordinator. Written notification shall be given to the other Party at least 10 calendar days prior to the change.

VIII. PERFORMANCE

Except as otherwise provided for by RCW 18.43 and RCW 18.220, all geologic and hydrogeologic work performed pursuant to this Decree shall be under the supervision and direction of a geologist or hydrogeologist licensed by the State of Washington or under the direct supervision of an engineer registered by the State of Washington.

Except as otherwise provided for by RCW 18.43.130, all engineering work performed pursuant to this Decree shall be under the direct supervision of a professional engineer registered by the State of Washington.

Except as otherwise provided for by RCW 18.43.130, all construction work performed pursuant to this Decree shall be under the direct supervision of a professional engineer registered by the State of Washington or a qualified technician under the direct supervision of a professional engineer registered by the State of Washington.

As required by RCW 18.43 and RCW 18.220, any documents submitted containing geologic, hydrogeologic, or engineering work shall be under the seal of an appropriately licensed professional.

Defendant shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Decree, in advance of their involvement at the Site.

IX. CERTIFICATION OF DEFENDANT

Defendant represents and certifies that, to the best of its knowledge and belief, it has fully and accurately disclosed to Ecology the information currently in its possession or control that relates to the environmental conditions at and in the vicinity of the Site, or to Defendant's right and title thereto.

Defendant represents and certifies that it did not cause or contribute to a release or threatened release of hazardous substances at the Site and is not otherwise currently potentially liable for the Site under RCW 70.105D.040(1).

X. ACCESS

Ecology or any Ecology authorized representative shall, after reasonable coordination with Defendant or Defendant's authorized representative, have access to enter and freely move about all property at the Site that Defendant either owns, controls, or has access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Decree; reviewing Defendant's progress in carrying out the terms of this Decree; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Decree; and verifying the data submitted to Ecology by Defendant.

Nothing in this Decree is intended by the Defendant to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product privilege and/or the attorney-client privilege. If Defendant withholds any requested records based on an assertion of privilege, it shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

Defendant shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by Defendant where remedial activities or investigations will be performed pursuant to this Decree.

Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by Defendant unless an emergency prevents such notice. All Parties who access the Site pursuant to this section shall comply with any applicable

health and safety plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

XI. SAMPLING, DATA SUBMITTAL, AND AVAILABILITY

With respect to the implementation of this Decree, Defendant shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology by submitting data as detailed in this section. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VI (regarding Progress Reports), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, Defendant shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by Defendant pursuant to the implementation of this Decree. Defendant shall notify Ecology seven days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow Defendant and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Decree, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section X (Access), Ecology shall notify Defendant prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under WAC 173-50 for the specific analyses to be conducted, unless otherwise approved by Ecology.

XII. RETENTION OF RECORDS

During the pendency of this Decree, and for ten years from the date this Decree is no longer in effect as provided in Section XXVI (Duration of Decree), Defendant shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation

of this Decree and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, Defendant shall make all records available to Ecology and allow access for review within a reasonable time.

Nothing in this Decree is intended by Defendant to waive any right it may have under applicable law to limit disclosure of documents protected by the attorney work-product privilege and/or the attorney-client privilege. If Defendant withholds any requested records based on an assertion of privilege, Defendant shall provide Ecology with a privilege log specifying the records withheld and the applicable privilege. No Site-related data collected pursuant to this Decree shall be considered privileged.

XIII. TRANSFER OF INTEREST IN PROPERTY

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by Defendant without provision for continued operation and maintenance of any containment system, treatment system, and/or monitoring system installed or implemented on and/or beneath the Property and in the adjacent rights-of-way (as illustrated in Exhibit B).

Prior to Defendant's transfer of any interest in all or any portion of the Site, and during the effective period of this Decree, Defendant shall provide a copy of this Decree to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least 30 days prior to any transfer, Defendant shall notify Ecology of said transfer. Upon its transfer of any interest, Defendant shall notify all transferees of the restrictions on the activities and uses of the Property under this Decree and incorporate any such use restrictions into the transfer documents.

XIV. RESOLUTION OF DISPUTES

A. In the event that Defendant elects to invoke dispute resolution, Defendant must utilize the procedure set forth below.

1. Upon the triggering event (receipt of Ecology's project coordinator's written decision or an itemized billing statement), Defendant has 14 calendar days within which to notify Ecology's project coordinator in writing of its dispute (Informal Dispute Notice).
2. The Parties' project coordinators shall then confer in an effort to resolve the dispute informally. The Parties shall informally confer for up to 14 calendar days from receipt of the Informal Dispute Notice. If the project coordinators cannot resolve the dispute within those 14 calendar days, then within seven calendar days Ecology's project coordinator shall issue a written decision (Informal Dispute Decision) stating: the nature of the dispute; the Defendant's position with regards to the dispute; Ecology's position with regards to the dispute; and the extent of resolution reached by informal discussion.
3. Defendant may then request regional management review of the dispute. This request (Formal Dispute Notice) must be submitted in writing to the Northwest Region Toxics Cleanup Section Manager within seven calendar days of receipt of Ecology's Informal Dispute Decision. The Formal Dispute Notice shall include a written statement of dispute setting forth: the nature of the dispute; the disputing Party's position with respect to the dispute; and the information relied upon to support its position.
4. The Section Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Decision on Dispute) within 30 calendar days of receipt of the Formal Dispute Notice.
5. If Defendant finds Ecology's Regional Section Manager's decision unacceptable, Defendant may then request final management review of the decision. This request (Final Review Request) shall be submitted in writing to the Toxics Cleanup Program Manager within seven calendar days of Defendant's receipt of

the Decision on Dispute. The Final Review Request shall include a written statement of dispute setting forth: the nature of the dispute; the disputing Party's position with respect to the dispute; and the information relied upon to support its position.

6. Ecology's Toxics Cleanup Program Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Final Decision on Dispute) within 30 calendar days of receipt of the Final Review Request. The Toxics Cleanup Program Manager's decision shall be Ecology's final decision on the disputed matter.

B. If Ecology's Final Decision on Dispute is unacceptable to Defendant, Defendant has the right to submit the dispute to the Court for resolution. The Parties agree that one judge should retain jurisdiction over this case and shall, as necessary, resolve any dispute arising under this Decree. Under RCW 70.105D.060, Ecology's investigative and remedial decisions shall be upheld unless they are arbitrary and capricious.

C. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used. Where either Party utilizes the dispute resolution process in bad faith or for purposes of delay, the other Party may seek sanctions.

D. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Decree, unless Ecology agrees in writing to a schedule extension or the Court so orders.

E. In case of a dispute, failure to either proceed with the work required by this Decree or timely invoke dispute resolution may result in Ecology's determination that insufficient progress is being made in preparation of a deliverable, and may result in Ecology undertaking the work under Section XXIII (Implementation of Remedial Action).

XV. AMENDMENT OF DECREE

The Parties may agree to minor changes to the work to be performed without formally amending this Decree. Minor changes will be documented in writing by Ecology.

Substantial changes to the work to be performed shall require formal amendment of this Decree. This Decree may only be formally amended by a written stipulation among the Parties that is entered by the Court, or by order of the Court. In the event that public notice and opportunity to comment is required as provided for in this Section, Ecology will provide its written consent to a formal amendment only after public notice and opportunity to comment on the formal amendment. Such amendment shall become effective upon entry by the Court. Agreement to amend the Decree shall not be unreasonably withheld by any Party.

When requesting a change to the Decree, Defendant shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request is received. If Ecology determines that the change is substantial, then the Decree must be formally amended. Reasons for the disapproval of a proposed change to this Decree shall be stated in writing. If Ecology does not agree to the requested change, the disagreement may be addressed through the dispute resolution procedures described in Section XIV (Resolution of Disputes).

XVI. EXTENSION OF SCHEDULE

A. Defendant's request for an extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least 30 days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

1. The deadline that is sought to be extended.
2. The length of the extension sought.
3. The reason(s) for the extension.

4. Any related deadline or schedule that would be affected if the extension were granted.

B. The burden shall be on Defendant to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

1. Circumstances beyond the reasonable control and despite the due diligence of Defendant including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by Defendant.
2. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty.
3. Endangerment as described in Section XVII (Endangerment).

However, neither increased costs of performance of the terms of this Decree nor changed economic circumstances shall be considered circumstances beyond the reasonable control of Defendant.

C. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give Defendant written notification of any extensions granted pursuant to this Decree. A requested extension shall not be effective until approved by Ecology or, if required, by the Court. Unless the extension is a substantial change, it shall not be necessary to amend this Decree pursuant to Section XV (Amendment of Decree) when a schedule extension is granted.

D. An extension requested by Defendant shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding 90 days only as a result of one of the following:

1. Delays in the issuance of a necessary permit which was applied for in a timely manner.
2. Other circumstances deemed exceptional or extraordinary by Ecology.

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PO Box 40117
Olympia, WA 98504-0117
360-586-6770

3. Endangerment as described in Section XVII (Endangerment).

XVII. ENDANGERMENT

In the event Ecology determines that any activity being performed at the Site under this Decree is creating or has the potential to create a danger to human health or the environment, Ecology may direct Defendant to cease such activities for such period of time as it deems necessary to abate the danger. Defendant shall immediately comply with such direction.

In the event Defendant determines that any activity being performed at the Site under this Decree is creating or has the potential to create a danger to human health or the environment, Defendant may cease such activities. Defendant shall notify Ecology's project coordinator as soon as possible, but no later than 24 hours after making such determination or ceasing such activities. Upon Ecology's direction, Defendant shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with Defendant's cessation of activities, it may direct Defendant to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to this section, Defendant's obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended, in accordance with Section XVI (Extension of Schedule), for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Decree shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

XVIII. COVENANT NOT TO SUE

A. Covenant Not to Sue: In consideration of Defendant's compliance with the terms and conditions of this Decree, Ecology covenants not to institute legal or administrative actions against Defendant, including its members and managers, regarding the release or threatened release of the hazardous substances described in Section V.U on, beneath, or from the Site. This

Covenant Not to Sue does not cover any other hazardous substance(s) or area. Ecology retains all of its authority relative to any hazardous substance(s) or area not covered by this Decree. In addition, this Decree does not settle any potential liability Defendant may incur for acquiring any further interest in the Site not addressed under this Decree.

This Covenant Not to Sue shall have no applicability whatsoever to:

1. Criminal liability.
2. Liability for damages to natural resources.
3. Any Ecology action, including cost recovery, against PLPs not a party to this Decree.

Pursuant to RCW 70.105D.040(4)(c), the Court shall amend this Covenant Not to Sue if factors not known at the time of entry of this Decree are discovered and present a previously unknown threat to human health or the environment.

B. Reopeners: Ecology specifically reserves the right to institute legal or administrative action against Defendant to require it to perform additional remedial actions regarding groundwater monitoring beneath the Property and in the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way (as illustrated in Exhibit B), and regarding groundwater injection events beneath the Property and in the Boren Avenue and Thomas Street rights-of-way (as illustrated in Exhibit B), and to pursue appropriate cost recovery, pursuant to RCW 70.105D.050, under any of the following circumstances:

1. Upon Defendant's failure to meet the requirements of this Decree.
2. Failure of the remedial activities to meet the cleanup standards identified in Exhibit A (Scope of Work and Schedule).
3. Upon Ecology's determination that remedial action beyond the terms of this Decree is necessary to abate an imminent and substantial endangerment to human health or the environment.

4. Upon the availability of information previously unknown to Ecology regarding Site factors, including the nature, quantity, migration, pathway, or mobility of hazardous substances in groundwater beneath the Property and in the adjacent Boren Avenue and Thomas Street rights-of-way, and Ecology's determination, in light of this information, that further remedial action is necessary at the Site to protect human health or the environment.

5. Upon Ecology's determination that additional remedial actions are necessary to achieve cleanup standards within the reasonable restoration time frame set forth in Exhibit A (Scope of Work and Schedule).

C. Except in the case of an emergency, prior to instituting legal or administrative action against Defendant pursuant to this section, Ecology shall provide Defendant with 15 calendar days' notice of such action.

XIX. CONTRIBUTION PROTECTION

With regard to claims for contribution against Defendant, the Parties agree that Defendant, including its members and managers, is entitled to protection against claims for contribution for any and all matters regarding the release or threatened release of the hazardous substances described in Section V.U on, beneath, or from the Site, as provided by RCW 70.105D.040(4)(d).

XX. INDEMNIFICATION

Defendant agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action (1) for death or injuries to persons, or (2) for loss or damage to property to the extent arising from or on account of acts or omissions of Defendant, its officers, employees, agents, or contractors in entering into and implementing this Decree. However, Defendant shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent

arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Decree.

XXI. COMPLIANCE WITH APPLICABLE LAWS

A. *Applicable Law.* All actions carried out by Defendant pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. The permits or specific federal, state, or local requirements that the agency has determined are applicable and that are known at the time of the execution of this Decree have been identified in Exhibit A (Scope of Work and Schedule). Defendant has a continuing obligation to identify additional applicable federal, state, and local requirements which apply to actions carried out pursuant to this Decree, and to comply with those requirements. As additional federal, state, and local requirements are identified by Ecology or the Defendant, Ecology will document in writing if they are applicable to actions carried out pursuant to this Decree, and the Defendant must implement those requirements.

B. *Relevant and Appropriate Requirements*. All actions carried out by Defendant pursuant to this Decree shall be done in accordance with relevant and appropriate requirements identified by Ecology. The relevant and appropriate requirements that Ecology has determined apply have been identified in Exhibit A (Scope of Work and Schedule). If additional relevant and appropriate requirements are identified by Ecology or the Defendant, Ecology will document in writing if they are applicable to actions carried out pursuant to this Decree and the Defendant must implement those requirements.

C. Pursuant to RCW 70.105D.090(1), Defendant may be exempt from the procedural requirements of RCW 70.94, RCW 70.95, RCW 70.105, RCW 77.55, RCW 90.48, and RCW 90.58 and of any laws requiring or authorizing local government permits or approvals. However, Defendant shall comply with the substantive requirements of such permits or approvals. For permits and approvals covered under RCW 70.105D.090(1) that have been issued

by local government, the Parties agree that Ecology has the non-exclusive ability under this Decree to enforce those local government permits and/or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of the execution of this Decree, have been identified in Exhibit A (Scope of Work and Schedule).

Defendant has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree. In the event either Defendant or Ecology determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial action under this Decree, it shall promptly notify the other Party of its determination. Ecology shall determine whether Ecology or Defendant shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, Defendant shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial action. Ecology shall make the final determination on the additional substantive requirements that must be met by Defendant and on how Defendant must meet those requirements. Ecology shall inform Defendant in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Decree. Defendant shall not begin or continue the remedial action potentially subject to the additional requirements until Ecology makes its final determination.

C. Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the state to administer any federal law, the exemption shall not apply and Defendant shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits or approvals.

XXII. REMEDIAL ACTION COSTS

Defendant shall pay to Ecology costs incurred by Ecology pursuant to this Decree and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under RCW 70.105D, including remedial actions and Decree preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the entry of this Decree. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2).

For all costs incurred that have not been reimbursed to Ecology prior to the entry of this Decree, Defendant shall submit payment for this amount within 30 days of the effective date of this Decree. For all costs incurred subsequent to the entry of this Decree, Defendant shall pay the required amount within 30 days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within 90 days of receipt of the itemized statement of costs will result in interest charges at the rate of 12% per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70.105D.055, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

XXIII. IMPLEMENTATION OF REMEDIAL ACTION

If Ecology determines that the Defendant has failed to make sufficient progress or failed to implement the remedial activities set forth in Exhibit A (Scope of Work and Schedule), in whole or in part, Ecology may, after notice to Defendant, perform any or all portions of the remedial activities set forth in Exhibit A or at Ecology's discretion allow the Defendant opportunity to correct. In an emergency, Ecology is not required to provide notice to Defendant,

or an opportunity for dispute resolution. The Defendant shall reimburse Ecology for the costs of doing such work in accordance with Section XXII (Remedial Action Costs).

Except where necessary to abate an emergency situation or where required by law, Defendant shall not perform any remedial actions at the Site outside those remedial actions required by this Decree to address the contamination that is the subject of this Decree, unless Ecology concurs, in writing, with such additional remedial actions pursuant to Section XV (Amendment of Decree). In the event of an emergency, or where actions are taken as required by law, Defendant must notify Ecology in writing of the event and remedial action(s) planned or taken as soon as practical but no later than within 24 hours of the discovery of the event.

XXIV. PERIODIC REVIEW

So long as remedial activities, including groundwater monitoring, continue at the Site pursuant to this Decree, the Parties agree to review the progress of remedial activities at the Site, and to review the data accumulated as a result of groundwater monitoring as often as is necessary and appropriate under the circumstances. Unless otherwise agreed to by Ecology, at least every five years, the Parties shall confer regarding the status of the Site and the need, if any, for further remedial activities regarding either groundwater monitoring beneath the Property and in the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way (as illustrated in Exhibit B) or regarding groundwater injection events beneath the Property and in the Boren Avenue and Thomas Street rights-of-way (as illustrated in Exhibit B). At least 90 days prior to each five-year periodic review, Defendant shall submit a report to Ecology that documents whether human health and the environment are being protected based on the factors set forth in WAC 173-340-420(4). Under Section XVIII (Covenant Not to Sue), Ecology reserves the right to require further remedial activities regarding either groundwater monitoring beneath the Property and in the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way (as illustrated in Exhibit B) or regarding groundwater injection events beneath the Property and in the Boren Avenue and Thomas Street rights-of-way (as illustrated in Exhibit B), under

appropriate circumstances. This provision shall remain in effect for the duration of this Decree. Review of progress of remedial activities required under the Agreed Order shall be handled separately between Ecology and Seller.

XXV. PUBLIC PARTICIPATION

A Public Participation Plan is required for this Site. Ecology shall review the existing Public Participation Plan to determine its continued appropriateness and whether it requires amendment, or if no plan exists, Ecology shall develop a Public Participation Plan alone or in conjunction with Defendant.

Ecology shall maintain the responsibility for public participation at the Site. However, Defendant shall cooperate with Ecology, and shall:

A. If agreed to by Ecology, develop appropriate mailing lists, prepare drafts of public notices and fact sheets at important stages of the remedial action, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

B. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets, and before meetings related to remedial action work to be performed at the Site with the interested public and/or local governments. Likewise, Ecology shall notify Defendant prior to the issuance of all press releases and fact sheets, and before meetings related to remedial action work to be performed at the Site with the interested public and/or local governments. For all press releases, fact sheets, meetings, and other outreach efforts by Defendant that do not receive prior Ecology approval, Defendant shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology.

C. When requested by Ecology, participate in public presentations on the progress of the remedial action at the Site. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter.

D. When requested by Ecology, arrange and/or continue information repositories at the following locations:

1. Seattle Public Library
1001 Fourth Avenue
Seattle, WA 98104

2. Ecology's Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

3. Ecology Web Site for Troy Laundry Seattle Site
https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=11690

At a minimum, copies of all public notices, fact sheets, and documents relating to public comment periods shall be promptly placed in these repositories. A copy of all documents related to this Site shall be maintained in the repository at Ecology's Northwest Regional Office in Bellevue, Washington.

XXVI. DURATION OF DECREE

The remedial program required pursuant to this Decree shall be maintained and continued until Defendant has received written notification from Ecology that the requirements of this Decree have been satisfactorily completed. This Decree shall remain in effect until dismissed by the Court. When dismissed, Section XII (Retention of Records), Section XVIII (Covenant Not to Sue), and Section XIX (Contribution Protection) shall survive.

XXVII. CLAIMS AGAINST THE STATE

Defendant hereby agrees that it will not seek to recover any costs accrued in implementing the remedial action required by this Decree from the State of Washington or any of its agencies; and further, that Defendant will make no claim against the State Toxics Control Account, the Local Toxics Control Account, the Environmental Legacy Stewardship Account, or a MTCA Cleanup Settlement Account for any costs incurred in implementing this Decree. Except as provided above, however, Defendant expressly reserves its right to seek to recover

any costs incurred in implementing this Decree from any other PLP. This section does not limit or address funding that may be provided under WAC 173-322A.

XXVIII. EFFECTIVE DATE

This Decree is effective only upon the date (Effective Date) that title to the Property vests in Defendant, following entry of this Decree by the Court. If Defendant does not purchase the Property by April 30, 2019, this Decree shall be null and void, and Defendant will be under no obligation to perform the work required by this Decree.

XXIX. WITHDRAWAL OF CONSENT

If the Court withholds or withdraws its consent to this Decree, it shall be null and void at the option of either Party to this Decree and the accompanying Complaint shall be dismissed

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Ecology Division
PO Box 40117
Olympia, WA 98504-0117
360-586-6770

without costs and without prejudice. In such an event, neither Party to this Decree shall be bound by the requirements of this Decree.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Jim Pendowski, Program Manager
Toxics Cleanup Program
360-407-7177

Date: 3/11/19

ROBERT W. FERGUSON
Attorney General

Caroline Cress, WSBA #48488
Assistant Attorney General
360-586-4613

Date: 3/14/19

PONTE GADEA SEATTLE LLC

Marcos Fernández Martínez
Authorized Signatory
(305) 373-9559

Date: MARCH 7, 2019

ENTERED this _____ day of 3/19, 2019.

HENRY H. JUDSON
MAR 19 2019
COURT COMMISSIONER

~~JUDGE~~
King County Superior Court

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

EXHIBIT A – PROSPECTIVE PURCHASER CONSENT DECREE SCOPE OF WORK AND SCHEDULE

Property:

Troy Laundry Property
399 Fairview Avenue North (North Tower) and
300 Boren Avenue North (South Tower)
Seattle, Washington
Facility Site ID #19135499
Cleanup ID #11690

Date:

January 10, 2019

Scope of Work and Schedule
Compliance Groundwater Monitoring Plan and
Contingency Groundwater Treatment Plan
Exhibit A of the Prospective Purchaser Consent Decree

INTRODUCTION

This Exhibit A provides a scope of work and schedule to perform and complete compliance groundwater monitoring of the groundwater treatment system, and to potentially perform a contingency groundwater treatment injection, at the Troy Laundry Seattle cleanup site (Site) pursuant to the Prospective Purchaser Consent Decree entered into by and between Ponte Gadea Seattle, LLC and the Washington State Department of Ecology (Ecology). This scope of work describes the remedial activities to be performed on the Troy Block Property located at 399 Fairview Avenue North (the North Tower) and 300 Boren Avenue North (the South Tower) in Seattle, Washington (collectively, the Property[1]) and beneath the adjacent rights-of-way located north of the Property (Harrison Street), west of the Property (Boren Avenue North), and south of the Property (Thomas Street). Interim remedial activities have been performed at the Property by TB TS/RELP LLC (the Seller) pursuant to Agreed Order No. DE 8996 and the First Amendment to Agreed Order No. DE 8996 (collectively, the Agreed Order as the same may be further amended).

PREVIOUS REMEDIAL ACTIVITIES

Soil and Indoor Air

Pursuant to the Interim Action Plan for the Troy Laundry Property approved by Ecology, dated August 21, 2013, and the Engineering Design Report approved by Ecology, dated February 13, 2014, a lot-line to lot-line excavation for redevelopment of the Property was conducted between July 2014 and February 2015. Soils within the boundaries of the Property containing concentrations of contaminants of concern (COCs) for soil—chlorinated solvents (CVOCs) and petroleum hydrocarbons—exceeding the Washington State Model Toxics and Control Act (MTCA) Method A cleanup levels were removed, as evidenced by performance and confirmation sampling.

A 5-inch thick concrete slab-on-grade (with a 6.5-foot thick concrete mat slab underneath the elevator cores of each building) was installed beneath the five (5) levels of below-ground parking, along with a full-time active ventilation system that creates positive pressure in all elevator shafts and occupied building spaces. A 15-mm thick vapor barrier was installed under the slab-on-grade foundation of the entire development.

In accordance with the Ecology-approved Vapor Intrusion Assessment Plan, dated January 25, 2018, the Seller conducted indoor air sampling in February 2018 to determine if vapor intrusion could be occurring inside the buildings on the Property due to remaining groundwater contamination and residual soil contamination along the western sidewall of the excavation. The Seller conducted the indoor air sampling at locations approved by Ecology. Analytical results obtained in March 2018 indicate no exceedances of any cleanup or screening levels for any contaminants of concern in indoor air on the Property. At Ecology's request pursuant to its authority under the Agreed Order, the Seller will be performing supplemental indoor air sampling in five (5) specific and discrete areas at the Property in the winter of 2018–2019.

There are no remaining remedial action requirements under the Agreed Order related to soil on or beneath the Property. An Interim Action Progress Report was submitted to Ecology in January 2016.

[1] The address of the Property prior to redevelopment was 307 Fairview Avenue North.

Groundwater

To address CVOCs in groundwater, the Seller installed a network of 103 injection wells on the Property during redevelopment in order to implement an Enhanced Reductive Dechlorination (ERD) groundwater treatment program that was previously authorized and approved under the Agreed Order. A total of 12 angled injection wells (AIW01 through AIW12) and 91 vertical injection wells (IW01 through IW91) were installed. Of the 91 vertical injection wells, 53 are located on or as close to the boundary of the Property as possible, while 38 are located within the interior of the Property. The 12 angled injection wells extend into the adjacent rights-of-way to the west (Boren Avenue) and south (Thomas Street). The injection well network is described more fully in Attachment A.

The first groundwater treatment event occurred between May 12 and June 5, 2015. SoundEarth injected approximately 400 to 530 gallons of EOS PRO solution, an edible oil substrate (a food-grade oil/water emulsion), into each injection well. A total of 49,500 gallons of 10-percent-by-volume EOS PRO solution was injected during this initial injection event. The second groundwater treatment event at the Property occurred between April 25 and May 11, 2016. SoundEarth injected a total of 63,895 gallons of 10-percent-by-volume EOS PRO solution into each injection well during this injection event. The third groundwater treatment event at the Property occurred in June 2017, whereby a total of 273 kilograms of microbial culture were injected into 90 of the 103 injection wells. The 12 angled injection wells and one vertical well were not included in the third groundwater treatment event. The targeted wells received an injection consisting of a 50-gallon flush of conditioned water, followed by 3.0 to 3.2 kilograms of microbial culture and a second 50-gallon flush of conditioned water.

Currently, there are 16 existing groundwater monitoring wells serving to monitor groundwater quality beneath and immediately adjacent to the Property. Nine of those 16 monitoring wells are located on the Property (MW17 through MW25). An additional seven monitoring wells are located in the adjacent rights-of-way as follows: two monitoring wells are installed in Harrison Street to the north (MW01 and MW26); four monitoring wells are installed in Boren Avenue North to the west (MW04, MW07, MW13, and MW27); and one monitoring well is installed in Thomas Street to the south (MW28, which is a replacement for former MW16 that was destroyed during utility installation by the City of Seattle). Additionally, 5 of the 103 injection wells installed and located on the Property (IW04, IW06, IW50, IW61, and IW91) have been used to sample and monitor groundwater for CVOCs and geochemical parameters. All groundwater monitoring wells and one injection well (IW91) have also been used to sample for petroleum hydrocarbons.[2]

Since groundwater treatment began in 2015, groundwater quality beneath the Property and the adjacent Harrison Street, Boren Avenue, and Thomas Street rights-of-way has been monitored on a quarterly schedule. The groundwater treatments performed in 2015–2017 have resulted in significant reductions in the mass and the concentrations of chlorinated volatile organic compounds, including tetrachloroethene and its degradation compounds trichloroethene, cis-1,2-dichloroethene, and vinyl chloride, in groundwater beneath the Property. However, those treatments have not, as of the date of this Exhibit A, resulted in the same level of reductions in the concentrations of CVOCs in groundwater

[2] All other Site monitoring wells—including the existing well located in Terry Avenue North (MW15) and any additional wells that Ecology requires the Seller to install pursuant to the Agreed Order—will be monitored and maintained by the Seller and are therefore not included in the scope of work required by this Decree.

beneath the adjacent rights-of-way. The prior and current data results obtained from the quarterly sampling, which demonstrate the reduction in contaminant mass and concentrations in groundwater both beneath and adjacent to the Property, are attached hereto as Attachment B.

INSTITUTIONAL CONTROLS

In accordance with Washington Administrative Code (WAC) 173-340-440, institutional controls have been implemented at the Property that prohibit activities that may interfere with the integrity of the interim action and prevent the exposure to hazardous substance in the media of concern. In addition to the concrete slab and vapor barrier controls described previously herein, a full-time active ventilation system creates positive pressure in all elevator shafts and occupied building spaces. An Environmental (Restrictive) Covenant will be filed for the Property as well to prevent any future groundwater use or withdrawal, and to provide and protect access to existing and future remedial equipment.

SCOPE OF WORK FOR PPCD

The scope of work under the PPCD includes compliance groundwater monitoring for the interim remedial activities that were performed by the Seller, as well as a contingency groundwater treatment injection plan. The work proposed is consistent with and expands upon the requirements of the Interim Action Plan and Engineering Design Report, which are incorporated by reference as applicable.

Compliance Groundwater Monitoring Program

The compliance groundwater monitoring program is divided into two primary tasks: (1) groundwater monitoring and sampling and (2) decommissioning of the groundwater monitoring wells and treatment system.

Groundwater Monitoring and Sampling

Groundwater monitoring and sampling will be required to assess the continued progress and effectiveness of the interim remedial activities that were performed by the Seller, and to demonstrate that cleanup levels for groundwater have been achieved in accordance with the Interim Action Plan dated August 21, 2013. The compliance monitoring well network, as illustrated in Attachment A, includes:

- On-Property: MW17 through MW25, and IW04, IW06, IW50, IW61, IW91;
- Harrison Street ROW: MW01 and MW26;
- Boren Avenue ROW: MW04, MW07, MW13, and MW27; and
- Thomas Street ROW: MW28.[3]

The party performing remedial activities under this scope of work shall be responsible for maintaining and inspecting all injection wells and groundwater monitoring wells to ensure that all wells remain in good working condition. Any damage to the injection wells or groundwater monitoring wells will be reported to Ecology and will be repaired within 30 days of discovery. If permitting or other necessary elements of repair beyond the reasonable control of the performing

[3] MW28 is a replacement for former MW16, which was destroyed during utility installation performed by the City of Seattle.

party prevent such repairs from being completed within such 30-day period, the time for repair shall be extended as reasonably necessary to secure such permits or other necessary elements of repair provided the same are diligently pursued by the performing party.

The monitoring well network will be monitored until sampling results demonstrate that cleanup levels have been achieved for CVOCs in groundwater beneath the Property and the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way for four (4) consecutive quarterly sampling events.

Under the current sampling schedule for the monitoring well network, monitoring wells will be sampled (i) semiannually beginning in 2019 and continuing until cleanup levels are achieved for CVOCs in groundwater; and (ii) quarterly commencing once cleanup levels are achieved and continuing until cleanup levels are maintained for four consecutive quarters. This represents a total of at least 18 groundwater monitoring and sampling events. The sampling frequency is shown in the schedule below. If concentrations of CVOCs remain above cleanup levels in any of the monitoring wells (including those located in the Boren Avenue, Thomas Street, and Harrison Street rights-of-way) by the end of 2023, this sampling schedule will be extended in consultation with Ecology.

All groundwater sampling data will be uploaded to Ecology's EIM system. An annual groundwater monitoring report will be prepared and submitted to Ecology for each year of compliance groundwater monitoring. This annual report will include a summary of field work performed, a scaled figure depicting the locations of compliance monitoring wells, an updated groundwater elevation contour map, summary tables of groundwater elevations and laboratory analytical results, a statistical trend analysis assessment for CVOCs in groundwater, and appended laboratory analytical reports.

Attachment C provides the full technical description of the Groundwater Compliance Monitoring Program.

Decommissioning of Groundwater Treatment System and Monitoring Wells

Following confirmation of compliance with groundwater cleanup levels for four consecutive quarterly sampling events, and upon receipt of written approval from Ecology, the injection wells and monitoring wells will be decommissioned by a licensed well driller or under the supervision of a professional engineer in accordance with the Washington State Water Well Construction Act (1971), RCW 18.104 (WAC 173-160-460). Following decommissioning, the required paperwork will be submitted to Ecology. Ecology may require ongoing maintenance of the injection wells and/or monitoring wells until a final cleanup action for the Site is selected and/or implemented.

Contingency Groundwater Treatment Injection

Ecology may require the performance of an additional groundwater treatment injection event if a statistical trend analysis shows that concentrations of any CVOC in groundwater in any of the monitoring wells located on the Property or the adjacent rights-of-way will continue to exceed cleanup levels after the fourth quarter of 2023. If Ecology determines that an additional groundwater treatment event is necessary, the Parties will consult on the scope of work and schedule for the treatment event, and a Work Plan will be submitted for Ecology's review and approval.

If required, the contingency treatment injection event would include some or all of the 53 barrier injection wells located on the perimeter of the Property. Similar to previous events, this additional enhanced reductive dechlorination injection event would be facilitated by injecting approximately 40,000 gallons of EOS PRO solution and 100 kilograms of microbial culture with Dehalococcoides bacteria (DHC) into groundwater through the barrier injection wells. The EOS Pro and DHC will enhance reduction of CVOC contaminant concentrations in groundwater over time and reduce the footprint of the dissolved-phase plume beneath and adjacent to the Property.

Attachment D provides the full technical description of the Contingency Groundwater Treatment Injection.

SUMMARY

In the first quarter of 2024, a Statistical Trend Analysis Report based on the data collected through the end of 2023 will be submitted to Ecology. If the data shows that concentrations of CVOCs in groundwater beneath the Property or the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way are above applicable cleanup levels as of the last quarter of 2023, the following requirements will be triggered:

1. The performance monitoring schedule will be extended, in consultation with Ecology; and
2. Ecology will conduct an evaluation of the data to determine whether an additional groundwater treatment injection event is necessary, and the Parties will consult as to the scope of work and schedule of such treatment if so required.

SCHEDULE

The schedule and the list of wells to be monitored will be adjusted as necessary in response to data results obtained through sampling and in consultation with Ecology.[4]

Task	Schedule
Groundwater Monitoring (Performance)	2nd and 4th Quarters of 2019
Annual Groundwater Monitoring Report	1st Quarter of 2020
Groundwater Monitoring (Performance)	2nd and 4th Quarters of 2020
Annual Groundwater Monitoring Report	1st Quarter of 2021
Groundwater Monitoring (Performance)	2nd and 4th Quarters of 2021
Annual Groundwater Monitoring Report	1st Quarter of 2022
Groundwater Monitoring (Performance)	2nd and 4th Quarters of 2022
Annual Groundwater Monitoring Report	1st Quarter of 2023
Groundwater Monitoring (Performance)	2nd and 4th Quarters of 2023
Annual Groundwater Monitoring Report	1st Quarter of 2024
Statistical Trend Analysis Report	1st Quarter of 2024
Groundwater Monitoring (Confirmational)[4]	1st, 2nd, 3rd, and 4th Quarters of 2024
Annual Groundwater Monitoring Report	1st Quarter of 2025
Decommissioning of Groundwater Treatment Systems and Well Network	Date to be determined
Contingent Groundwater Treatment Injection Event	Date to be determined

[4] Performance monitoring will be conducted on a semiannual basis until cleanup levels are achieved for CVOCs in groundwater beneath the Property and the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way. Based on current sampling results and data projections, it is anticipated that cleanup levels will be achieved in the on-Property monitoring wells by the end of 2023. However, it is not anticipated that cleanup levels will be achieved in the monitoring wells located in the adjacent rights-of-way within the same timeframe. If the data shows that concentrations of CVOCs remain above cleanup levels in any of the monitoring wells (including those located in the Boren Avenue, Thomas Street, and Harrison Street rights-of-way) by the end of 2023, performance groundwater monitoring will continue on a semiannual basis after 2023 in some or all of the monitoring wells. Once cleanup levels are achieved for CVOCs in groundwater beneath the Property and the adjacent Boren Avenue, Thomas Street, and Harrison Street rights-of-way, groundwater monitoring will be performed on a quarterly basis until confirmation of compliance with groundwater cleanup levels for four (4) consecutive quarters is achieved.

Attachments:

A Extent of Troy Laundry Chlorinated Solvent Groundwater Plume (2017)

B Past and Current Groundwater Monitoring and Sampling Results and Groundwater Treatment and Monitoring Program

C Groundwater Compliance Monitoring Plan

D Contingency for Additional Groundwater Treatment

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1/9/2019

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TERRY AVENUE NORTH

HARRISON STREET

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

HISTORICAL BUILDING FACADE

N

0 25 50

APPROXIMATE SCALE IN FEET

B08/ MW01

MW26

B09/ MW02

B10/ MW03

B11/ MW04

B15/ MW07

B31/ MW12

B13/ MW06

B49/ MW15

MW27

B12/ MW05

B37/ MW13

B27/ MW09

B50/ MW16

B28/ MW10

B30/ MW11

B26/ MW08

B38/ MW14

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 IW91

MW17 MW18 MW19 MW20 MW21 MW22 MW23 MW24 MW25 MW28

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- EXTENT OF SOLVENT GROUNDWATER PLUME (2017)
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

SoundEarth Strategies

WWW.SOUNDEARTHINC.COM

TROY LAUNDRY PROPERTY
307 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT # 0731-004

ATTACHMENT A

EXTENT OF TROY LAUNDRY CHLORINATED SOLVENT GROUNDWATER PLUME (2017)

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

ATTACHMENT B TO EXHIBIT A – PROSPECTIVE PURCHASER CONSENT DECREE

January 10, 2019

Mr. Frank Jakus
Ponte Gadea Seattle, LLC
270 Biscayne Boulevard Way, Suite 201
Miami, FL 33131-2123

Mr. Paul Klansnic
TB TS/RELP LLC
2025 First Avenue, Suite 1212
Seattle, Washington 98121

Mr. Dirk Mosis
USAA Real Estate Company
9830 Colonnade Boulevard, Suite 600
San Antonio, Texas 78230

SUBJECT: PAST AND CURRENT GROUNDWATER MONITORING AND SAMPLING RESULTS AND GROUNDWATER TREATMENT AND MONITORING PROGRAM
Troy Laundry Property
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington
Project Number: 0731-004-05

Dear Mr. Jakus, Mr. Klansnic and Mr. Mosis:

SoundEarth Strategies, Inc. (SoundEarth) has prepared this summary of past and current groundwater monitoring and sampling results to document groundwater quality and the results of the groundwater treatment program required by the Washington State Department of Ecology (Ecology) at the Troy Laundry Property located at 300 Boren Avenue North and 399 Fairview Avenue North in Seattle, Washington (Property). As set forth in the separate Interim Action Progress Report dated January 22, 2016, all contaminated soils containing concentrations of contaminants of concern (COCs) above Washington State Model Toxics Control Act (MTCA) Method A cleanup levels were successfully removed from the Property during excavation for redevelopment purposes, with only isolated areas of soil contamination above MTCA Method A cleanup levels remaining outside the boundary of the Property along the western sidewall adjacent to Boren Avenue North.

The location of the Property is shown on Figure 1. The groundwater treatment program was implemented as part of the broader Interim Action Plan (IAP; SoundEarth 2013) for the Property, which was approved by Ecology on October 10, 2013. The Engineering Design Report (EDR; SoundEarth 2014) for the IAP includes more specific details necessary to implement the groundwater treatment program beneath and adjacent to the Property. Ecology approved the EDR on March 4, 2014. The groundwater treatment

program is being conducted as outlined in the IAP and EDR pursuant to the First Amendment to Agreed Order No. DE 8996.

The purpose of the groundwater treatment program at the Property is to enhance the natural biodegradation of chlorinated solvents detected in the groundwater beneath and adjacent to the Property through in situ reductive dechlorination. Reductive dechlorination is a biological process whereby chlorine atoms are replaced by hydrogen atoms, resulting in sequential dechlorination from tetrachloroethene (PCE) to trichloroethene (TCE) to trans-1,2-dichloroethene/cis-1,2-dichloroethene (trans-1,2-DCE/cis-1,2-DCE) to vinyl chloride (VC; together known as chlorinated volatile organic compounds [CVOCs]) and finally to ethene, which poses no risk to human health and the environment. Enhancing biodegradation will shrink the footprint of the contaminated groundwater plume beneath and potentially migrating from the Property, prevent recontamination of groundwater beneath the Property, reduce the concentrations of COCs in groundwater to below applicable regulatory cleanup levels, eliminate exposure pathways for the COCs, and bring the groundwater into regulatory compliance within a reasonable restoration time frame.

BACKGROUND

Lot-line to lot-line excavation for redevelopment of the Property was conducted between July 2014 and February 2015. All soils within the boundaries of the Property containing concentrations of COCs (chlorinated solvents and petroleum hydrocarbons) exceeding cleanup levels were removed, as evidenced by performance and confirmation sampling. Following excavation activities, a network of groundwater injection wells was installed in the bottom floor of what is now a parking garage.

REGIONAL AND LOCAL GROUNDWATER FLOW DIRECTION

The Regional Aquifer is located with Recessional and Advanced Outwash deposits and older Glacial Outwash deposits, which generally consist of clean to silty, fine to medium sands. A regional groundwater study indicates that the primary flow direction for the groundwater originating from the Property and within the Regional Aquifer is primarily to the south–southeast. Since 2011, when depth to groundwater was first measured at the Troy Property, the primary groundwater flow direction has been to the south–southeast. However, in Third Quarter 2013 and in Third and Fourth Quarters 2017, groundwater flow direction was to the northwest, likely in response to temporary construction dewatering occurring in areas upgradient of the Property. The regional groundwater study indicates that the temporary change in the groundwater flow direction in 2013 and 2017 at the Property are anomalous conditions in response to upgradient construction dewatering which has not resulted in extensive changes to the scope of groundwater contamination associated with the Property.

GROUNDWATER TREATMENT SYSTEM

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. Of the 91 vertical injection wells, 53 are located on or as close to the boundary of the Property as possible, while 38 are located within the boundary of the Property.

Vertical injection wells IW01 through IW91 were installed beneath the Property to an approximate elevation of –20 feet North American Vertical Datum 1988 (NAVD88). Each vertical injection well was

installed with 35 feet of well screen, with screen intervals extending from elevation 15 to –20 feet NAVD88.

Angled injection wells AIW01 through AIW12 were installed on the Property but extend beneath the Boren Avenue North right-of-way (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 of the angled injection wells into the ROWs ranged from approximately 35.5 to 53 feet from the Property boundaries. The locations of the injection wells are depicted on Figure 2.

GROUNDWATER TREATMENT EVENTS

The first groundwater treatment event occurred between May 12 and June 5, 2015. SoundEarth injected approximately 400 to 530 gallons of EOS PRO solution (editable oil substrate, a food-grade oil/water emulsion) into each injection well. A total of 49,500 gallons of 10-percent-by-volume EOS PRO solution was injected during this initial injection event.

The second groundwater treatment event at the Property occurred between April 25 and May 11, 2016. SoundEarth injected approximately 100 to 1,100 gallons of EOS PRO solution into each injection well. A total of 63,895 gallons of 10-percent-by-volume EOS PRO solution was injected into each injection well during this injection event.

The third groundwater treatment event at the Property occurred in June 2017, whereby a total of 273 kilograms of the microbial culture *Dehalococcoides* (DHC) was injected into 90 of the 103 injection wells. The 12 angled injection wells were not included in the third groundwater treatment event. The targeted wells received an injection consisting of a 50-gallon flush of conditioned water, followed by 3.0 to 3.2 kilograms of DHC and a second 50-gallon flush of conditioned water. Conditioned water is tap water that has been treated to make the water anoxic. The anoxic water ensures that a reducing environment is present in the groundwater when the microbial culture is introduced, because the microbial culture thrives in a low oxygen-reducing environment.

GROUNDWATER MONITORING AND SAMPLING 2015 TO 2018

Following the three injection events, and as part of ongoing quarterly groundwater monitoring, SoundEarth collected groundwater samples from monitoring wells located both on and off the Property (Figure 2). Groundwater samples were analyzed for COCs, and water level measurements were collected to determine the hydraulic gradient and groundwater flow direction at the Property.

A summary of the findings for the groundwater monitoring and sampling events conducted at the Property since treatment began in 2015 through Second Quarter 2018 is presented below.[1]

[1] Former monitoring well MW16 was last sampled in the First Quarter of 2018 and was destroyed during utility installation performed by the City of Seattle. Monitoring well MW28 was installed a replacement for former MW16 in December 2018.

Groundwater Monitoring and Sampling 2015

- Groundwater monitoring and sampling events were performed in Second, Third, and Fourth Quarters 2015. Groundwater elevations measured in 2015 indicated that groundwater at the Property flowed generally to the east–southeast, consistent with historical patterns (Figures 2, 3, and 4). The hydraulic gradient in 2015 ranged from 0.004 to 0.007 feet per foot.
- Concentrations of PCE exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from wells MW21, MW22, MW23, MW24, MW25, IW06, and IW61 located on the Property; MW13 located in the Boren Avenue North ROW; 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 MTCA Method A cleanup level (Figure 5; Table 1).
- Concentrations of TCE exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from wells MW18, MW19, MW23, MW24, MW25, IW04, and IW06 located on the Property; MW04, MW07, and MW27 located in the Boren Avenue North ROW; MW15 located in the Terry Avenue North ROW; MW16 located in the Thomas Street ROW; and MW26 located in the Harrison Street ROW. The concentrations of TCE in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 5; Table 1).
- Concentrations of cis-1,2-DCE exceeding the MTCA Method B cleanup level were detected in the groundwater samples collected from wells MW19, MW22, MW23, MW24, IW50, and IW61 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 MTCA Method B cleanup level (Figure 5; Table 1).
- Concentrations of VC exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from wells MW23, MW24, IW50, and IW61 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 limit and/or MTCA Method A cleanup level (Figure 5; Table 1).
- Concentrations of trans-1,2-DCE in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limits and/or MTCA Method or B cleanup levels (Table 1).
- With the exception of the concentration of diesel-range petroleum hydrocarbons (DRPH) in the groundwater at monitoring well MW23, concentrations of gasoline-range petroleum hydrocarbons (GRPH); oil-range petroleum hydrocarbons (ORPH); benzene, toluene, ethylbenzene, and total xylenes (BTEX) in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limits and/or MTCA Method A cleanup levels (Table 2). The concentration of DRPH in the groundwater sample collected from monitoring well MW23 exceeded the MTCA Method A cleanup level in the Third Quarter 2018, but was less than the cleanup level in First and Fourth Quarters 2015.

Groundwater Monitoring and Sampling 2016

- Groundwater monitoring and sampling events were performed in First, Third, and Fourth Quarters 2016. A Second Quarter groundwater monitoring event was not performed because a groundwater treatment event was performed in Second Quarter 2016. Groundwater elevations measured in 2016 indicated that groundwater at the Property flowed generally to the southeast (Figures 6, 7, and 8). The hydraulic gradient in 2016 ranged from 0.002 to 0.003 feet per foot.
- In First Quarter 2016, concentrations of PCE exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from wells MW21, MW22, MW24, MW25, and IW61 located on the Property. In Third and Fourth Quarters 2016 concentrations of PCE in monitoring wells MW21, MW22, and MW24 were less than the MTCA Method A cleanup level. The concentration of PCE in monitoring well MW25 was below the MTCA Method A cleanup level in Fourth Quarter 2016. The concentrations PCE in monitoring well MW13 located in the Boren Avenue North ROW exceeded the MTCA Method A cleanup level for PCE throughout 2016. Monitoring well MW16 located in the Thomas Street ROW had concentrations of PCE exceeding MTCA Method A cleanup levels in Fourth Quarter 2016. The concentrations of PCE in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 9; Table 1).
- In First and Fourth Quarters 2016, the concentration of TCE exceeded the MTCA Method A cleanup level in the groundwater samples collected from wells MW18, MW19, and MW25 located on the Property. In Third Quarter 2016, the concentrations of TCE were slightly below the MTCA Method A cleanup in these wells. In Third and Fourth Quarters 2016, the concentrations of TCE in monitoring wells MW23 and MW24 located on the Property were less than the MTCA Method A cleanup level, compared to First Quarter 2016 in which the concentrations of TCE in groundwater samples collected from these monitoring wells exceeded the MTCA Method A cleanup level. Throughout 2016, concentrations of TCE exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from monitoring wells MW04, MW07, and MW27 located in the Boren Avenue North ROW, MW26 located in the Harrison Street ROW, and MW15 located in the Terry Avenue North ROW. The concentration of TCE in groundwater sample collected from monitoring well MW16 exceeded the MTCA Method A cleanup level in Fourth Quarter 2016 only, and concentrations were similar to concentrations of TCE in the groundwater in 2015 (Figure 9; Table 1).
- In First Quarter 2016, the concentrations of cis-1,2-DCE exceeding the MTCA Method B cleanup level were detected in the groundwater samples collected from monitoring wells MW19, MW22, MW23, and MW24 located on the Property; however, the concentrations of cis-1,2-DCE were less than the MTCA Method B cleanup level in groundwater samples collected from these monitoring wells in the Third and Fourth Quarters. Throughout 2016, the concentrations of cis-1,2-DCE exceeded the MTCA Method B cleanup level in groundwater samples collected groundwater monitoring wells IW50 and IW61 located on the Property and monitoring well MW16 located in the Thomas Street ROW. The concentrations of cis-1,2-DCE exceeded the MTCA Method B cleanup level in monitoring well MW25 in Third and Fourth Quarters 2016 (Figure 9; Table 1).
- In Fourth Quarter 2016, the concentrations of VC exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from wells MW19, MW22, MW23, MW24, MW25, IW50, and IW61 located on the Property and MW16 located in the Thomas Street ROW.

With the exception of the concentration of VC in groundwater sample collected from MW19, concentrations of VC throughout 2016 in the groundwater samples collected from monitoring wells located on the Property remained relatively stable. The concentration of VC in groundwater monitoring well MW19 was below laboratory reporting limits in the First and Third Quarters 2016 but exceeded the Method A cleanup level in Fourth Quarter 2016. The concentrations of VC in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 9; Table 1).

- Concentrations of trans-1,2-DCE in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limit and/or MTCA Method A or B cleanup level (Table 1).
- In the 2017, concentrations of DRPH and/or ORPH exceeding the MTCA Method A cleanup level were detected in groundwater samples collected from monitoring wells MW18, MW19, MW21, MW22, MW23, MW24, and MW25 located on the Property. In the Third Quarter 2017, only the concentration of DRPH in groundwater sample collected from MW16 located in the Thomas Street ROW exceeded the MTCA Method A cleanup level. All of these samples were flagged by the laboratory as having a chromatographic pattern that does not match the fuel standard used for quantification. This was due to the presence of EOS PRO solution in the samples, which originated from the April/May 2016 injection event. The reported concentrations are not considered reflective of actual groundwater conditions at the Property (Table 2).
- In the Fourth Quarter of 2016, the concentration of GRPH exceeding the MTCA Method A cleanup level was detected in groundwater sample collected from monitoring well MW18 located on the Property. This sample was flagged by the laboratory as having a chromatographic pattern that does not match the fuel standard used for quantification. This was due to the presence of EOS PRO solution in the sample. The reported concentration is not considered reflective of actual groundwater conditions at the Property. The concentrations of GRPH in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Table 2).
- Concentrations of BTEX in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limits and/or MTCA Method A cleanup levels (Table 2).

Groundwater Monitoring and Sampling 2017

- Groundwater monitoring and sampling events were performed in First, Second, Third, and Fourth Quarters 2017. Groundwater elevations measured in 2017 indicated that groundwater at the Property flowed generally to the southeast during the First and Second Quarters, with a hydraulic gradient of 0.012 feet per foot. During Third and Fourth Quarters, groundwater elevations indicated that groundwater at the Property flowed generally to the northwest, with a hydraulic gradient ranging from 0.002 to 0.003 feet per foot. The cause of the changed pattern of groundwater flow direction is currently unknown, but likely due to dewatering or construction activities in the surrounding areas, which was the cause of a similar shift in groundwater flow direction for a brief period in 2013 (Figures 10, 11, 12, and 13).
- In First Quarter 2017, the concentration of PCE exceeding the MTCA Method A cleanup level was detected in the groundwater sample collected from well IW50; however, for the subsequent

quarters, the concentrations of PCE in groundwater samples were not reported above laboratory reporting limits. Throughout 2017, the concentrations of PCE in the groundwater samples collected from monitoring well IW61 located on the Property; monitoring well MW13 located in the Boren Avenue North ROW; and monitoring well MW16 located in the Thomas Street ROW exceeded the MTCA Method A cleanup level. The concentrations of PCE in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 14; Table 1).

- In First and/or Second Quarters 2017, the concentrations of TCE exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from wells MW18 and MW19 located on the Property and monitoring well MW15 located in the Terry Avenue North ROW. However, in Third and Fourth Quarters 2017, the concentrations of TCE in the groundwater samples collected from monitoring wells MW18, MW19, and MW15 were less than the MTCA Method A cleanup and/or laboratory reporting limits. Throughout 2017, the concentrations of TCE in groundwater samples collected from monitoring wells MW04, MW07, and MW27 located in the Boren Avenue North ROW, MW16 located in the Thomas Street ROW, and MW26 located in the Harrison Street ROW exceeded the MTCA Method A cleanup. The concentrations of TCE in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 14; Table 1).
- In First and Second Quarters 2017, the concentration of cis-1,2-DCE were less than the MTCA Method B cleanup level groundwater samples collected from monitoring wells MW18, MW22, IW04; however, in Third and/or Fourth Quarters 2017, the concentrations of cis-1,2-DCE in the groundwater samples collected from these wells exceeded the MTCA Method B cleanup level. In Fourth Quarter 2017, the concentrations of cis-1,2-DCE in groundwater water samples collected from monitoring wells MW23 and IW50 were less than the MTCA Method B cleanup level; however, the concentrations of cis-1,2-DCE exceeded the MTCA Method B cleanup level for all previous quarters in 2017. Throughout 2017, the concentrations of cis-1,2-DCE exceeded MTCA Method B cleanup level in the groundwater samples collected from monitoring well IW61 located on the Property. Throughout 2017, the concentrations of cis-1,2-DCE exceeded the MTCA Method B cleanup level in groundwater samples collected from monitoring well MW16 located in the Thomas Street ROW. (Figure 14; Table 1).
- In Fourth Quarter 2017, the concentrations of VC exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from wells MW20 and MW21 located on the Property; however, previous concentrations of VC in groundwater samples collected from the monitoring wells in 2017 were not reported above laboratory limits. Concentrations of VC in groundwater samples collected from monitoring well MW18, MW19, MW22, MW23, MW24, MW25, IW04, IW50, and IW61 located on the Property and MW16 located in the Thomas Street ROW exceeded the MTCA Method A cleanup level. The concentrations of VC in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 14; Table 1).
- Concentrations of trans-1,2-DCE in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limit and/or MTCA Method A or B cleanup level (Table 1).

- Concentrations of DRPH and/or ORPH exceeding the MTCA Method A cleanup levels were detected in groundwater samples collected from wells MW18, MW19, MW21, MW22, MW23, MW24, and MW25 located on the Property and MW16 located in the Thomas Street ROW. All of these samples were flagged by the laboratory as having a chromatographic pattern that does not match the fuel standard used for quantification. This was due to the presence of EOS PRO solution in the samples, which originated from the April/May 2016 injection event. The reported concentrations are not considered reflective of actual groundwater conditions at the Property (Table 2).
- Concentrations of GRPH exceeding the MTCA Method A cleanup level were detected in groundwater samples collected from monitoring wells MW22 and MW23 located on the Property. The concentrations of GRPH in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level. GRPH in groundwater samples collected from monitoring wells MW22 and MW23 can be attributed to the presence of EOS PRO solution in the samples. The concentrations of GRPH in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Table 2).
- Concentrations of BTEX in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limits and/or MTCA Method A cleanup levels (Table2).

Groundwater Monitoring and Sampling 2018

- Groundwater monitoring and sampling events were performed in First, Second, and Third Quarters 2018. Groundwater elevations measured in 2018 indicated that groundwater at the Property flowed generally to the southeast during First, Second, and Third Quarters, with a hydraulic gradient ranging from 0.002 to 0.006.
- In First, Second, and Thirds Quarters 2018, the concentrations of PCE exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from monitoring well IW61 located on the Property and monitoring well MW13 located in the Boren Avenue North ROW. The concentration of PCE at monitoring well MW16 located in the Thomas Street ROW exceeded the MTCA Method A cleanup level in First Quarter 2018. The concentrations of PCE in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 18; Table 1).
- In First, Second, and Third Quarters 2018, concentrations of TCE were not detected above the cleanup level in the groundwater samples collected from monitoring wells MW18 and MW19 located on the Property. In First Quarter 2018, monitoring well MW15 located in the Terry Avenue North ROW contained a concentration of TCE below the MTCA Method A cleanup level, but the concentration exceeded the MTCA Method A cleanup level in Second and Third Quarters 2018. Throughout 2018, the concentrations of TCE in groundwater samples collected from monitoring wells MW04, MW07, and MW27 located in the Boren Avenue North ROW, MW16 located in the Thomas Street ROW, and MW26 located in the Harrison Street ROW exceeded the MTCA Method A cleanup level. The concentrations of TCE in the remaining groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 18; Table 1).
- In First, Second, and Third Quarters 2018, the concentrations of cis-1,2-DCE were less than or at the MTCA Method B cleanup level for groundwater samples collected from monitoring wells

MW19, MW20, MW21, IW04, and IW50 located on the Property. In First, Second, and Third Quarters 2018, the concentrations of cis-1,2-DCE exceeded the MTCA Method B cleanup level in the groundwater samples collected from monitoring wells MW18, MW22, and IW61 located on the Property and monitoring well MW16 located in the Thomas Street ROW. In the First Quarter 2018, the concentration of cis-1,2-DCE in the groundwater sample collected at MW23 exceeded the MTCA Method B cleanup level, but was less than or at the cleanup level in groundwater samples collected from MW23 in the Second and Third Quarters 2018. Concentrations of cis-1,2-DCE in all remain off-Property monitoring wells were less than the MTCA Method B cleanup level (Figure 18; Table 1).

- In First, Second, and Third Quarters 2018, the concentrations of VC exceeding the MTCA Method A cleanup level were detected in the groundwater samples collected from monitoring wells MW18, MW19, MW21, MW22, MW23, MW24, and MW25 and injection wells IW50 and IW61 located on the Property. In the First Quarter of 2018, the concentration of VC exceeded the MTCA cleanup level of VC in the groundwater sample collected from monitoring well MW16 located in the Thomas Street ROW. Concentrations of VC in groundwater samples collected from the remainder of on-Property and off-Property monitoring wells were below the laboratory reporting limit and/or MTCA Method A cleanup level (Figure 18; Table 1).
- Concentrations of trans-1,2-DCE in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limit and/or MTCA Method A or B cleanup level (Table 1).
- Concentrations of DRPH and/or ORPH exceeding the MTCA Method A cleanup levels were detected in groundwater samples collected from wells MW18, MW19, MW21, MW22, MW23, MW24, and MW25 located on the Property. All of these samples were flagged by the laboratory as having a chromatographic pattern that does not match the fuel standard used for quantification. This was due to the presence of EOS PRO solution in the samples, which originated from the April/May 2016 injection event. The reported concentrations are not considered reflective of actual groundwater conditions at the Property (Table 2).
- The concentrations of GRPH in groundwater samples were below the laboratory reporting limit and/or MTCA Method A cleanup level (Table 2).
- Concentrations of BTEX in the groundwater samples collected from all of the sampled monitoring wells were below their respective laboratory reporting limits and/or MTCA Method A or B cleanup levels (Table 2).

ANALYSIS OF GROUNDWATER TREATMENT TO DATE

Groundwater analytical results indicate that remedial actions taken at the Property to remove contaminated soil, combined with the subsequent implementation of the groundwater treatment program, have resulted in the significant degradation of the CVOCs in the groundwater plume originating on the Property. This conclusion is based on the fact that since the 2016 groundwater treatment event, concentrations of PCE and TCE in all of the groundwater monitoring wells on the Property, with the exception of IW61, have decreased and are less than their MTCA Method A cleanup levels. In addition, a noticeable, and anticipated, trend can be seen with the concentrations of cis-1,2-DCE and VC increasing initially in 2016 and 2017. The increase in the concentrations of cis-1,2-DCE and VC indicates ongoing enhanced reductive dechlorination (ERD) of CVOCs in the groundwater at the Property. Since the 2017

groundwater treatment event, concentrations of cis-1,2-DCE and VC have shown a slight decline or increase, or remained relatively stable.

The first phase of the IAP included the complete removal of soil at the Property to a depth of approximately 75 feet below ground surface. The mass excavation removed soil with concentrations of COCs above applicable cleanup levels based on the protection of groundwater. This action is a large factor in the overall success of the IAP because it removed the source areas of COCs. The second phase of the IAP, implementation of groundwater treatment using ERD, is responsible for cleanup of the groundwater. ERD achieves degradation of the CVOCs in the groundwater using the following process:

- Emulsified oil substrate (EOS) is injected into the groundwater through a series of injection wells screened within the contaminated aquifer. EOS moves into the surrounding formation through the well screens and creates anaerobic conditions in the groundwater that are conducive to the degradation of PCE and its degradation products. The EOS first creates a condition in the groundwater that promotes the proliferation of anaerobic microbes under reducing conditions. In short term, the EOS sequesters the CVOCs, while in the long term the EOS enhances the degradation of the CVOCs that occurs in the dissolved phase.
- Once the aquifer has reached reducing conditions, the existing anaerobic microbes begin to proliferate. In general, ERD occurs by sequential dechlorination, which transforms PCE to TCE to cis-1,2-DCE to VC to ethene. The microbes obtain useful energy from the reductive dechlorination process; this is known as halorespiration.
- During anaerobic reductive dechlorination, some special strains of microbes, such as DHC, increase in population through halorespiration, and dechlorinate cis-1,2-DCE and VC. In addition to the natural production of these microbes, DHC (KB-1, laboratory engineered strain) was injected during the third groundwater treatment event to ensure there is a healthy population in the groundwater to degrade cis-1,2-DCE and VC.

Sequestration in EOS, with subsequent ERD of dissolved-phase CVOCs in the groundwater at most locations on the Property, is ongoing as a result of the presence of EOS in the groundwater. This condition was observed at injection well IW61, based on the continued elevated concentration of PCE in the groundwater at injection well IW61 (16 micrograms per liter; June 2018) relative to the concentration of PCE in groundwater monitoring wells MW22 and MW23, which are located proximal to IW61 (Figure 2). Groundwater monitoring wells MW22 and MW23 and injection well IW61 are screened at similar depths; however, concentrations of PCE have not been reported above laboratory reporting limits in the groundwater at monitoring wells MW22 and MW23 throughout 2017. The continued presence and elevated concentration of PCE in the groundwater at IW61 can be attributed the significate quantity of EOS in the water column, which is continuing to sequester PCE. Field observations during the groundwater sampling event indicate that purge water from injection well IW61 is the color of milk, which indicates the presence of EOS, while purge water from monitoring wells MW22 and 23 is relatively clear.

Petroleum hydrocarbons were not detected at concentrations above applicable cleanup levels in groundwater samples collected from the Property prior to the injections of EOS. Concentrations of GRPH, DRPH, and ORPH in the groundwater beneath the Property are attributable to the EOS injected to treat chlorinated solvent-contaminated groundwater. According to the laboratory, petroleum hydrocarbon chromatographic patterns for the groundwater samples do not match the fuel standard used for

quantification for GRPH, DRPH, and ORPH. Therefore, the reported concentrations of GRPH, DRPH, and ORPH in the groundwater are not considered representative of the presence of petroleum hydrocarbon contamination beneath or potentially migrating from the Troy Property.

PLAN GOING FORWARD

Ongoing groundwater monitoring events are planned to monitor the progress of the groundwater treatment program and to ensure that concentrations of COCs in groundwater continue to decline or remain below the applicable MTCA cleanup levels. Additional groundwater treatment events may be proposed for the Property if the concentrations of PCE and TCE in the groundwater beneath Property rebound, or if cis 1,2-DCE and VC continue to remain at concentrations above the cleanup levels, and/or if anomalous concentrations COCs remain at select locations on the Property or downgradient of the Property.

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.

Respectfully,

SoundEarth Strategies, Inc.

Thomas, Cammarata, LG, LHG
Principal Environmental Geochemist

Attachments: Figure 1, Property Location Map
Figure 2, Groundwater Contour Map with Rose Diagram (May 5, 2015)
Figure 3, Groundwater Contour Map with Rose Diagram (August 3, 2015)
Figure 4, Groundwater Contour Map with Rose Diagram (December 7, 2015)
Figure 5, Groundwater Analytical Results Chlorinated Volatile Organic Compounds (2015)
Figure 6, Groundwater Contour Map with Rose Diagram (March 7, 2016)
Figure 7, Groundwater Contour Map with Rose Diagram (July 12, 2016)
Figure 8, Groundwater Contour Map with Rose Diagram (October 18, 2016)

Figure 9, Groundwater Analytical Results Chlorinated Volatile Organic Compounds (2016)
Figure 10, Groundwater Contour Map with Rose Diagram (January 24, 2017)
Figure 11, Groundwater Contour Map with Rose Diagram (May 31, 2017)
Figure 12, Groundwater Contour Map with Rose Diagram (September 21, 2017)
Figure 13, Groundwater Contour Map with Rose Diagram (December 14, 2017)
Figure 14, Groundwater Analytical Results Chlorinated Volatile Organic Compounds (2017)
Figure 15, Groundwater Contour Map with Rose Diagram (March 8, 2018)
Figure 16, Groundwater Contour Map with Rose Diagram (June 28, 2018)
Figure 17, Groundwater Contour Map with Rose Diagram (September 22, 2018)
Figure 18, Groundwater Analytical Results Chlorinated Volatile Organic Compounds (2018)
Table 1, Groundwater Analytical Results for CVOCs
Table 2, Groundwater Analytical Results for TPH

REFERENCES

SoundEarth Strategies, Inc. (SoundEarth). 2013. *Interim Action Plan, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington.* August 21.

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LDS/TJC:rt

FIGURES

6/9/2015

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\FIGURE 1\0731-004-04_FIG 1_F.DWG

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SOUNDEARTH PROJECT #0731-004

FIGURE 1

PROPERTY LOCATION MAP

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2015Q2-CM.DWG

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- (10.71') GROUNDWATER ELEVATION
- 0.5-FOOT-INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION (MAY 5, 2015)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

B08/ MW01 (10.71')

MW26

B10/ MW03

HISTORICAL BUILDING FACADE

AMAZON BUILDING

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

THOMAS STREET

B11/ MW04 (12.60')

B15/ MW07 (11.99')

B49/ MW15 (13.03')

MW27

B37/ MW13

B50/ MW16 (10.31')

MW17 (10.46')

MW18 (10.42')

MW19 (10.45')

MW20 (10.39')

MW21 (10.37')

MW22 (10.33')

MW23 (10.35')

MW24 (10.41')

MW25 (10.53')

B31/ MW12

B13/ MW06

B30/ MW11

B28/ MW10

B26/ MW08

B27/ MW09

B38/ MW14

IW91 (10.26')

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90

11' 11.5' 12' 12.5' 13'

HISTORICAL BUILDING FACADE

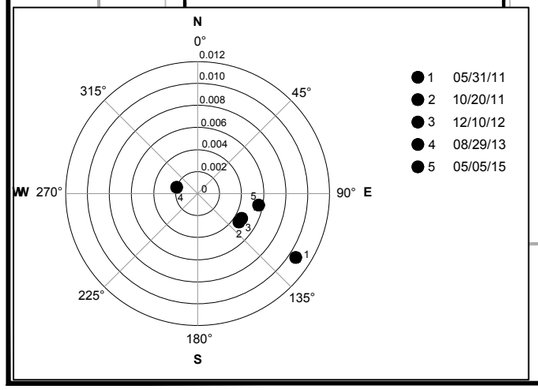

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FIGURE 2
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (MAY 5, 2015)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2015Q3-CM.DWG

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- (14.13') GROUNDWATER ELEVATION
- 0.5-FOOT-INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION (AUGUST 3, 2015)
- * WELL NOT INCLUDED IN CONTOURING BECAUSE OF ANOMALOUSLY HIGH GROUNDWATER LEVEL MEASUREMENT

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

B08/ MW01

MW26

B10/ MW03

HISTORICAL BUILDING FACADE

AMAZON BUILDING

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

THOMAS STREET

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

B11/ MW04 (13.95')

B15/ MW07 (13.01')

B31/ MW12

B13/ MW06

B49/ MW15 (14.08')

MW27

B37/ MW13 (10.79')

B50/ MW16 (10.65')

MW17 (10.90')

MW18 (10.85')

MW19 (10.87')

MW20* (11.19')

MW24 (10.82')

B30/ MW11

B28/ MW10

B26/ MW08

MW25 (10.78')

MW21 (10.76')

MW22 (10.72')

MW23 (10.71')

B27/ MW09

B38/ MW14

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 (10.63') IW91

14' 13.5' 13' 12.5' 12' 11.5' 11'

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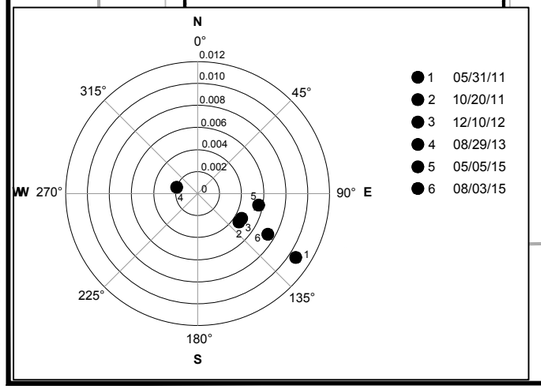

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FIGURE 3
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (AUGUST 3, 2015)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2015Q4_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- (9.98') GROUNDWATER ELEVATION
- 0.5-FOOT-INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION (DECEMBER 7, 2015)
- * THE GROUNDWATER ELEVATION FOR MW27 WAS ERRONEOUS; THEREFORE, WELL MW27 WAS NOT USED IN THE GROUNDWATER CONTOUR.

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 (10.22')

MW26 (10.15')

B09/ MW02

B10/ MW03

10.50'

11.00'

11.50'

AIW01

AIW02

AIW03

AIW04

AIW05

AIW06

AIW07

AIW08

AIW09

AIW10

AIW11

AIW12

B11/ MW04 (12.00')

B15/ MW07 (11.49')

B31/ MW12

B13/ MW06

MW19 (10.18')

MW27* (9.96')

B12/ MW05

MW25 (10.08')

B37/ MW13 (10.13')

B27/ MW09

MW23 (10.09')

MW18 (10.13')

MW17 (10.23')

MW24 (10.16')

B30/ MW11

MW20 (10.13')

B28/ MW10

B26/ MW08

MW21 (10.09')

MW22 (10.06')

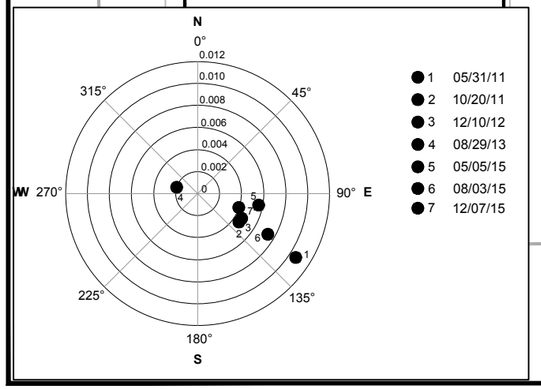
B50/ MW16 (10.03')

B38/ MW14

IW91 (9.98')

B49/ MW15 (11.81')

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW12 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90



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307 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT # 0731-004

FIGURE 4
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (DECEMBER 7, 2015)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICALCAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2015Q4_VOC.DWG

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW01	08/06/15	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW26	12/10/15	<1	11	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW06	05/07/15	6.3	13	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW04	05/08/15	<1	15	1.9	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW17	05/06/15	<1	2.2	<1	<1	<0.2
	08/07/15	<1	1.5	<1	<1	<0.2
	12/07/15	<1	1.5	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW04	05/08/15	1.4	13	4.2	<1	<0.2
	08/06/15	<1	6.9	1.0	<1	<0.2
	12/09/15	<1	9.2	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW18	05/06/15	<1	46	5.2	<1	<0.2
	08/03/15	<1	51	4.6	<1	<0.2
	12/08/15	<1	51	9.9	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW07	05/08/15	2.5	15	4.8	<1	<0.2
	08/05/15	1.8	12	3.2	<1	<0.2
	12/09/15	2.3	14	4.1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW20	05/06/15	<1	<1	1.5	<1	<0.2
	08/03/15	<1	<1	1.2	<1	<0.2
	12/07/15	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW19	05/07/15	<1	69	15	<1	<0.2
	08/03/15	<1	61	20	<1	<0.2
	12/07/15	<1	65	23	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW24	05/06/15	2.5	31	72	<1	0.26
	08/04/15	5.5	28	75	<1	<0.2
	12/08/15	11	28	54	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW50	08/03/15	4.1	8.1	44	<1	<0.2
	12/08/15	<1	<1	140	<1	1.8

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW15	05/08/15	<1	6.5	<1	<1	<0.2
	08/05/15	<1	5.3	<1	<1	<0.2
	12/09/15	<1	6.8	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW21	05/06/15	5.1	1.6	7.2	<1	<0.2
	08/04/15	4.9	1.4	4.5	<1	<0.2
	12/08/15	7.3	2.0	6.7	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW27	12/07/15	<1	21	2.5	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW22	05/06/15	11	2.2	27	<1	<0.2
	08/04/15	17	3.0	34	<1	<0.2
	12/08/15	19	3.7	42	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW25	05/07/15	<1	68	5.2	<1	<0.2
	08/05/15	3.0	75	7.9	<1	<0.2
	12/08/15	11	71	8.4	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW91	05/06/15	<1	<1	<1	<1	<0.2
	08/04/15	<1	<1	<1	<1	<0.2
	12/8/2015	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW13	05/11/15	4.6	1.7	<1	<1	<0.2
	08/05/15	5.4	2.3	<1	<1	<0.2
	12/15/15	5.6	1.6	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW61	12/08/15	10	2.8	120	<1	0.86

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW23	05/07/15	6.1	18	13	<1	<0.2
	08/04/15	6.1	24	20	<1	<0.2
	12/08/15	3.8	16	120	<1	0.57

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW16	05/08/15	7.5	7.6	640	<1	2.8
	08/05/15	7.8	7.3	550	<1	2.4
	12/10/15	5.3	4.5	510	<1	3.2

HARRISON STREET

THOMAS STREET

FAIRVIEW AVENUE

BOREN AVENUE NORTH

TERRY AVENUE NORTH

HISTORICAL BUILDING FACADE

AMAZON BUILDING

BRAVEHORSE TAVERN

B08/ MW01 · MW26 · B09/ MW02 · B10/ MW03 · IW06 · IW04 · MW17 · B11/ MW04 · MW18 · MW20 · B28/ MW10 · MW24 · B30/ MW11 · IW50 · MW21 · MW25 · MW27 · B12/ MW05 · B15/ MW07 · MW19 · B31/ MW12 · B13/ MW06 · B49/ MW15 · B37/ MW13 · B27/ MW09 · IW61 · MW23 · IW91 · B38/ MW14 · B50/ MW16 · MW22

AIW01 · AIW02 · AIW03 · AIW04 · AIW05 · AIW06 · AIW07 · AIW08 · AIW09 · AIW10 · AIW11

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW10 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW80 IW81 IW82 IW89 IW90

N

0 25 50

APPROXIMATE SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL USED AS MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- DCE DICHLOROETHENE
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
- < NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
- RED DENOTES CONCENTRATIONS EXCEEDING THE MTCA METHOD CLEANUP LEVEL FOR GROUNDWATER

	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MTCA Method A	5	5	160	16	0.2

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FIGURE 5
GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (2015)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2016Q1_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (10.74') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (MARCH 7, 2016)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 (11.13')

MW26 (10.75')

B09/ MW02

B10/ MW03

B11/ MW04 (11.57')

B15/ MW07 (11.46')

B49/ MW15 (11.31')

(10.59') MW27

B12/ MW05

B37/ MW13 (10.79')

B50/ MW16 (10.64')

MW17 (10.74')

MW18 (10.70')

MW19 (10.72')

MW20 (10.69')

MW21 (10.68')

MW22 (10.61')

MW23 (10.66')

MW24 (10.76')

MW25 (10.67')

B31/ MW12

B13/ MW06

B30/ MW11

B26/ MW08

B27/ MW09

B28/ MW10

B38/ MW14

(10.58') IW91

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

11.50 11.00 10.50

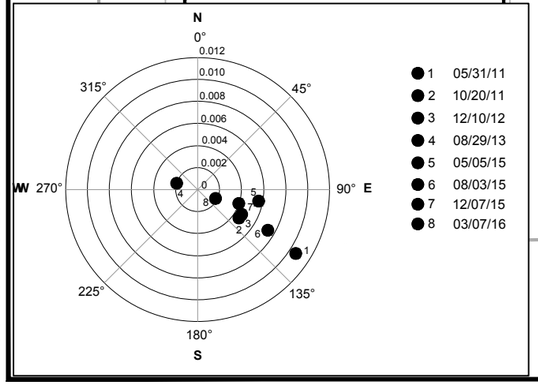

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FIGURE 6
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (MARCH 7, 2016)

9/18/2018

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LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (12.33') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (JULY 12, 2016)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

HISTORICAL BUILDING FACADE

B08/ MW01 (11.23')

MW26 (11.05')

B09/ MW02

B10/ MW03

11.00

11.50

12.00

AIW01

IW08 IW07 IW06 IW05 IW04 IW03 IW02 IW01 IW09 IW10 IW10 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25

MW17 (11.11')

B11/ MW04 (12.33')

AIW02

AIW03

B15/ MW07 (11.86')

MW18 (11.11')

AIW04

B31/ MW12

B13/ MW06

MW19 (11.12')

IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44

B28/ MW10

MW20 (11.01')

AIW05

B30/ MW11

MW24 (11.12')

B26/ MW08

AIW06

MW27 (10.81')

B12/ MW05

MW25 (10.94')

IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69

MW21 (11.02')

AIW07

AIW08

B37/ MW13 (10.83')

MW22 (10.95')

MW23 (10.89')

B27/ MW09

IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 (10.92') IW91

AIW09

HISTORICAL BUILDING FACADE

B38/ MW14

FAIRVIEW AVENUE

TERRY AVENUE NORTH

BRAVEHORSE TAVERN

AMAZON BUILDING

B49/ MW15 (12.16')

SOUTH LAKE UNION HOTEL LLC

BOREN AVENUE NORTH

THOMAS STREET

B50/ MW16 (10.77')

AIW10

AIW11

AIW12

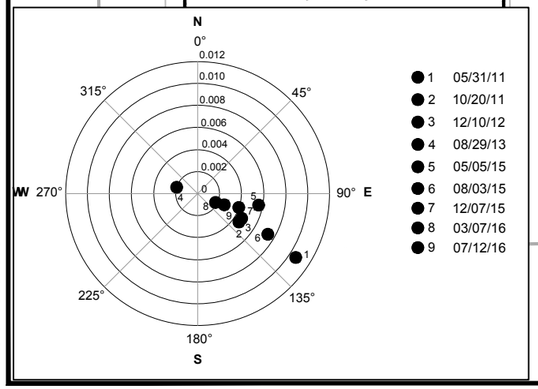

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FIGURE 7
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (JULY 12, 2016)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018ENVIRONMENTAL SUMMARY\0731-004_2016Q4_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (12.53') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (OCTOBER 18, 2016)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

FAIRVIEW AVENUE NORTH

BORON AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

AMAZON BUILDING

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

GAS & OIL

B08/ MW01 (13.00')
MW26 (12.47')
B09/ MW02
B10/ MW03
MW17 (12.58')
B11/ MW04 (13.80')
MW18 (12.53')
B15/ MW07 (13.42')
B31/ MW12
B13/ MW06
MW19 (12.57')
MW20 (12.50')
B28/ MW10
B30/ MW11
MW24 (12.69')
B26/ MW08
MW21 (12.58')
MW27 (12.44')
B12/ MW05
MW25 (12.43')
B49/ MW15 (13.92')
MW22 (12.42')
B37/ MW13 (12.70')
MW23 (12.45')
B27/ MW09
IW91 (12.41')
B38/ MW14
B50/ MW16 (12.44')

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

13.00 12.50 13.50 13.00 13.50 12.50

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90

N
0°
45°
90° E
135°
180° S
225°
270° W
315°
0.012
0.010
0.008
0.006
0.004
0.002
0

1	05/31/11
2	10/20/11
3	12/10/12
4	08/29/13
5	05/05/15
6	08/03/15
7	12/07/15
8	03/07/16
9	07/12/16
10	10/18/16

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SOUNDEARTH PROJECT # 0731-004

FIGURE 8
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (OCTOBER 18, 2016)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICALCAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2016Q4_VOC.DWG

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW01	03/08/16	<1	<1	<1	<1	<0.2
	07/12/16	<1	<1	<1	<1	<0.2
	10/18/16	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW26	03/08/16	<1	10	<1	<1	<0.2
	07/12/16	<1	12	<1	<1	<0.2
	10/18/16	<1	12	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW04	03/09/16	<1	2.5	11	<1	<0.2
	07/14/16	<1	<1	<1	<1	<0.2
	10/21/16	<1	<1	1.8	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW17	03/08/16	<1	<1	<1	<1	<0.2
	07/14/16	<1	1.2	<1	<1	<0.2
	10/20/16	<1	2.1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW18	03/08/16	<1	44	8.1	<1	<0.2
	07/14/16	<1	3.3	1.7	<1	<0.2
	10/20/16	<1	6.5	4.0	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW20	03/09/16	<1	<1	<1	<1	<0.2
	07/15/16	<1	<1	<1	<1	<0.2
	10/20/16	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW24	03/09/16	11	23	45	<1	<0.2
	07/15/16	<1	1.7	12	<1	<0.2
	10/20/16	<1	2.7	12	<1	0.26

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW50	03/09/16	<1	<1	110	<1	1.9
	07/15/16	3.7	<1	38	<1	2.5
	10/21/16	3.7	<1	23	<1	1.0

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW21	03/09/16	5.3	1.4	7.9	<1	<0.2
	07/13/16	<1	<1	1.2	<1	<0.2
	10/20/16	<1	<1	1.7	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW22	03/08/16	28	4.5	52	<1	0.35
	07/13/16	<1	<1	5.5	<1	<0.2
	10/20/16	<1	<1	6.7	<1	0.65

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW91	03/09/16	<1	<1	<1	<1	<0.2
	07/14/16	<1	<1	<1	<1	<0.2
	10/20/16	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW61	03/09/16	23	4.2	140	<1	1.7
	07/14/16	8.3	1.6	24	<1	1.6
	10/21/16	9.5	2.8	34	<1	0.96

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW04	03/08/16	<1	9.6	1.1	<1	<0.2
	07/13/16	1.0	8.9	1.3	<1	<0.2
	10/19/16	<1	5.5	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW07	03/08/16	2.6	13	3.8	<1	<0.2
	07/13/16	3.0	18	5.7	<1	<0.2
	10/19/16	3.5	13	2.3	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW19	03/08/16	<1	52	26	<1	<0.2
	07/13/16	<1	4.6	10	<1	<0.2
	10/21/16	<1	10	4.4	<1	0.40

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW15	03/08/16	<1	6.7	<1	<1	<0.2
	07/13/16	<1	5.8	<1	<1	<0.2
	10/18/16	<1	5.3	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW27	03/07/16	<1	21	3.8	<1	<0.2
	07/13/16	<1	18	4.5	<1	<0.2
	10/19/16	<1	23	4.8	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW25	03/08/16	25	50	12	<1	<0.2
	07/13/16	6.1	4.8	23	<1	0.70
	10/19/16	1.8	5.1	16	<1	1.0

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW13	03/07/16	6.6	1.6	<1	<1	<0.2
	07/12/16	6.5	1.6	<1	<1	<0.2
	10/19/16	10	2.2	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW23	03/08/16	4.1	14	95	<1	0.64
	07/14/16	<1	1.6	14	<1	2.2
	10/20/16	<1	2.1	9.9	<1	0.48

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW16	03/08/16	3.7	2.0	190	<1	1.3
	07/12/16	<1	<1	160	<1	2.0
	10/19/16	5.0	5.4	170	<1	1.2

HISTORICAL BUILDING FACADE

HARRISON STREET

AMAZON BUILDING

BRAVEHORSE TAVERN

THOMAS STREET

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

B08/ MW01 · MW26 · B09/ MW02 · B10/ MW03 · B11/ MW04 · B15/ MW07 · B49/ MW15 · B31/ MW12 · B13/ MW06 · B12/ MW05 · B37/ MW13 · B27/ MW09 · B50/ MW16 · B38/ MW11 · B38/ MW14

AIW01 · AIW02 · AIW03 · AIW04 · AIW05 · AIW06 · AIW07 · AIW08 · AIW09 · AIW10 · AIW11

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW10 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 IW91

MW19 · MW25 · MW27 · MW15 · MW07 · MW04 · MW17 · MW18 · MW20 · MW24 · MW21 · MW22 · MW23 · MW16 · MW13

N

0 25 50

APPROXIMATE SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL USED AS MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

DCE DICHLOROETHENE
PCE TETRACHLOROETHENE
TCE TRICHLOROETHENE
MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
< NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
RED DENOTES CONCENTRATIONS EXCEEDING THE MTCA METHOD CLEANUP LEVEL FOR GROUNDWATER

	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MTCA Method A	5	5	160	16	0.2

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FIGURE 9
GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (2016)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2017Q1_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (14.47') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (JANUARY 24, 2017)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

HISTORICAL BUILDING FACADE

TERRY AVENUE NORTH

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

BOREN AVENUE NORTH

THOMAS STREET

FAIRVIEW AVENUE

B08/ MW01 (16.38')
MW26 (14.47')
B09/ MW02
B10/ MW03
B11/ MW04 (16.76')
B15/ MW07 (16.27')
MW17 (14.88')
MW18 (14.36')
MW19 (14.72')
MW20 (14.31')
MW24 (14.93')
MW25 (14.31')
MW21 (14.04')
MW22 (13.79')
MW23 (14.37')
MW27 (14.25')
B12/ MW05
B31/ MW12
B13/ MW06
B30/ MW11
B26/ MW08
B28/ MW10
B27/ MW09
B37/ MW13 (15.30')
B38/ MW14
B49/ MW15 (16.84')
B50/ MW16 (14.47')
IW91 (14.21')

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

16.50 16.00 15.50 15.00 14.50 14.00

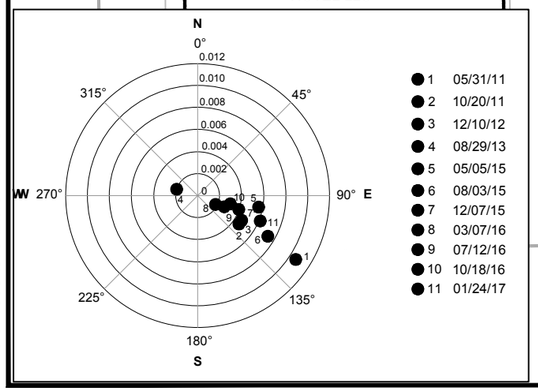

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FIGURE 10
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (JANUARY 24, 2017)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2017Q2_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (12.78') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (MAY 31, 2017)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 (13.96')

MW26 (12.78')

B09/ MW02

B10/ MW03

B11/ MW04 (15.23')

MW17 (12.97')

B15/ MW07 (14.78')

MW18 (12.85')

B31/ MW12

B13/ MW06

MW19 (12.95')

MW20 (12.93')

B28/ MW10

B30/ MW11

MW24 (11.64')

B26/ MW08

B49/ MW15 (15.81')

MW27 (12.93')

B12/ MW05

MW25 (13.14')

MW21 (12.21')

MW22 (12.02')

B27/ MW09

MW23 (13.02')

B37/ MW13 (13.46')

IW91 (13.03')

B38/ MW14

B50/ MW16 (13.14')

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

14.00 13.50 13.00 14.50 15.00 15.50 13.00 14.50 15.00 15.50 14.00 13.50 13.00

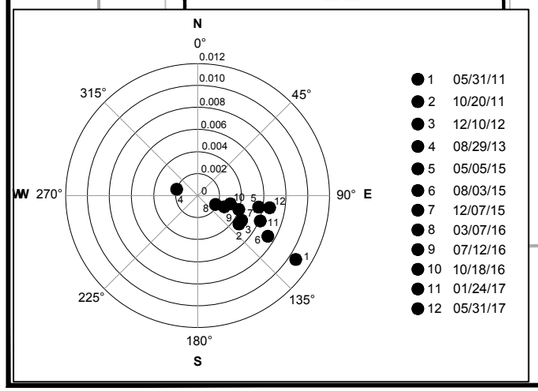

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FIGURE 11
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (MAY 31, 2017)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2017Q3_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (12.78') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (SEPTEMBER 21, 2017)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE NORTH

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

AMAZON BUILDING

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 (9.74')

MW26 (9.63')

B09/ MW02

B10/ MW03

B11/ MW04 (8.74')

B15/ MW07 (9.51')

B31/ MW12

B13/ MW06

MW19 (10.09')

MW18 (9.98')

MW17 (9.99')

MW20 (10.10')

B28/ MW10

B30/ MW11

MW24 (NM)

B26/ MW08

MW21 (9.62')

MW25 (10.29')

B49/ MW15 (9.27')

B12/ MW05

MW27 (9.95')

MW22 (9.27')

B37/ MW13 (10.40')

MW23 (10.32')

B27/ MW09

(10.40') IW91

B38/ MW14

B50/ MW16 (10.33')

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

9.50 9.00 10.00

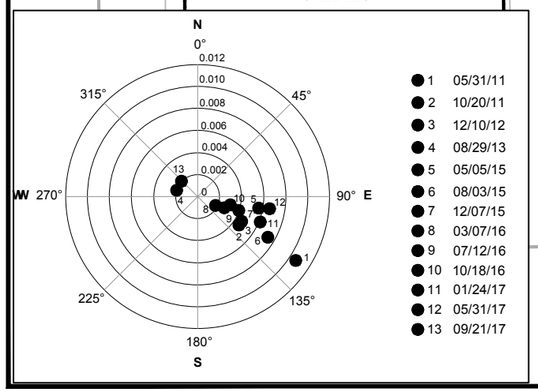

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FIGURE 12

GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (SEPTEMBER 21, 2017)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2017Q4_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (9.87') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (DECEMBER 14, 2017)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

HISTORICAL BUILDING FACADE

B08/ MW01 (10.51')

MW26 (10.46')

B09/ MW02

B10/ MW03

10.00

10.50

9.50

9.00

AIW01

AIW02

AIW03

AIW04

AIW05

AIW06

AIW07

AIW08

AIW09

AIW10

AIW11

AIW12

B11/ MW04 (8.79')

B15/ MW07 (NM)

B49/ MW15 (8.97')

B37/ MW13 (10.67')

B50/ MW16 (10.75')

MW17 (10.58')

MW18 (10.64')

MW19 (10.72')

MW20 (10.72')

MW21 (10.38')

MW22 (9.87')

MW23 (10.78')

MW24 (10.66')

MW25 (10.86')

MW27 (10.57')

B12/ MW05

B13/ MW06

B27/ MW09

B28/ MW10

B30/ MW11

B26/ MW08

B38/ MW14

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 (10.86') IW91

AMAZON BUILDING

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

THOMAS STREET

HISTORICAL BUILDING FACADE

N
0°
45°
90° E
135°
180°
S
225°
270° W
315°
0.002
0.004
0.006
0.008
0.010
0.012

1	05/31/11
2	10/20/11
3	12/10/12
4	08/29/13
5	05/05/15
6	08/03/15
7	12/07/15
8	03/07/16
9	07/12/16
10	10/18/16
11	01/24/17
12	05/31/17
13	09/21/17
14	12/14/17

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SOUNDEARTH PROJECT # 0731-004

FIGURE 13
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (DECEMBER 14, 2017)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2017Q4_VOC.DWG

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW26	01/24/17	<1	13	<1	<1	<0.2
	05/31/17	<1	7.9	<1	<1	<0.2
	09/21/17	<1	7.1	<1	<1	<0.2
	12/14/17	<1	15	1.4	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW01	01/24/17	<1	<1	<1	<1	<0.2
	05/31/17	<1	<1	<1	<1	<0.2
	09/21/17	Insufficient water column for sampling				
	12/14/17	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW04	01/26/17	<1	1.1	4.8	<1	<0.2
	06/01/17	<1	1.2	12	<1	0.21
	09/23/17	<1	<1	14	<1	0.22
	12/16/17	<1	<1	19	<1	0.54

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW17	01/26/17	<1	1.9	<1	<1	<0.2
	06/01/17	<1	2.5	<1	<1	<0.2
	09/23/17	<1	2.1	1.2	<1	<0.2
	12/16/17	<1	2.5	1.7	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW04	01/24/17	<1	9.4	<1	<1	<0.2
	05/31/17	<1	9.3	<1	<1	<0.2
	09/21/17	<1	5.7	3.2	<1	<0.2
	12/14/17	<1	8.0	2.4	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW18	01/26/17	<1	7.7	14	<1	0.25
	06/01/17	<1	3.3	14	<1	0.31
	09/23/17	<1	<1	22	<1	0.38
	12/16/17	<1	<1	22	<1	0.24

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW07	01/24/17	4.8	8.1	<1	<1	<0.2
	05/31/17	4.7	8.6	<1	<1	<0.2
	09/21/17	Insufficient water column for sampling				
	12/12/17	Inaccessible				

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW20	01/25/17	<1	<1	4.1	<1	<0.2
	06/01/17	<1	<1	1.2	<1	<0.2
	09/24/17	<1	<1	9.5	<1	<0.2
	12/16/17	<1	1.3	15	<1	0.35

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW19	01/25/17	<1	5.5	3.9	<1	0.30
	06/01/17	<1	5.7	3.5	<1	0.44
	09/23/17	<1	1.7	3.4	<1	0.97
	12/16/17	<1	1.1	13	<1	0.97

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW24	01/25/17	<1	3.5	20	<1	0.81
	06/01/17	1.1	4.8	35	<1	1.0
	09/24/17	<1	1.8	33	<1	0.4
	12/16/17	<1	1.3	30	<1	0.38

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW15	01/25/17	<1	7.4	<1	<1	<0.2
	05/31/17	<1	7.9	<1	<1	<0.2
	09/22/17	<1	3.9	<1	<1	<0.2
	12/15/17	<1	3.0	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW50	01/26/17	13	2.1	34	<1	0.74
	06/02/17	<1	<1	81	<1	0.95
	09/24/17	<1	<1	26	<1	2.6
	12/16/17	<1	<1	15	<1	2.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW27	01/24/17	<1	33	13	<1	<0.2
	05/31/17	<1	18	5.5	<1	<0.2
	09/21/17	<1	16	4.0	<1	<0.2
	12/29/17	<1	60	3.5	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW21	01/26/17	<1	<1	2.4	<1	<0.2
	06/01/17	<1	<1	2.4	<1	<0.2
	09/23/17	<1	<1	3.7	<1	<0.2
	12/16/17	<1	<1	14	<1	0.49

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW25	01/25/17	1.0	3.6	44	<1	0.89
	06/01/17	<1	1.2	15	<1	0.31
	09/23/17	<1	<1	15	<1	0.40
	12/16/17	<1	<1	23	<1	0.41

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW22	01/26/17	<1	<1	8.5	<1	0.51
	06/01/17	<1	<1	10	<1	1.5
	09/23/17	<1	<1	18	<1	1.4
	12/16/17	<1	<1	22	<1	1.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW13	01/24/17	6.4	1.0	<1	<1	<0.2
	05/31/17	10	1.5	<1	<1	<0.2
	09/21/17	8.4	1.8	<1	<1	<0.2
	12/14/17	5.2	1.4	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW61	01/26/17	8.3	2.9	32	<1	0.96
	06/02/17	9.9	3.4	41	<1	1.3
	09/23/17	12	3.2	45	<1	1.2
	12/16/17	15	3.2	65	<1	1.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW23	01/26/17	<1	2.9	41	<1	1.4
	06/01/17	<1	2.7	23	<1	0.74
	09/23/17	<1	1.7	16	<1	0.50
	12/16/17	<1	1.3	14	<1	0.51

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW16	01/25/17	6.4	6.8	220	<1	0.98
	05/31/17	5.7	4.4	100	<1	0.49
	09/22/17	5.4	5.2	78	<1	0.40
	12/29/17	7.2	6.4	150	<1	0.89

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW91	01/26/17	<1	<1	<1	<1	<0.2
	06/01/17	<1	<1	<1	<1	<0.2
	09/23/17	<1	<1	<1	<1	<0.2
	12/16/17	<1	<1	<1	<1	<0.2

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL USED AS MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

DCE DICHLOROETHENE
PCE TETRACHLOROETHENE
TCE TRICHLOROETHENE
MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
< NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
RED DENOTES CONCENTRATIONS EXCEEDING THE MTCA METHOD CLEANUP LEVEL FOR GROUNDWATER

	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MTCA Method A	5	5	160	16	0.2

B08/ MW01 · MW26 · B09/ MW02 · B10/ MW03 · HISTORICAL BUILDING FACADE · AIW01 · IW08 IW07 IW06 IW05 IW04 IW03 IW02 IW01 · IW09 · IW10 · B11/ MW04 · AIW02 · IW12 · IW25 · IW23 · IW24 · IW19 · IW20 IW21 IW22 · IW13 · IW18 · AIW03 · B15/ MW07 · IW14 · IW17 · IW16 · IW15 · IW26 · AIW04 · B31/ MW12 · IW27 · B13/ MW06 · IW28 · IW29 · IW30 · IW31 · IW32 · IW33 · IW34 · IW35 · IW36 · IW37 · IW38 · IW39 · IW40 · IW41 · IW42 · IW43 · IW44 · B30/ MW11 · IW45 · IW46 IW47 IW48 · IW52 · IW53 · IW54 · IW55 · IW58 · IW59 · IW60 · IW57 · IW56 · B27/ MW09 · AIW09 · IW70 · IW71 · IW72 · IW73 · IW74 · IW75 · IW76 · IW61 · IW64 · IW65 · IW66 · IW67 · IW68 · IW69 · IW49 · IW50 · IW51 · IW62 · IW63 · IW82 · IW81 · IW80 · IW89 · IW90 · IW91 · B38/ MW14 · THOMAS STREET · AIW11 · B50/ MW16 · B49/ MW15 · MW27 · B12/ MW05 · MW25 · MW17 · MW18 · MW19 · MW20 · MW24 · MW21 · MW22 · MW23 · B37/ MW13 · BOREN AVENUE NORTH · TERRY AVENUE NORTH · FAIRVIEW AVENUE · BRAVEHORSE TAVERN

N

0 25 50

APPROXIMATE SCALE IN FEET

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SEATTLE, WASHINGTON
SOUNDEARTH PROJECT # 0731-004

FIGURE 14
GROUNDWATER ANALYTICAL RESULTS
CHLORINATED VOLATILE ORGANIC COMPOUNDS (2017)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2018Q1_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (12.74') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (MARCH 8, 2018)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

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APPROXIMATE SCALE IN FEET

HARRISON STREET

B08/ MW01 (12.81')

MW26 (12.78')

B09/ MW02

B10/ MW03

HISTORICAL BUILDING FACADE

AIW01

B11/ MW04 (13.12')

AIW02

13.00

AIW03

B15/ MW07 (12.92')

AIW04

AIW05

AIW06

MW27 (12.72')

B12/ MW05

AIW07

AIW08

B37/ MW13 (12.73')

AIW09

AIW10

AIW11

AIW12

B50/ MW16 (12.67')

BOREN AVENUE NORTH

THOMAS STREET

TERRY AVENUE NORTH

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B49/ MW15 (13.09')

MW17 (12.68')

MW18 (12.74')

MW19 (12.80')

MW20 (12.74')

MW21 (11.48')

MW22 (11.82')

MW23 (12.74')

MW24 (12.78')

MW25 (12.84')

B31/ MW12

B13/ MW06

B30/ MW11

B28/ MW10

B26/ MW08

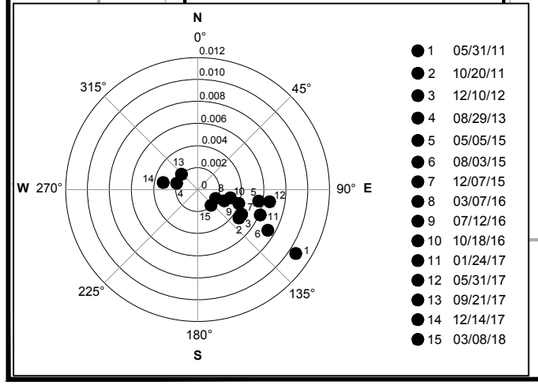
IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 IW91 (12.74')

12.50 12.00 11.50 13.00

HISTORICAL BUILDING FACADE

FAIRVIEW AVENUE

B38/ MW14



1	05/31/11
2	10/20/11
3	12/10/12
4	08/29/13
5	05/05/15
6	08/03/15
7	12/07/15
8	03/07/16
9	07/12/16
10	10/18/16
11	01/24/17
12	05/31/17
13	09/21/17
14	12/14/17
15	03/08/18

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FIGURE 15

GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (MARCH 8, 2018)

9/18/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\0731-004_2018Q2_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL (IW)
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- (13.62') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (JUNE 28, 2018)

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 (14.45')

MW26 (13.74')

B09/ MW02

B10/ MW03

B11/ MW04 (15.88')

MW17 (13.72')

B15/ MW07 (15.23')

MW18 (13.64')

B31/ MW12

B13/ MW06

MW19 (13.69')

MW20 (13.62')

B28/ MW10

MW24 (12.90')

B26/ MW08

B49/ MW15 (15.94')

MW27 (13.62')

B12/ MW05

MW25 (13.69')

MW21 (12.69')

MW22 (12.17')

B37/ MW13 (13.85')

B27/ MW09

MW23 (14.40')

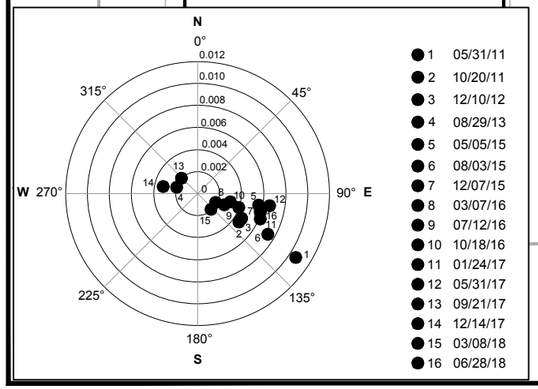
IW91 (13.52')

B38/ MW14

B50/ MW16

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

14.50 15.00 15.50 13.00 13.50 14.00 12.50



1	05/31/11
2	10/20/11
3	12/10/12
4	08/29/13
5	05/05/15
6	08/03/15
7	12/07/15
8	03/07/16
9	07/12/16
10	10/18/16
11	01/24/17
12	05/31/17
13	09/21/17
14	12/14/17
15	03/08/18
16	06/28/18

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FIGURE 16
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (JUNE 28, 2018)

10/31/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\2018\0731-004_2018Q3_CM.DWG

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- 0.50-FOOT INTERVAL GROUNDWATER CONTOUR
- (13.96') GROUNDWATER ELEVATION
- GROUNDWATER FLOW DIRECTION (SEPTEMBER 22, 2018)
- (NM) NOT MEASURED

ALL CONTOUR CALCULATIONS ARE BASED ON THE WELL NETWORK AVAILABLE AT THE TIME OF DEPTH-TO-WATER MEASUREMENTS; THEREFORE, EACH GRADIENT IS BASED ON A UNIQUE ARRAY OF MONITORING WELLS.

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 (14.72')

MW26 (14.07')

B09/ MW02

B10/ MW03

B11/ MW04 (16.44')

B15/ MW07 (15.61')

B01/ MW12

B13/ MW06

MW19 (14.04')

MW20 (13.96')

B30/ MW11

MW24 (14.07')

B26/ MW08

MW25 (14.06')

MW21 (NM)

MW17 (14.08')

MW18 (14.00')

B28/ MW10

B49/ MW15 (16.59')

MW27 (13.97')

B12/ MW05

MW22 (NM)

MW23 (13.93')

B27/ MW09

B37/ MW13 (14.18')

B50/ MW16

B38/ MW14

(13.37') IW91

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

14.50 14.00 15.00 15.50 16.00

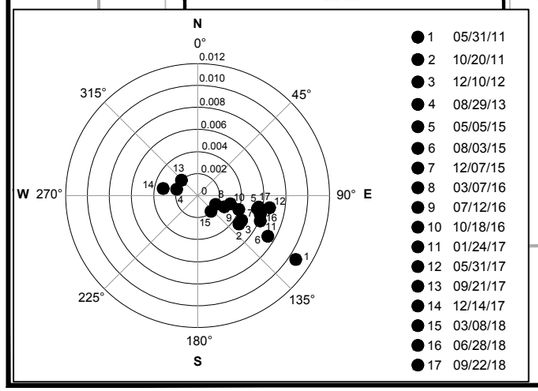

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FIGURE 17
GROUNDWATER CONTOUR MAP WITH ROSE DIAGRAM (SEPTEMBER 22, 2018)

10/31/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\ENVIRONMENTAL SUMMARY\2018\0731-004_2018Q3_VOC.DWG

N

0 25 50

APPROXIMATE SCALE IN FEET

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW26	03/09/18	<1	6.0	<1	<1	<0.2
	06/28/18	<1	18	<1	<1	<0.2
	09/20/18	<1	18	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW01	03/09/18	<1	<1	<1	<1	<0.2
	06/28/18	<1	1.1	<1	<1	<0.2
	09/20/18	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW04	12/16/17	<1	<1	19	<1	0.54
	03/10/18	<1	<1	9.0	<1	0.65
	06/30/18	<1	<1	5.3	<1	0.68

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW17	03/10/18	<1	2.6	1.5	<1	<0.2
	06/30/18	<1	2.8	2.2	<1	<0.2
	09/22/18	<1	2.7	2.0	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW04	03/09/18	<1	8.6	<1	<1	<0.2
	06/29/18	<1	9.4	<1	<1	<0.2
	09/20/18	<1	9.4	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW18	03/10/18	<1	<1	27	<1	0.40
	06/30/18	<1	<1	27	<1	0.43
	09/22/18	<1	<1	21	<1	0.42

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW07	03/08/18	2.6	11	1.1	<1	<0.2
	06/29/18	3.3	7.3	<1	<1	<0.2
	09/20/18	2.8	6.0	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW20	03/10/18	<1	<1	11	<1	<0.2
	06/30/18	<1	<1	7.0	<1	<0.2
	09/22/18	<1	<1	5.3	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW19	03/10/18	<1	<1	12	<1	0.78
	06/30/18	<1	<1	12	<1	0.96
	09/22/18	<1	<1	16	<1	0.86

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW24	03/10/18	<1	<1	25	<1	0.36
	06/30/18	1.5	1.9	41	<1	2.1
	09/22/18	<1	<1	35	<1	0.37

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW15	03/09/18	<1	3.3	<1	<1	<0.2
	06/29/18	<1	5.1	<1	<1	<0.2
	09/20/18	<1	6.9	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW50	03/10/18	<1	<1	8.0	<1	3.6
	06/30/18	<1	<1	4.5	<1	2.5
	09/22/18	<1	<1	5.1	<1	2.9

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW27	03/08/18	<1	13	<1	<1	<0.2
	06/28/18	<1	37	3.4	<1	<0.2
	09/20/18	<1	21	3.7	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW21	03/10/18	<1	<1	14	<1	0.43
	06/30/18	<1	<1	6.0	<1	0.29
	09/22/18	<1	<1	6.9	<1	0.30

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW25	03/10/18	<1	<1	25	<1	0.32
	06/30/18	<1	<1	31	<1	0.52
	09/22/18	<1	<1	37	<1	0.46

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW22	03/10/18	<1	<1	22	<1	1.3
	06/30/18	<1	<1	28	<1	1.2
	09/22/18	<1	<1	33	<1	0.90

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW13	03/08/18	8.0	1.4	<1	<1	<0.2
	06/29/18	4.4	<1	<1	<1	<0.2
	09/20/18	6.5	1.3	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW61	03/10/18	15	2.7	71	<1	1.1
	06/30/18	16	2.5	67	<1	1.7
	09/22/18	13	2.1	63	<1	1.8

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW23	03/10/18	<1	<1	20	<1	0.52
	06/30/18	<1	<1	14	<1	0.53
	09/22/18	<1	<1	16	<1	0.53

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW16	03/09/18	7.3	5.5	80	<1	0.35
	WELL DAMAGED 2018					

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW91	03/10/18	<1	<1	<1	<1	<0.2
	06/30/18	<1	<1	<1	<1	<0.2
	09/22/18	<1	<1	<1	<1	<0.2

HISTORICAL BUILDING FACADE

BUILDING

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

THOMAS STREET

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

B08/ MW01 · MW26 · B09/ MW02 · B10/ MW03 · B11/ MW04 · B15/ MW07 · B31/ MW12 · B13/ MW06 · B28/ MW10 · B30/ MW11 · B49/ MW15 · MW27 · B12/ MW05 · B37/ MW13 · B27/ MW09 · B50/ MW16 · B38/ MW14

AIW01 · AIW02 · AIW03 · AIW04 · AIW05 · AIW06 · AIW07 · AIW09 · AIW10 · AIW11

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW80 IW81 IW82 IW89 IW90 IW91

MW17 · MW18 · MW19 · MW20 · MW21 · MW22 · MW23 · MW24 · MW25

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- DCE DICHLOROETHENE
- PCE TETRACHLOROETHENE
- TCE TRICHLOROETHENE
- MTCA WASHINGTON STATE MODEL TOXICS CONTROL ACT
- < NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
- RED DENOTES CONCENTRATIONS EXCEEDING THE MTCA METHOD CLEANUP LEVEL FOR GROUNDWATER

	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MTCA Method A	5	5	16	160	0.2

SoundEarth Strategies

WWW.SOUNDEARTHINC.COM

TROY LAUNDRY PROPERTY
307 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT # 0731-004

FIGURE 18

GROUNDWATER ANALYTICAL RESULTS - CHLORINATED VOLATILE ORGANIC COMPOUNDS (2018)

TABLES

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[(1)]	TCE[(1)]	cis-1-2-DCE[(1)]	trans-1-2-DCE[(1)]	Vinyl Chloride[(1)]
Troy Laundry Property								
MW06	MW06-20110531	05/31/11	SoundEarth	3.1	**8.2**	**150[ve]**	<1	**0.76**
	MW06-20111012	10/12/11	SoundEarth	3.6	**11**	**120**	<1	**0.76**
	MW06-20130909	09/09/13	SoundEarth	3.8	4.5	**150**	<1	**0.93**
	DECOMMISSIONED 2013							
MW08	MW08-20111013	10/13/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW08-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW09	MW09-20111013	10/13/11	SoundEarth	<1	**16**	**22**	<1	<0.2
	MW09-20130910	09/10/13	SoundEarth	1.6	**15**	2.0	<1	<0.2
	DECOMMISSIONED 2013							
MW10	MW10-20111012	10/12/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW10-20130909	09/09/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW11	MW11-20111013	10/13/11	SoundEarth	**21**	2.6	5.6	<1	<0.2
	MW11-20130909	09/09/13	SoundEarth	**39**	3.8	3.6	<1	<0.2
	DECOMMISSIONED 2013							
MW12	MW12-20111017	10/17/11	SoundEarth	<1	**19**	1.3	<1	<0.2
	MW12-20130909	09/09/13	SoundEarth	<1	**20**	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW17	MW17-20150506	05/06/15	SoundEarth	<1	2.2	<1	<1	<0.2
	MW17-20150804	08/07/15	SoundEarth	<1	1.5	<1	<1	<0.2
	MW17-20151207	12/07/15	SoundEarth	<1	1.5	<1	<1	<0.2
	MW17-20160308	03/08/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW17-20160714	07/14/16	SoundEarth	<1	1.2	<1	<1	<0.2
	MW17-20161020	10/20/16	SoundEarth	<1	2.1	<1	<1	<0.2
	MW17-20170126	01/26/17	SoundEarth	<1	1.9	<1	<1	<0.2
	MW17-20170601	06/01/17	SoundEarth	<1	2.5	<1	<1	<0.2
	MW17-20170923	09/23/17	SoundEarth	<1	2.1	1.2	<1	<0.2
	MW17-20171216	12/16/17	SoundEarth	<1	2.5	1.7	<1	<0.2
	MW17-20180310	03/10/18	SoundEarth	<1	2.6	1.5	<1	<0.2
	MW17-20180630	06/30/18	SoundEarth	<1	2.8	2.2	<1	<0.2
	MW17-20180922	09/22/18	SoundEarth	<1	2.7	2.0	<1	<0.2
MW18	MW18-20150506	05/06/15	SoundEarth	<1	**46**	5.2	<1	<0.2
	MW18-20150803	08/03/15	SoundEarth	<1	**51**	4.6	<1	<0.2
	MW18-20151208	12/08/15	SoundEarth	<1	**51**	9.9	<1	<0.2
	MW18-20160308	03/08/16	SoundEarth	<1	**44**	8.1	<1	<0.2
	MW18-20160714	07/14/16	SoundEarth	<1	3.3	1.7	<1	<0.2
	MW18-20161020	10/20/16	SoundEarth	<1	**6.5**	4.0	<1	<0.2
	MW18-20170126	01/26/17	SoundEarth	<1	**7.7**	14	<1	**0.25**
	MW18-20170601	06/01/17	SoundEarth	<1	3.3	14	<1	**0.31**
	MW18-20170923	09/23/17	SoundEarth	<1	<1	**22**	<1	**0.38**
	MW18-20171216	12/16/17	SoundEarth	<1	<1	**22**	<1	**0.24**
	MW18-20180310	03/10/18	SoundEarth	<1	<1	**27**	<1	**0.40**
	MW18-20180630	06/30/18	SoundEarth	<1	<1	**27**	<1	**0.43**
	MW18-20180922	09/22/18	SoundEarth	<1	<1	**21**	<1	**0.42**
MTCA Cleanup Level				**5[(2)]**	**5[(2)]**	**16[(3)]**	**160[(3)]**	**0.2[(2)]**

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW19	MW19-20150507	05/07/15	SoundEarth	<1	**69**	15	<1	<0.2
	MW19-20150803	08/03/15	SoundEarth	<1	**61**	**20**	<1	<0.2
	MW19-20151207	12/07/15	SoundEarth	<1	**65**	**23**	<1	<0.2
	MW19-20160308	03/08/16	SoundEarth	<1	**52**	**26**	<1	<0.2
	MW19-20160713	07/13/16	SoundEarth	<1	4.6	10	<1	<0.2
	MW19-20161021	10/21/16	SoundEarth	<1	**10**	4.4	<1	**0.40**
	MW19-20170125	01/25/17	SoundEarth	<1	**5.5**	3.9	<1	**0.30**
	MW19-20170601	06/01/17	SoundEarth	<1	**5.7**	3.5	<1	**0.44**
	MW19-20170923	09/23/17	SoundEarth	<1	1.7	3.4	<1	**0.97**
	MW19-20171216	12/16/17	SoundEarth	<1	1.1	13	<1	**0.97**
	MW19-20180310	03/10/18	SoundEarth	<1	<1	12	<1	**0.78**
	MW19-20180630	06/30/18	SoundEarth	<1	<1	12	<1	**0.96**
	MW19-20180922	09/22/18	SoundEarth	<1	<1	**16**	<1	**0.86**
MW20	MW20-20150506	05/06/15	SoundEarth	<1	<1	1.5	<1	<0.2
	MW20-20150803	08/03/15	SoundEarth	<1	<1	1.2	<1	<0.2
	MW20-20151207	12/07/15	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20160309	03/09/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20160715	07/15/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20161020	10/20/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20170125	01/25/17	SoundEarth	<1	<1	4.1	<1	<0.2
	MW20-20170601	06/01/17	SoundEarth	<1	<1	1.2	<1	<0.2
	MW20-20170924	09/24/17	SoundEarth	<1	<1	9.5	<1	<0.2
	MW20-20171216	12/16/17	SoundEarth	<1	1.3	15	<1	**0.35**
	MW20-20180310	03/10/18	SoundEarth	<1	<1	11	<1	<0.2
	MW20-20180630	06/30/18	SoundEarth	<1	<1	7	<1	<0.2
	MW20-20180922	09/22/18	SoundEarth	<1	<1	5.3	<1	<0.2
MW21	MW21-20150506	05/06/15	SoundEarth	**5.1**	1.6	7.2	<1	<0.2
	MW21-20150804	08/04/15	SoundEarth	4.9	1.4	4.5	<1	<0.2
	MW21-20151208	12/08/15	SoundEarth	**7.3**	2.0	6.7	<1	<0.2
	MW21-20160309	03/09/16	SoundEarth	**5.3**	1.4	7.9	<1	<0.2
	MW21-20160713	07/13/16	SoundEarth	<1	<1	1.2	<1	<0.2
	MW21-20161020	10/20/16	SoundEarth	<1	<1	1.7	<1	<0.2
	MW21-20170126	01/26/17	SoundEarth	<1	<1	2.4	<1	<0.2
	MW21-20170601	06/01/17	SoundEarth	<1	<1	2.4	<1	<0.2
	MW21-20170923	09/23/17	SoundEarth	<1	<1	3.7	<1	<0.2
	MW21-20171216	12/16/17	SoundEarth	<1	<1	14	<1	**0.49**
	MW21-20180310	03/10/18	SoundEarth	<1	<1	14	<1	**0.43**
	MW21-20180630	06/30/18	SoundEarth	<1	<1	6.0	<1	**0.29**
	MW21-20180922	09/22/18	SoundEarth	<1	<1	6.9	<1	**0.30**
MW22	MW22-20150506	05/06/15	SoundEarth	**11**	2.2	**27**	<1	<0.2
	MW22-20150804	08/04/15	SoundEarth	**17**	3.0	**34**	<1	<0.2
	MW22-20151208	12/08/15	SoundEarth	**19**	3.7	**42**	<1	<0.2
	MW22-20160308	03/08/16	SoundEarth	**28**	4.5	**52**	<1	**0.35**
	MW22-20160713	07/13/16	SoundEarth	<1	<1	5.5	<1	<0.2
	MW22-20161020	10/20/16	SoundEarth	<1	<1	6.7	<1	**0.65**
	MW22-20170126	01/26/17	SoundEarth	<1	<1	8.5	<1	**0.51**
	MW22-20170601	06/01/17	SoundEarth	<1	<1	10	<1	**1.5**
	MW22-20170923	09/23/17	SoundEarth	<1	<1	**18**	<1	**1.4**
	MW22-20171216	12/16/17	SoundEarth	<1	<1	**22**	<1	**1.2**
	MW22-20180310	03/10/18	SoundEarth	<1	<1	**22**	<1	**1.3**
	MW22-20180630	06/30/18	SoundEarth	<1	<1	**28**	<1	**1.2**
	MW22-20180922	09/22/18	SoundEarth	<1	<1	**33**	<1	**0.90**
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW23	MW23-20150507	05/07/15	SoundEarth	**6.1**	**18**	13	<1	<0.2
	MW23-20150804	08/04/15	SoundEarth	**6.1**	**24**	**20**	<1	0.20
	MW23-20151208	12/08/15	SoundEarth	3.8	**16**	**120**	<1	**0.57**
	MW23-20160308	03/08/16	SoundEarth	4.1	**14**	**95**	<1	**0.64**
	MW23-20160714	07/14/16	SoundEarth	<1	1.6	14	<1	**2.2**
	MW23-20161020	10/20/16	SoundEarth	<1	2.1	9.9	<1	**0.48**
	MW23-20170126	01/26/17	SoundEarth	<1	2.9	**41**	<1	**1.4**
	MW23-20170601	06/01/17	SoundEarth	<1	2.7	**23**	<1	**0.74**
	MW23-20170923	09/23/17	SoundEarth	<1	1.7	**16**	<1	**0.50**
	MW23-20171216	12/16/17	SoundEarth	<1	1.3	14	<1	**0.51**
	MW23-20180310	03/10/18	SoundEarth	<1	<1	**20**	<1	**0.52**
	MW23-20180630	06/30/18	SoundEarth	<1	<1	14	<1	**0.53**
	MW23-20180922	09/22/18	SoundEarth	<1	<1	**16**	<1	**0.53**
MW24	MW24-20150506	05/06/15	SoundEarth	2.5	**31**	**72**	<1	**0.26**
	MW24-20150804	08/04/15	SoundEarth	**5.5**	**28**	**75**	<1	<0.2
	MW24-20151208	12/08/15	SoundEarth	**11**	**28**	**54**	<1	<0.2
	MW24-20160309	03/09/16	SoundEarth	**11**	**23**	**45**	<1	<0.2
	MW24-20160715	07/15/16	SoundEarth	<1	1.7	12	<1	<0.2
	MW98-20160715 (DUP)			<1	1.8	12	<1	<0.2
	MW24-20161020	10/20/16	SoundEarth	<1	2.7	12	<1	**0.26**
	MW24-20170125	01/25/17	SoundEarth	<1	3.5	**20**	<1	**0.81**
	MW24-20170601	06/01/17	SoundEarth	1.1	4.8	**35**	<1	**1.0**
	MW24-20170924	09/24/17	SoundEarth	<1	1.8	**33**	<1	**0.36**
	MW24-20171216	12/16/17	SoundEarth	<1	1.3	**30**	<1	**0.38**
	MW24-20180310	03/10/18	SoundEarth	<1	<1	**25**	<1	**0.36**
	MW24-20180630	06/30/18	SoundEarth	1.5	1.9	**41**	<1	**2.1**
	MW24-20180922	09/22/18	SoundEarth	<1	<1	**35**	<1	**0.37**
MW25	MW25-20150507	05/07/15	SoundEarth	<1	**68**	5.2	<1	<0.2
	MW99-20150507 (DUP)			<1	**69**	5.3	<1	<0.2
	MW25-20150805	08/05/15	SoundEarth	3.0	**75**	7.9	<1	<0.2
	MW99-20150805 (DUP)			2.9	**73**	7.8	<1	<0.2
	MW25-20151209	12/09/15	SoundEarth	**11**	**71**	8.4	<1	<0.2
	MW99-20151209 (DUP)			**11**	**72**	8.3	<1	<0.2
	MW25-20160308	03/08/16	SoundEarth	**24**	**50**	12	<1	<0.2
	MW99-20160308(DUP)			**25**	**50**	12	<1	<0.2
	MW25-20160713	07/13/16	SoundEarth	**6.1**	4.8	**23**	<1	**0.70**
	MW25-20161019	10/19/16	SoundEarth	1.8	**5.1**	15	<1	**0.96**
	MW25-20170125	01/25/17	SoundEarth	1.0	3.6	**44**	<1	**0.89**
	MW25-20170601	06/01/17	SoundEarth	<1	1.2	15	<1	**0.31**
	MW25-20170923	09/23/17	SoundEarth	<1	<1	15	<1	**0.40**
	MW25-20171216	12/16/17	SoundEarth	<1	<1	**23**	<1	**0.41**
	MW25-20180310	03/10/18	SoundEarth	<1	<1	**25**	<1	**0.32**
	MW25-20180630	06/30/18	SoundEarth	<1	<1	**31**	<1	**0.52**
	MW25-20180922	09/22/18	SoundEarth	<1	<1	**37**	<1	**0.46**
	MW99-20180630 (DUP)			<1	<1	**32**	<1	**0.49**
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
IW04	IW04-20150508	05/08/15	SoundEarth	<1	**15**	1.9	<1	<0.2
	IW04-20160309	03/09/16	SoundEarth	<1	2.5	11	<1	<0.2
	IW04-20160714	07/14/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW04-20161021	10/21/16	SoundEarth	<1	<1	1.8	<1	<0.2
	IW04-20170126	01/26/17	SoundEarth	<1	1.1	4.8	<1	<0.2
	IW04-20170601	06/01/17	SoundEarth	<1	1.2	12	<1	**0.21**
	IW04-20170923	09/23/17	SoundEarth	<1	<1	14	<1	**0.22**
	IW04-20171216	12/16/17	SoundEarth	<1	<1	**19**	<1	**0.54**
	IW04-20180310	03/10/18	SoundEarth	<1	<1	9.0	<1	**0.65**
	IW04-20180630	06/30/18	SoundEarth	<1	<1	5.3	<1	**0.68**
	IW04-20180922	09/22/18	SoundEarth	<1	<1	<1	<1	<0.2
IW06	IW06-20150507	05/07/15	SoundEarth	**6.3**	**13**	<1	<1	<0.2
	IW06-20180310	03/10/18	SoundEarth	<1	<1	1.6	<1	<0.2
	IW06-20180630	06/30/18	SoundEarth	<1	<1	<1	<1	<0.2
IW50	IW50-20150803	08/03/15	SoundEarth	4.1	8.1	**44**	<1	<0.2
	IW50-20151208	12/08/15	SoundEarth	<1	<1	**140**	<1	**1.8**
	IW50-20160309	03/09/16	SoundEarth	<1	<1	**110**	<1	**1.9**
	IW50-20160715	07/15/16	SoundEarth	3.7	<1	**38**	<1	**2.5**
	IW50-20161021	10/21/16	SoundEarth	3.7	<1	**23**	<1	**1.0**
	IW50-20170126	01/26/17	SoundEarth	**13**	2.1	**34**	<1	**0.74**
	IW50-20170602	06/02/17	SoundEarth	<1	<1	**81**	<1	**0.95**
	IW50-20170924	09/24/17	SoundEarth	<1	<1	**26**	<1	**2.6**
	IW50-20171216	12/16/17	SoundEarth	<1	<1	15	<1	**2.2**
	IW50-20180310	03/10/18	SoundEarth	<1	<1	8.0	<1	**3.6**
	IW50-20180630	06/30/18	SoundEarth	<1	<1	4.5	<1	**2.5**
	IW50-20180922	09/22/18	SoundEarth	<1	<1	5.1	<1	**2.9**
IW61	IW61-20151208	12/08/15	SoundEarth	**10**	2.8	**120**	<1	**0.86**
	IW61-20160309	03/09/16	SoundEarth	**23**	4.2	**140**	<1	**1.7**
	IW61-20160714	07/14/16	SoundEarth	**8.3**	1.6	**24**	<1	**1.6**
	IW61-20161021	10/21/16	SoundEarth	**9.5**	2.8	**34**	<1	**0.96**
	IW61-20170126	01/26/17	SoundEarth	**8.3**	2.9	**32**	<1	**0.96**
	IW61-20170602	06/02/17	SoundEarth	**9.9**	3.4	**41**	<1	**1.3**
	IW61-20170923	09/23/17	SoundEarth	**12**	3.2	**45**	<1	**1.2**
	IW61-20171216	12/16/17	SoundEarth	**15**	3.2	**65**	<1	**1.2**
	IW61-20180310	03/10/18	SoundEarth	**15**	2.7	**71**	<1	**1.1**
	IW61-20180323*	03/23/18	SoundEarth	**15**	2.9	**82**	<1	**1.3**
	IW61-20180630	06/30/18	SoundEarth	**16**	2.5	**67**	<1	**1.7**
	IW61-20180922	09/22/18	SoundEarth	**13**	2.1	**63**	<1	**1.8**
IW91	IW91-20150506	05/06/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20150804	08/04/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20151208	12/08/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20160309	03/09/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20160714	07/14/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20161020	10/20/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170126	01/26/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170601	06/01/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170923	09/23/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20171216	12/16/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180310	03/10/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180630	06/30/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180922	09/22/18	SoundEarth	<1	<1	<1	<1	<0.2
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[(1)]	TCE[(1)]	cis-1-2-DCE[(1)]	trans-1-2-DCE[(1)]	Vinyl Chloride[(1)]
Boren Avenue North								
MW04	MW04-20110527	05/27/11	SoundEarth	<1	**15**	<1	<1	<0.2
	MW04-20111012	10/12/11	SoundEarth	<1	**15**	<1	<1	<0.2
	MW04-20130909	09/09/13	SoundEarth	<1	**22**	15	<1	<0.2
	MW04-20150508	05/08/15	SoundEarth	1.4	**13**	4.2	<1	<0.2
	MW04-20150806	08/06/15	SoundEarth	<1	**6.9**	1.0	<1	<0.2
	MW04-20151209	12/09/15	SoundEarth	<1	**9.2**	<1	<1	<0.2
	MW04-20160308	03/08/16	SoundEarth	<1	**9.6**	1.1	<1	<0.2
	MW04-20160713	07/13/16	SoundEarth	1.0	**8.9**	1.3	<1	<0.2
	MW04-20161019	10/19/16	SoundEarth	<1	**5.5**	<1	<1	<0.2
	MW04-20170124	01/24/17	SoundEarth	<1	**9.4**	<1	<1	<0.2
	MW04-20170531	05/31/17	SoundEarth	<1	**9.3**	<1	<1	<0.2
	MW04-20170921	09/21/17	SoundEarth	<1	**5.7**	3.2	<1	<0.2
	MW04-20171214	12/14/17	SoundEarth	<1	**8.0**	2.4	<1	<0.2
	MW04-20180309	03/09/18	SoundEarth	<1	**8.6**	<1	<1	<0.2
	MW04-20180629	06/29/18	SoundEarth	<1	**9.4**	<1	<1	<0.2
	MW04-20180920	09/20/18	SoundEarth	<1	**9.4**	<1	<1	<0.2
MW05	MW05-20110527	05/27/11	SoundEarth	**39**	**16**	1.8	<1	<0.2
	MW05-20111012	10/12/11	SoundEarth	**29**	**14**	1.5	<1	<0.2
	MW05-20130910	09/10/13	SoundEarth	**21**	**13**	1.9	<1	<0.2
	DECOMMISSIONED 2015							
MW07	MW07-20110531	05/31/11	SoundEarth	1.4	**12**	2.3	<1	<0.2
	MW07-20111012	10/12/11	SoundEarth	2.2	**11**	1.8	<1	<0.2
	MW07-20130909	09/09/13	SoundEarth	1.5	**33**	5.4	<1	<0.2
	MW07-20150508	05/08/15	SoundEarth	2.5	**15**	4.8	<1	<0.2
	MW07-20150805	08/05/15	SoundEarth	1.8	**12**	3.2	<1	<0.2
	MW07-20151209	12/09/15	SoundEarth	2.3	**14**	4.1	<1	<0.2
	MW07-20160308	03/08/16	SoundEarth	2.6	**13**	3.8	<1	<0.2
	MW07-20160713	07/13/16	SoundEarth	3.0	**18**	5.7	<1	<0.2
	MW07-20161019	10/19/16	SoundEarth	3.5	**13**	2.3	<1	<0.2
	MW07-20170124	01/24/17	SoundEarth	4.8	**8.1**	<1	<1	<0.2
	MW07-20170531	05/31/17	SoundEarth	4.7	**8.6**	<1	<1	<0.2
	MW07-20180308	03/08/18	SoundEarth	2.6	**11**	1.1	<1	<0.2
	MW07-20180629	06/29/18	SoundEarth	3.3	**7.3**	<1	<1	<0.2
	MW07-20180920	09/20/18	SoundEarth	2.8	**6.0**	<1	<1	<0.2
MTCA Cleanup Level				**5[(2)]**	**5[(2)]**	**16[(3)]**	**160[(3)]**	**0.2[(2)]**

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW13	MW13-20111020	10/20/11	SoundEarth	5.1	1.2	<1	<1	<0.2
	MW13-20130910	09/10/13	SoundEarth	11	1.4	<1	<1	<0.2
	MW13-20150511	05/11/15	SoundEarth	4.6[cf]	1.7[cf]	<1[cf]	<1[cf]	<0.2[cf]
	MW13-20150805	08/05/15	SoundEarth	5.4	2.3	<1	<1	<0.2
	MW13-20151215	12/15/15	SoundEarth	5.6	1.6	<1	<1	<0.2
	MW13-20160307	03/07/16	SoundEarth	6.6	1.6	<1	<1	<0.2
	MW13-20160712	07/12/16	SoundEarth	6.5	1.6	<1	<1	<0.2
	MW13-20161019	10/19/16	SoundEarth	10	2.2	<1	<1	<0.2
	MW13-20170124	01/24/17	SoundEarth	6.4	1.0	<1	<1	<0.2
	MW13-20170531	05/31/17	SoundEarth	10	1.5	<1	<1	<0.2
	MW13-20170921	09/21/17	SoundEarth	8.4	1.8	<1	<1	<0.2
	MW13-20171214	12/14/17	SoundEarth	5.2	1.4	<1	<1	<0.2
	MW13-20180308	03/08/18	SoundEarth	8.0	1.4	<1	<1	<0.2
	MW13-20180629	06/29/18	SoundEarth	4.4	<1	<1	<1	<0.2
	MW13-20180920	09/20/18	SoundEarth	6.5	1.3	<1	<1	<0.2
MW27	MW27-20151210	12/10/15	SoundEarth	<1	21	2.5	<1	<0.2
	MW27-20160307	03/07/16	SoundEarth	<1	21	3.8	<1	<0.2
	MW27-20160713	07/13/16	SoundEarth	<1	18	4.5	<1	<0.2
	MW27-20161019	10/19/16	SoundEarth	<1	23	4.8	<1	<0.2
	MW27-20170124	01/24/17	SoundEarth	<1	33	13	<1	<0.2
	MW27-20170531	05/31/17	SoundEarth	<1	18	5.5	<1	<0.2
	MW27-20170921	09/21/17	SoundEarth	<1	16	4.0	<1	<0.2
	MW27-20171214	12/14/17	SoundEarth	<1	81	4.4	<1	<0.2
	MW27-20171229	12/29/17	SoundEarth	<1	60	3.5	<1	<0.2
	MW27-20180308	03/08/18	SoundEarth	<1	13	<1	<1	<0.2
	MW27-20180628	06/28/18	SoundEarth	<1	37	3.4	<1	<0.2
	MW27-20180920	09/20/18	SoundEarth	<1	21	3.7	<1	<0.2
Terry Avenue North								
MW15	MW15-20121211	12/11/12	SoundEarth	<1	8.2	<1	<1	<0.2
	MW15-20121221	12/21/12	SoundEarth	<1	7.2	<1	<1	<0.2
	MW15-20130910	09/10/13	SoundEarth	<1	8.6	<1	<1	<0.2
	MW15-20150508	05/08/15	SoundEarth	<1	6.5	<1	<1	<0.2
	MW15-20150805	08/05/15	SoundEarth	<1	5.3	<1	<1	<0.2
	MW15-20151209	12/09/15	SoundEarth	<1	6.8	<1	<1	<0.2
	MW15-20160308	03/08/16	SoundEarth	<1	6.7	<1	<1	<0.2
	MW15-20160713	07/13/16	SoundEarth	<1	5.8	<1	<1	<0.2
	MW15-20161018	10/18/16	SoundEarth	<1	5.3	<1	<1	<0.2
	MW15-20170125	01/25/17	SoundEarth	<1	7.4	<1	<1	<0.2
	MW15-20170531	05/31/17	SoundEarth	<1	7.9	<1	<1	<0.2
	MW15-20170922	09/22/17	SoundEarth	<1	3.9	<1	<1	<0.2
	MW15-20171215	12/15/17	SoundEarth	<1	3.0	<1	<1	<0.2
	MW15-20180309	03/09/18	SoundEarth	<1	3.3	<1	<1	<0.2
	MW15-20180629	06/29/18	SoundEarth	<1	5.1	<1	<1	<0.2
	MW15-20180920	09/20/18	SoundEarth	<1	6.9	<1	<1	<0.2
Thomas Street								
MW14	MW14-20111020	10/20/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW14-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW16	MW16-20121211	12/11/12	SoundEarth	16	12	220	<1	0.69
	MW16-20130911	09/11/13	SoundEarth	6.4	5.0	610	<1	1.9
	MW16-20150508	05/08/15	SoundEarth	7.5	7.6	640	<1	2.8
	MW16-20150805	08/05/15	SoundEarth	7.8	7.3	550	<1	2.4
	MW16-20151210	12/10/15	SoundEarth	5.3	4.5	510	<1	3.2
	MW16-20160308	03/08/16	SoundEarth	3.7	2.0	190	<1	1.3
	MW16-20160712	07/12/16	SoundEarth	<1	<1	160	<1	2.0
	MW16-20161019	10/19/16	SoundEarth	5.0	5.4	170	<1	1.2
	MW16-20170125	01/25/17	SoundEarth	6.4	6.8	220	<1	0.98
	MW16-20170531	05/31/17	SoundEarth	5.7	4.4	100	<1	0.49
	MW16-20170922	09/22/17	SoundEarth	5.4	5.2	78	<1	0.40
	MW16-20171229	12/29/17	SoundEarth	7.2	6.4	150	<1	0.89
	MW16-20180309	03/09/18	SoundEarth	7.3	5.5	80	<1	0.35
	WELL DAMAGED 2018							
Fairview Avenue North								
MW-C	MW-C-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
Harrison Street								
MW01	MW01-20110525	05/25/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20111011	10/11/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20130910	09/10/13	SoundEarth	<1	1.4	<1	<1	<0.2
	MW01-20150806	08/06/15	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20160308	03/08/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20160712	07/12/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20161018	10/18/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20170124	01/24/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20170531	05/31/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20171214	12/14/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20180309	03/09/18	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20180628	06/28/18	SoundEarth	<1	1.1	<1	<1	<0.2
	MW01-20180920	09/20/18	SoundEarth	<1	<1	<1	<1	<0.2
MTCA Cleanup Level				**5[2]**	**5[2]**	**16[3]**	**160[3]**	**0.2[2]**

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[(1)]	TCE[(1)]	cis-1-2-DCE[(1)]	trans-1-2-DCE[(1)]	Vinyl Chloride[(1)]
MW02	MW02-20110525	05/25/11	SoundEarth	<1	**5.2**	<1	<1	<0.2
	MW02-20111011	10/11/11	SoundEarth	<1	3.0	<1	<1	<0.2
	MW02-20130911	09/11/13	SoundEarth	<1	3.6	<1	<1	<0.2
	DECOMMISSIONED 2015							
MW03	MW03-20110527	05/27/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW03-20111011	10/11/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW03-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2015							
MW26	MW26-20151210	12/10/15	SoundEarth	<1	**11**	<1	<1	<0.2
	MW26-20160307	03/07/16	SoundEarth	<1	**10**	<1	<1	<0.2
	MW26-20160712	07/12/16	SoundEarth	<1	**12**	<1	<1	<0.2
	MW26-20161018	10/18/16	SoundEarth	<1	**12**	<1	<1	<0.2
	MW26-20170124	01/24/17	SoundEarth	<1	**13**	<1	<1	<0.2
	MW26-20170531	05/31/17	SoundEarth	<1	**7.9**	<1	<1	<0.2
	MW26-20170921	09/21/17	SoundEarth	<1	**7.1**	<1	<1	<0.2
	MW26-20171214	12/14/17	SoundEarth	<1	**15**	1.4	<1	<0.2
	MW26-20180309	03/09/18	SoundEarth	<1	**6.0**	<1	<1	<0.2
	MW26-20180628	06/28/18	SoundEarth	<1	**18**	<1	<1	<0.2
	MW26-20180920	09/20/18	SoundEarth	<1	**18**	<1	<1	<0.2
SMW06	SMW06-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
Westlake Avenue North								
SMW09	SMW09-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
North-Adjoining Property								
SLU-MW01	MW01-20120229	02/29/12[(4)]	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
SLU-MW02	MW02-20120229	02/29/12[(4)]	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MTCA Cleanup Level				**5[(2)]**	**5[(2)]**	**16[(3)]**	**160[(3)]**	**0.2[(2)]**

NOTES:

Red denotes concentrations exceeding the MTCA Method cleanup level for groundwater.

[(1)]Analyzed by U.S. Environmental Protection Agency Method 8260C, 8021B, or 8240.

[(2)]MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of WAC, revised November 2007.

[(3)]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Groundwater, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[(4)]Sample data compiled from reports on file at the Washington State Department of Ecology.

Laboratory Notes:

[cf]The sample was centrifuged prior to analysis.

[ve]Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

[*]The sample was collected with a passive diffusion bag.

< = not detected at a concentration exceeding laboratory reporting limit

µg/L = micrograms per liter

CLARC = Cleanup Levels and Risk Calculations

CVOC = chlorinated volatile organic compound

DCE = dichloroethene

MTCA = Washington State Model Toxics Control Act

PCE = tetrachloroethene

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethene

WAC = Washington Administrative Code

Table 2
Groundwater Analytical Results for TPH
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
Troy Laundry Property										
MW06	MW06-20110531	05/31/11	SoundEarth	330[x]	<250	<100	<1	<1	<1	<3
	MW06-20111011	10/10/11	SoundEarth	83[x]	<250	<100	<1	<1	<1	<3
	MW06-20130909	09/09/13	SoundEarth	150[x]	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2013									
MW08	MW08-20111013	10/13/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW08-20130910	09/10/13	SoundEarth	120[x]	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2013									
MW09	MW09-20111013	10/13/11	SoundEarth	240[x]	<250	1,400	<1	<1	2.7	10
	MW09-20130910	09/10/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2013									
MW10	MW10-20111012	10/12/11	SoundEarth	68[x]	<250	<100	<1	<1	<1	<3
	MW10-20130909	09/09/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2013									
MW11	MW11-20111013	10/13/11	SoundEarth	110[x]	<250	<100	<1	<1	<1	<3
	MW11-20130909	09/09/13	SoundEarth	97[x]	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2013									
MW12	MW12-20111017	10/17/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW12-20130909	09/09/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2013									
MW17	MW17-20150506	05/06/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20150804	08/04/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20151207	12/07/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20160308	03/08/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20160714	07/14/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20161020	10/20/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20170126	01/26/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20170601	06/01/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20170923	09/23/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20171216	12/16/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW17-20180310	03/10/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW17-20180630	06/30/18	SoundEarth	<60	<300	<100	<1	<1	<1	<3
	MW17-20180922	09/22/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
MW18	MW18-20150506	05/06/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW18-20150803	08/03/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW18-20151208	12/08/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW18-20160308	03/08/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW18-20160714	07/14/16	SoundEarth	31,000[x, ip]	5,100[x, ip]	<100	<0.35	<1	<1	<3
	MW18-20161020	10/20/16	SoundEarth	61,000[x, ip]	<8,400[x, ip]	1,100[x]	<0.35	<1	<1	<3
	MW18-20170126	01/26/17	SoundEarth	22,000[x, ip]	3,500[x, ip]	840	<0.35	<1	<1	<3
	MW18-20170601	06/01/17	SoundEarth	77,000[x, ip]	1,600[x, ip]	470	<0.35	<1	<1	<3
	MW18-20170923	09/23/17	SoundEarth	34,000[x]	<3,500	210	<0.35	<1	<1	<3
	MW18-20171216	12/16/17	SoundEarth	18,000[x, ip]	<2,500[ip]	380	<0.35	<1	<1	<3
	MW18-20180310	03/10/18	SoundEarth	6,000[x]	<2,500	390	<1	1.3	<1	<3
	MW18-20180630	06/30/18	SoundEarth	12,000[x]	1,600[x]	230	<1	1.3	<1	12
	MW18-20180922	09/22/18	SoundEarth	1,400[x, ip]	<2,500[ip]	290	<1	<1	<1	6.9
MTCA Cleanup Level				**500[4]**	**500[4]**	**1,000/800[4] [5]**	**5[4]**	**1,000[4]**	**700[4]**	**1,000[4]**

Table 2
Groundwater Analytical Results for TPH
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)						
				DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
MW19	MW19-20150507	05/07/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW19-20150803	08/03/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW19-20151207	12/07/15	SoundEarth	85[x]	<250	<100	<0.35	<1	<1	<3
	MW19-20160308	03/08/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW19-20160713	07/13/16	SoundEarth	21,000[x, ip]	4,100[x, ip]	<100	<0.35	<1	<1	<3
	MW19-20161021	10/21/16	SoundEarth	18,000[x, ip]	2,300[x, ip]	<100	<0.35	<1	<1	<3
	MW19-20170125	01/25/17	SoundEarth	29,000[x]	4,400[x]	210[x]	<0.35	<1	<1	<3
	MW19-20170601	06/01/17	SoundEarth	31,000[x, ip]	3,400[x, ip]	180	<0.35	<1	<1	<3
	MW19-20170923	09/23/17	SoundEarth	27,000[x, ip]	<3,000[ip]	150	<0.35	<1	<1	<3
	MW19-20171216	12/16/17	SoundEarth	9,700[x, ip]	<2,500[ip]	470	<0.35	<1	<1	<3
	MW19-20180310	03/10/18	SoundEarth	1,600[x]	<2,500	250	<1	<1	<1	<3
	MW19-20180630	06/30/18	SoundEarth	13,000[x]	820[x]	310	<1	<1	<1	9.6
	MW19-20180922	09/22/18	SoundEarth	3,300[x, ip]	<2,500[ip]	300	<1	<1	<1	5.0
MW20	MW20-20150506	05/06/15	SoundEarth	120[x]	<250	<100	<0.35	<1	<1	<3
	MW20-20150803	08/03/15	SoundEarth	140[x]	<250	<100	<0.35	<1	<1	<3
	MW20-20151207	12/07/15	SoundEarth	84[x]	<250	<100	<0.35	<1	<1	<3
	MW20-20160309	03/09/16	SoundEarth	130[x]	<300	<100	<0.35	<1	<1	<3
	MW20-20160715	07/15/16	SoundEarth	150[x]	<250	<100	<0.35	<1	<1	<3
	MW20-20161020	10/20/16	SoundEarth	110[x]	<250	<100	<0.35	<1	<1	<3
	MW20-20170125	01/25/17	SoundEarth	64[x]	<250	<100	<0.35	<1	<1	<3
	MW20-20170601	06/01/17	SoundEarth	94[x]	<250	<100	<0.35	<1	<1	<3
	MW20-20170924	09/24/17	SoundEarth	130[x]	<300	<100	<0.35	<1	<1	<3
	MW20-20171216	12/16/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW20-20180310	03/10/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW20-20180630	06/30/18	SoundEarth	120[x]	<250	<100	<1	<1	<1	<3
	MW20-20180922	09/22/18	SoundEarth	100[x]	<250	<100	<1	<1	<1	<3
MW21	MW21-20150506	05/06/15	SoundEarth	160[x]	<250	<100	<0.35	<1	<1	<3
	MW21-20150804	08/04/15	SoundEarth	150[x]	<250	<100	<0.35	<1	<1	<3
	MW21-20151208	12/08/15	SoundEarth	110[x]	<250	<100	<0.35	<1	<1	<3
	MW21-20160309	03/09/16	SoundEarth	120[x]	<250	<100	<0.35	<1	<1	<3
	MW21-20160713	07/13/16	SoundEarth	12,000[x]	2,700[x]	<100	<0.35	<1	<1	<3
	MW21-20161020	10/20/16	SoundEarth	77,000[x, ip]	8,600[x, ip]	<100	<0.35	<1	<1	<3
	MW21-20170126	01/26/17	SoundEarth	16,000[x, ip]	10,000[x, ip]	<100	<0.35	<1	<1	<3
	MW21-20170601	06/01/17	SoundEarth	48,000[x, ip]	18,000[x, ip]	130	<0.35	<1	<1	<3
	MW21-20170923	09/23/17	SoundEarth	67,000[x, ip]	7,700[x, ip]	220	<0.35	<1	<1	<3
	MW21-20171216	12/16/17	SoundEarth	27,000[x]	<2,500	390	<0.35	<1	<1	<3
	MW21-20180310	03/10/18	SoundEarth	23,000[x]	<2,500	130	<1	<1	<1	<3
	MW21-2018630	06/30/18	SoundEarth	65,000[x, ip]	5,200[x, ip]	670	<1	3.0	11	11
	MW21-20180922	09/22/18	SoundEarth	53,000[x, ip]	8,600[x, ip]	400	<1	<1	<1	3.4
MW22	MW22-20150506	05/06/15	SoundEarth	97[x]	<250	<100	<0.35	<1	<1	<3
	MW22-20150804	08/05/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW22-20151208	12/08/15	SoundEarth	69[x]	<300	<100	<0.35	<1	<1	<3
	MW22-20160308	03/08/16	SoundEarth	110[x]	<250	<100	<0.35	<1	<1	<3
	MW22-20160713	07/13/16	SoundEarth	8,000[x, ip]	2,100[x, ip]	140	<0.35	<1	<1	<3
	MW22-20161020	10/20/16	SoundEarth	29,000[x, ip]	7,500[x, ip]	130	<0.35	<1	<1	<3
	MW22-20170126	01/26/17	SoundEarth	13,000[x, ip]	13,000[x, ip]	730	<0.35	<1	<1	<3
	MW22-20170601	06/01/17	SoundEarth	59,000[x]	8,700[x]	660	<0.35	<1	<1	<3
	MW22-20170923	09/23/17	SoundEarth	85,000[x,ip]	<2,500[ip]	390	<0.35	<1	<1	<3
	MW22-20171216	12/16/17	SoundEarth	58,000[x,ip]	<3,000[ip]	1,800	<0.35	<1	<1	<3
	MW22-20180310	03/10/18	SoundEarth	50,000[x]	<2,500	530	<0.35	<1	<1	10
	MW22-20180630	06/30/18	SoundEarth	86,000[x, ip]	4,500[x, ip]	620	<1	<1	<1	34
	MW22-20180922	09/22/18	SoundEarth	73,000[x, ip]	6,800[x, ip]	320	<1	<1	<1	21
MTCA Cleanup Level				**500[4]**	**500[4]**	**1,000/800[4] [5]**	**5[4]**	**1,000[4]**	**700[4]**	**1,000[4]**

Table 2
Groundwater Analytical Results for TPH
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)						
				DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
MW23	MW23-20150507	05/07/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW23-20150804	08/04/15	SoundEarth	520[x]	<250	<100	<0.35	<1	<1	<3
	MW23-20151208	12/08/15	SoundEarth	190[x]	<300	<100	<0.35	<1	<1	<3
	MW23-20160308	03/08/16	SoundEarth	410[x]	<250	<100	<0.35	<1	<1	<3
	MW23-20160714	07/14/16	SoundEarth	26,000[x, ip]	1,500[x, ip]	190	<0.35	<1	<1	<3
	MW23-20161020	10/20/16	SoundEarth	80,000[x, ip]	<5,000[ip]	350	<0.35	<1	<1	<3
	MW23-20170126	01/26/17	SoundEarth	14,000[x, ip]	5,600[x, ip]	240	<0.35	<1	<1	<3
	MW23-20170601	06/01/17	SoundEarth	140,000[x, ip]	4,000[x, ip]	210	<0.35	<1	<1	<3
	MW23-20170923	09/23/17	SoundEarth	140,000[x]	<2,500	170	<0.35	<1	<1	<3
	MW23-20171216	12/16/17	SoundEarth	110,000[x, ip]	<2,500[ip]	2,200	<0.35	<1	<1	<3
	MW23-20180310	03/10/18	SoundEarth	11,000[x]	<2,500	600	<1	<1	<1	4.6
	MW23-20180630	06/30/18	SoundEarth	30,000[x]	1,000[x]	540	<1	<1	<1	31
	MW23-20180922	09/22/18	SoundEarth	19,000[x, ip]	<2,600[ip]	150	<1	<1	<1	11
MW24	MW24-20150506	05/06/15	SoundEarth	93[x]	<250	<100	<0.35	<1	<1	<3
	MW24-20150804	08/04/15	SoundEarth	94[x]	<250	<100	<0.35	<1	<1	<3
	MW24-20151208	12/08/15	SoundEarth	240[x]	<250	<100	<0.35	<1	<1	<3
	MW24-20160309	03/09/16	SoundEarth	130[x]	<250	<100	<0.35	<1	<1	<3
	MW24-20160715	07/15/16	SoundEarth	13,000[x, ip]	1,400[x, ip]	<100	<0.35	<1	<1	<3
	MW98-20160715 (DUP)		SoundEarth	11,000[x, ip]	1,900[x, ip]	<100	<0.35	<1	<1	<3
	MW24-20161020	10/20/16	SoundEarth	3,200[x,ip]	1,900[x,ip]	<100	<0.35	<1	<1	<3
	MW24-20170125	01/25/17	SoundEarth	12,000[x]	2,000[x]	<100	<0.35	<1	<1	<3
	MW24-20170601	06/01/17	SoundEarth	510,000[x, ip]	27,000[x, ip]	<100	<0.35	<1	<1	<3
	MW24-20170601	09/24/17	SoundEarth	39,000[x, ip]	<3,000[ip]	250	<0.35	<1	<1	<3
	MW24-20171216	12/16/17	SoundEarth	10,000[x]	<3,000	990	<0.35	<1	<1	<3
	MW24-20180310	03/10/18	SoundEarth	990[x]	<2,500	460	<1	<1	<1	3.7
	MW24-20180630	06/30/18	SoundEarth	75,000[x, ip]	7,700[x,ip]	2,700	<1	3.6	6.5	110
	MW24-20180922	09/22/18	SoundEarth	7,800[x, ip]	<2,500[ip]	190	<1	<1	<1	7.5
MW25	MW25-20150507	05/07/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW99-20150507 (DUP)			<50	<250	<100	<0.35	<1	<1	<3
	MW25-20150805	08/05/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW99-20150805 (DUP)			<50	<250	<100	<0.35	<1	<1	<3
	MW25-20151209	12/09/15	SoundEarth	86[x]	<250	<100	<0.35	<1	<1	<3
	MW99-20151209 (DUP)			100[x]	<300	<100	<0.35	<1	<1	<3
	MW25-20160308	03/08/16	SoundEarth	190[x]	<250	<100	<0.35	<1	<1	<3
	MW99-20160308(DUP)			160[x]	<250	<100	<0.35	<1	<1	<3
	MW25-20160713	07/13/16	SoundEarth	43,000[x]	5,000[x]	110	<0.35	<1	<1	<3
	MW25-20161019	10/19/16	SoundEarth	26,000[x]	1,500[x]	160	--	--	--	--
	MW99-20161019(DUP)			29,000[x]	1,600[x]	160	--	--	--	--
	MW25-20170125	01/25/17	SoundEarth	8,200[x]	340[x]	120[x]	<0.35	<1	<1	<3
	MW99-20170125(DUP)			6,900[x]	350[x]	150[x]	<0.35	<1	<1	<3
	MW25-20170601	06/01/17	SoundEarth	50,000[x, ip]	<1,000[ip]	370	<0.35	<1	<1	<3
	MW99-20170601(DUP)			46,000[x, ip]	<1,000[ip]	410	<0.35	<1	<1	<3
	MW25-20170923	09/23/17	SoundEarth	12,000[x, ip]	<2,500[ip]	270	<0.35	<1	<1	<3
	MW99-20170923(DUP)			13,000[x, ip]	<2,500[ip]	220	<0.35	<1	<1	<3
	MW25-20171216	12/16/17	SoundEarth	4,000[x, ip]	<3,000[ip]	580	<0.35	<1	<1	<3
	MW99-20171216 (DUP)			4,000[x, ip]	<3,000[ip]	700	<0.35	<1	<1	<3
	MW25-20180310	03/10/18	SoundEarth	3,300[x]	<2,500	490	<1	<1	<1	4.7
	MW99-20180310 (DUP)			3,800[x]	<2,500	510	<1	<1	<1	4.5
	MW25-20180630	06/30/18	SoundEarth	5,300[x, ip]	630[x, ip]	490	<1	<1	<1	31
	MW99-20180630 (DUP)			5,500[x, ip]	410[x, ip]	340	<1	<1	<1	26
	MW25-20180922	09/22/18	SoundEarth	1,500[x, ip]	<2,500[ip]	300	<1	<1	<1	17
	MW99-20180922 (DUP)			1,900[x, ip]	<2,500[ip]	160	<1	<1	<1	13
MTCA Cleanup Level				**500[4]**	**500[4]**	**1,000/800[4] [5]**	**5[4]**	**1,000[4]**	**700[4]**	**1,000[4]**

Table 2
Groundwater Analytical Results for TPH
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)						
				DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
IW04	IW04-20150508	05/08/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW04-20170601	06/01/17	SoundEarth	--	--	--	<0.35	<1	<1	<3
IW06	IW06-20150507	05/07/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
IW50	IW50-20150803	08/03/15	SoundEarth	5,000[x]	<250	<100	<0.35	<1	<1	<3
	IW50-20160715	07/15/16	SoundEarth	39,000[x]	1,900[x]	640	<0.35	<1	<1	<3
IW91	IW91-20150506	05/06/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20150804	08/04/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20151208	12/08/15	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	IW91-20160309	03/09/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20160714	07/14/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20161020	10/20/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20170126	01/26/17	SoundEarth	200[x]	<300	<100	<0.35	<1	<1	<3
	IW91-20170601	06/01/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20170923	09/23/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20171216	12/16/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	IW91-20180310	03/10/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	IW91-20180630	06/30/18	SoundEarth	<60	<300	<100	<1	<1	<1	<3
	IW91-20180922	09/22/18	SoundEarth	<60	<300	<100	<1	<1	<1	<3
Boren Avenue North										
MW04	MW04-20110527	05/27/11	SoundEarth	<50	<250	<100	<1	1.3	<1	<3
	MW04-20111012	10/12/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW04-20130909	09/09/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW04-20150508	05/08/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW04-20150806	08/06/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW04-20151209	12/09/15	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	MW04-20160308	03/08/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW04-20160713	07/13/16	SoundEarth	<56	<280	<100	<0.35	<1	<1	<3
	MW04-20161019	10/19/16	SoundEarth	<50	<250	<100	--	--	--	--
	MW04-20170124	01/24/17	SoundEarth	150[x]	<250	<100	<0.35	<1	<1	<3
	MW04-20170531	05/31/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW04-20170921	09/21/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW04-20171214	12/14/17	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	MW04-20180309	03/09/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW04-20180629	06/29/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW04-20180920	09/20/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
MW05	MW05-20110527	05/27/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW05-20111012	10/12/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW05-20130910	09/10/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2015									
MW07	MW07-20110531	05/31/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW07-20111012	10/12/11	SoundEarth	240[x]	<250	<100	<1	<1	<1	<3
	MW07-20130909	09/09/13	SoundEarth	120[x]	<250	<100	<1	<1	<1	<3
	MW07-20150508	05/08/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW07-20150805	08/05/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW07-20151209	12/09/15	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	MW07-20160308	03/08/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW07-20160713	07/13/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW07-20161019	10/19/16	SoundEarth	76[x]	<250	<100	--	--	--	--
	MW07-20170124	01/24/17	SoundEarth	120[x]	<250	<100	<0.35	<1	<1	<3
	MW07-20170531	05/31/17	SoundEarth	54[x]	<250	<100	<0.35	<1	<1	<3
	MW07-20180308	03/08/18	SoundEarth	<50	<250	<100	<1	<1	<1	<1
	MW07-20180629	06/29/18	SoundEarth	<60	<300	<100	<1	<1	<1	<3
	MW07-20180920	09/20/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
MTCA Cleanup Level				**500[4]**	**500[4]**	**1,000/800[4] [5]**	**5[4]**	**1,000[4]**	**700[4]**	**1,000[4]**

Table 2
Groundwater Analytical Results for TPH
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)						
				DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
MW13	MW13-20111020	10/20/11	SoundEarth	150[x]	<250	<100	<1	<1	<1	<3
	MW13-20130910	09/10/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW13-20150511	05/11/15	SoundEarth	<70	<350	<100	<0.35[cf]	<1[cf]	<1[cf]	<3[cf]
	MW13-20150805	08/05/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW13-20151215	12/15/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW13-20160307	03/07/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW13-20160712	07/12/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW13-20161019	10/19/16	SoundEarth	<50	<250	<100	--	--	--	--
	MW13-20170124	01/24/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW13-20170531	05/31/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW13-20170921	09/21/17	SoundEarth	120[x]	<300	<100	<0.35	<1	<1	<3
	MW13-20171214	12/14/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW13-20180308	03/08/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW13-20180629	06/29/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW13-20180920	09/20/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
MW27	MW27-20151210	12/10/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW27-20160307	03/07/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW27-20160713	07/13/16	SoundEarth	<52	<260	<100	<0.35	<1	<1	<3
	MW27-20161019	10/19/16	SoundEarth	<50	<250	<100	--	--	--	--
	MW27-20170124	01/24/17	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	MW27-20170531	05/31/17	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	MW27-20170921	09/21/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW27-20171214	12/14/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW27-20180308	03/08/18	SoundEarth	**540**[x]	<250	<100	<1	<1	<1	<3
	MW27-20180628	06/28/18	SoundEarth	<60	<300	<100	<1	<1	<1	<3
	MW27-20180920	09/20/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
Terry Avenue North										
MW15	MW15-20121211	12/11/12	SoundEarth	--	--	<100	<0.35	<1	<1	<3
	MW15-20130910	09/10/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW15-20150508	05/08/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20150805	08/05/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20151209	12/09/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20160308	03/08/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20160713	07/13/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20161018	10/18/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20170125	01/25/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20170531	05/31/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20170922	09/22/17	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	MW15-20171215	12/15/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW15-20180309	03/09/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW15-20180629	06/29/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW15-20180920	09/20/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
MTCA Cleanup Level				**500[4]**	**500[4]**	**1,000/800[4] [5]**	**5[4]**	**1,000[4]**	**700[4]**	**1,000[4]**

Table 2
Groundwater Analytical Results for TPH
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)						
				DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
Thomas Street										
MW14	MW14-20111020	10/20/11	SoundEarth	160[x]	<250	<100	<1	<1	<1	<3
	MW14-20130911	09/11/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED									
MW16	MW16-20121211	12/11/12	SoundEarth	420[x]	<250	640	<0.35	<1	<1	1.1
	MW16-20130911	09/11/13	SoundEarth	170[x]	<250	110	<1	<1	<1	<3
	MW16-20150508	05/08/15	SoundEarth	150[x]	<250	<100	<0.35	<1	<1	<3
	MW16-20150805	08/05/15	SoundEarth	210[x]	<250	<100	<0.35	<1	<1	<3
	MW16-20151210	12/10/15	SoundEarth	420[x]	<250	110	<0.35	<1	<1	<3
	MW16-20160308	03/08/16	SoundEarth	410[x]	<250	140	<0.35	<1	<1	<3
	MW16-20160712	07/12/16	SoundEarth	**510**[x]	<250	130	<0.35	<1	<1	<3
	MW16-20161019	10/19/16	SoundEarth	310[x]	<250	<100	--	--	--	--
	MW16-20170125	01/25/17	SoundEarth	140[x]	<250	<100	<0.35	<1	<1	<3
	MW16-20170531	05/31/17	SoundEarth	**740**[x]	<250	140	<0.35	<1	<1	<3
	MW16-20170922	09/22/17	SoundEarth	**570**	<250	130	<0.35	<1	<1	<3
	MW16-20171229	12/29/17	SoundEarth	160[x]	<250	120	<0.35	<1	<1	<3
	MW16-20180309	03/09/18	SoundEarth	260[x]	<250	120	<1	<1	<1	<3
	WELL DAMAGED 2018									
Fairview Avenue North										
MW-C	MW-C-20130911	09/11/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
Harrison Street										
MW01	MW01-20110525	05/25/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW01-20111011	10/11/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW01-20130910	09/10/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW01-20150806	08/06/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW01-20160308	03/08/16	SoundEarth	<65	<330	<100	<0.35	<1	<1	<3
	MW01-20160712	07/12/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW01-20161018	10/18/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW01-20170124	01/24/17	SoundEarth	<25	<125	<100	<0.35	<1	<1	<3
	MW01-20170531	05/31/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW01-20171214	12/14/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW01-20180309	03/09/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW01-20180628	06/28/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW01-20180920	09/20/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
MW02	MW02-20110525	05/25/11	SoundEarth	100[x]	<250	<100	<1	<1	<1	<3
	MW02-20111011	10/11/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW02-20130911	09/11/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2015									
MW03	MW03-20110527	05/27/11	SoundEarth	130[x]	<250	<100	<1	<1	<1	<3
	MW03-20111011	10/11/11	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW03-20130911	09/11/13	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	DECOMMISSIONED 2015									
MTCA Cleanup Level				**500[4]**	**500[4]**	**1,000/800[4] [5]**	**5[4]**	**1,000[4]**	**700[4]**	**1,000[4]**

Table 2
Groundwater Analytical Results for TPH
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)						
				DRPH[1]	ORPH[1]	GRPH[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
MW26	MW26-20151210	12/10/15	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW26-20160307	03/07/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW26-20160712	07/12/16	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW26-20161018	10/18/16	SoundEarth	59[x]	<250	<100	<0.35	<1	<1	<3
	MW26-20170124	01/24/17	SoundEarth	<60	<300	<100	<0.35	<1	<1	<3
	MW26-20170531	05/31/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW26-20170921	09/21/17	SoundEarth	130[x]	<250	<100	<0.35	<1	<1	<3
	MW26-20171214	12/14/17	SoundEarth	<50	<250	<100	<0.35	<1	<1	<3
	MW26-20180309	03/09/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW26-20180628	06/28/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
	MW26-20180920	09/20/18	SoundEarth	<50	<250	<100	<1	<1	<1	<3
SMW06	SMW06-20130910	09/10/13	SoundEarth	130[x]	<250	400	<1	<1	3.5	3.7
Westlake Avenue North										
SMW09	SMW09-20130910	09/10/13	SoundEarth	79[x]	<250	<100	<1	<1	<1	<3
North-Adjoining Property										
SLU-MW01	MW01-20120229	2/29/2012[6]	SoundEarth	150	<250	--	--	--	--	--
	DECOMMISSIONED 2013									
SLU-MW02	MW02-20120229	2/29/2012[6]	SoundEarth	<50	<250	--	--	--	--	--
	DECOMMISSIONED 2013									
MTCA Cleanup Level				**500[4]**	**500[4]**	**1,000/800[4] [5]**	**5[4]**	**1,000[4]**	**700[4]**	**1,000[4]**

NOTES:

Red denotes concentrations exceeding the MTCA Method cleanup level for groundwater.

[1]Analyzed by Method NWTPH-Dx. The supply well samples collected in August 2010 were passed through a silica gel column prior to analysis to remove organic interference.

[2]Analyzed by EPA Method 418.1 or Method NWTPH-Gx.

[3]Analyzed by EPA Method 8260C, 8021B or 8240.

[4]MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of WAC, revised November 2007.

[5]1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

[6]Sample data compiled from reports on file at the Washington State Department of Ecology.

Laboratory Notes:

[cf]The sample was centrifuged prior to analysis.

[lo]Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

[x]The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

-- = not analyzed, measured, or calculated
< = not detected at a concentration exceeding laboratory reporting limit
µg/L = micrograms per liter
DRPH = diesel-range petroleum hydrocarbons
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
MTCA = Washington State Model Toxics Control Act
NWTPH = Northwest Total Petroleum Hydrocarbon
ORPH = heavy oil-range petroleum hydrocarbons
SoundEarth = SoundEarth Strategies, Inc.
TPH = total petroleum hydrocarbons
WAC = Washington Administrative Code

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

ATTACHMENT C TO EXHIBIT A – PROSPECTIVE PURCHASER CONSENT DECREE
GROUNDWATER COMPLIANCE MONITORING PLAN AND SAMPLING AND ANALYSIS PLAN

Property:
Troy Laundry Property
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington
Ecology Facility ID: 19135499

Prepared for:
Ponte Gadea Seattle, LLC
c/o Touchstone SLU LLC & TB TS/RELP LLC
1425 4th Avenue, Suite 200
Seattle, Washington

Report Date:
January 10, 2019

GROUNDWATER COMPLIANCE MONITORING PLAN and SAMPLING AND ANALYSIS PLAN

Troy Laundry Property
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington 98121
Ecology Facility ID: 19135499

Prepared for:

Ponte Gadea Seattle, LLC
c/o Touchstone SLU LLC & TB TS/RELP LLC
2025 First Avenue, Suite 1212
Seattle, Washington 98121

Project No.: 0731-004

Prepared by:

Thomas Cammarata
Principal Environmental Geochemist

January 10, 2019

SoundEarth Strategies

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ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
adjacent ROWs	the three rights-of-way (ROWs) directly adjacent to the Property where groundwater monitoring wells for the Site are located (Harrison Street to the north, Boren Avenue to the west, and Thomas Street to the south). Adjacent rights-of-way may also be identified individually as appropriate.
cis-1,2-DCE	cis-1,2-dichloroethylene
COC	contaminant of concern
CVOC	chlorinated volatile organic compound
DRPH	diesel-range petroleum hydrocarbons
DQO	data quality objective
Ecology	Washington State Department of Ecology
EPA	US Environmental Protection Agency
FC	field coordinator
GCMP/SAP	Groundwater Compliance Monitoring Plan and Sampling and Analysis Plan
GRPH	gasoline-range petroleum hydrocarbons
ID	identifier
MS	matrix spike
MSD	matrix spike duplicate
MTCA	Washington State Model Toxics Control Act
NWTPH	Northwest Total Petroleum Hydrocarbon
ORPH	oil-range petroleum hydrocarbons
PCE	tetrachloroethene
Ponte Gadea	Ponte Gadea Seattle, LLC
PQL	practical quantitation limit
Property	300 Boren Avenue North and 399 Fairview Avenue North, Seattle, Washington

ACRONYMS AND ABBREVIATIONS (CONTINUED)

QC	quality control
QA/QC	quality assurance/quality control
RPD	relative percent difference
Site	The Site is defined by where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located. As of the date of entry of the Prospective Purchaser Consent Decree (PPCD), the nature and extent of contamination at the Site has not been fully characterized.
SoundEarth	SoundEarth Strategies, Inc.
TCE	trichloroethene
Touchstone	Touchstone SLU LLC and TB/TS RELP LLC
WAC	Washington Administrative Code

1.0 INTRODUCTION

SoundEarth Strategies, Inc. (SoundEarth) has prepared this Groundwater Compliance Monitoring Plan and Sampling and Analysis Plan (GCMP/SAP) for the Troy Laundry Property located at 300 Boren Avenue North (South Tower) and 399 Fairview Avenue North (North Tower) in Seattle, Washington (collectively, the Property), and the adjacent rights-of-way (ROWs), including Harrison Street, Boren Avenue, and Thomas Street. The location of the Property is shown on Figure 1.

The Property comprises a portion of the Troy Laundry Seattle cleanup site (Site). The Site is defined by where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located. As of the date of entry of the Prospective Purchaser Consent Decree (PPCD), the nature and extent of contamination at the Site has not been fully characterized. Pursuant to Agreed Order No. DE 8996 (Agreed Order), Touchstone SLU LLC and TB TS/RELP LLC (collectively, Touchstone) remain obligated to complete a remedial investigation to define the Site boundaries and to develop and evaluate potentially feasible cleanup action alternatives.

The parties' current understanding of the lateral and vertical extent of contamination caused by releases from the dry cleaning facility that formerly operated on the Property is more fully discussed in (i) the Draft Remedial Investigation Report, prepared by SoundEarth and dated May 2, 2012, (ii) the Draft Addendum—Supplemental Remedial Investigation Report, prepared by SoundEarth and dated December 17, 2012, and (iii) the results of ongoing compliance groundwater monitoring at the Site as reported periodically to Washington State Department of Ecology (Ecology) by SoundEarth.

Prior to Touchstone's implementation of the 2014 interim action (discussed below), the following contaminants of concern (COCs) were detected at concentrations above applicable cleanup levels at the Site: (1) gasoline-, diesel-, and oil-range petroleum hydrocarbons (GRPH, DRPH, and ORPH, respectively), and chlorinated volatile organic compounds (CVOCs)—specifically tetrachloroethene (PCE) and its degradation compounds trichloroethene (TCE), vinyl chloride (VC), and cis-1,2-dichloroethene (DCE)—in soil; and (2) CVOCs—specifically PCE and its degradation compounds TCE, VC, and DCE—in groundwater.

An interim remedial action implemented in 2014 at the Site included the mass excavation of contaminated soil from the Property, and implementation of groundwater treatment injections using enhanced reductive dechlorination (ERD) following redevelopment of the Property. For the mass excavation, the entire Property was excavated to a depth of approximately 85 feet. Approximately 100,000 tons of contaminated soil were excavated and disposed of at a Subtitle D landfill. The groundwater treatment system includes 12 angled injection wells extending beneath the Boren Avenue North and Thomas Street ROWs and 91 vertical injection wells. Of the 91 vertical injection wells, 53 are located on or as close to the boundary of the Property as possible, while 38 are located within the boundary of the Property (Figure 2).

The first groundwater treatment event occurred between May 12 and June 5, 2015. SoundEarth injected approximately 400 to 530 gallons of EOS PRO solution (editable oil substrate, a food-grade oil/water emulsion) into each injection well. The second groundwater treatment event at the Property occurred between April 25 and May 11, 2016. SoundEarth injected approximately 100 to 1,100 gallons of EOS PRO solution into each injection well. The third groundwater treatment event at the Property occurred in June 2017, whereby a total of 273 kilograms of microbial culture was injected into 90 of the 103 injection wells.

Pursuant to the Agreed Order, Touchstone conducted groundwater monitoring following the initiation of groundwater treatment. Ponte Gadea Seattle, LLC (Ponte Gadea) subsequently purchased the Property. As part of this transaction, Ponte Gadea entered into a PPCD with Ecology. In order to implement its obligations under the PPCD, Ponte Gadea retained Touchstone as its Remediation Manager and retained SoundEarth to perform groundwater remedial activities. Ponte Gadea has also retained AEI Consultants (AEI) to provide technical support.

This GCMP/SAP describes performance monitoring and confirmational monitoring programs to be implemented by Ponte Gadea under the PPCD, as well as procedures for the acquisition of groundwater performance and confirmational samples, sample analyses, sample handling, documentation, and field and laboratory quality control at the Site. The GCMP/SAP was developed to meet the relevant requirements for a compliance monitoring plan as defined by the Washington State Model Toxics Control Act (MTCA) Regulation Title 173, Chapter 340, Sections 410 and 820 of the Washington Administrative Code (WAC).

1.1 PURPOSE AND OBJECTIVES

The purpose of the GCMP/SAP is to describe the sample collection, handling, and analysis procedures to be implemented during the cleanup action in accordance with WAC 173-340-410 and 820 of MTCA. This GCMP/SAP identifies specific sampling and analysis protocols, project schedule, and project organization and responsibilities. It also provides detailed information regarding sampling and data quality objectives, sample location and frequency, equipment, and procedures to be used during the cleanup action; sample handling and analysis; procedures for management of waste; quality assurance protocols for field activities and laboratory analysis; and reporting requirements.

1.2 COMPLIANCE MONITORING PLAN ORGANIZATION

The GCMP/SAP is organized into the following sections:

- **Section 1.0, Introduction.** This section describes the purpose of the GCMP/SAP and provides a description of the Property features and location, a brief summary of the current and historical uses of the Property, and a summary of the results of previous investigations conducted at the Site.
- **Section 2.0, Project Organization and Management.** This section presents the project team, including field personnel and management. Examples of field sampling forms are included as Appendix A.
- **Section 3.0, Compliance Monitoring Plan.** This section presents the performance monitoring and confirmational monitoring programs for groundwater beneath the Property and the adjacent ROWs, including applicable cleanup levels and points of compliance for groundwater.
- **Section 4.0, Sampling and Analysis Plan.** This section presents the groundwater sampling frequency and locations, sample identification, sample procedures for groundwater sample collection, sample handling procedures, analytical testing, management of investigation derived waste, and well decommissioning.
- **Section 5.0, Data Quality Objectives.** This section summarizes the data quality objectives that will need to be met to ensure the validity of the analytical results.

- **Section 6.0, Data Collection.** This section describes the type, transfer, inventory management, and validation procedures of the data that will be gathered during the cleanup action.
- **Section 7.0, Quality Control Procedures.** This section provides details regarding the quality control (QC) procedures for both field activities and laboratory analysis.
- **Section 8.0, Corrective Actions.** This section identifies the approaches that will be used to correct any protocols that may compromise the quality of the data.
- **Section 9.0, Documentation and Records.** This section outlines the documentation that will be prepared during the cleanup action. It includes a discussion of document management, waste disposal tracking, and compliance reports.

1.3 BACKGROUND

This section provides a description of the Property features and location, a summary of historical Property use, and a summary of previous investigations conducted at the Property and adjoining parcels and ROWs.

1.3.1 Property Location and Description

The Property is comprised of two (2) tax parcels (King County parcel numbers 198620-0480 and 198620-0515) that cover approximately 108,571 square feet (2.5 acres) of land. The Property is listed as 307 Fairview Avenue North in Seattle, Washington. Ponte Gadea currently owns the Property.

The Property was previously improved with three (3) buildings (Figure 2). A 1925-vintage, single-story masonry warehouse building listed at 334 Boren Avenue North (David Smith Building) is used as a sales floor and storage for David Smith Antiques, a home furnishings retailer and wholesaler. The masonry-framed structure had a tar and gravel roof and is heated by space heaters.

The original 1927-vintage building at 307 Fairview Avenue North (Troy Building) is presently used as storage space for Integrity Interior Solutions, as well as storage for David Smith Antiques. The current, expanded structure was formerly the main location of the Troy Laundry and commercial dry cleaning operations. The masonry-framed structure has a tar and gravel roof and is heated by a hot water furnace. Troy Building additions, which were constructed between 1943 and 1966, were formerly used for industrial laundry, fur storage (Fur Vault), a tumbling and cleaning area on the western portion of the Property, and a two-story reinforced concrete parking garage on the southwestern portion of the Property. The reinforced concrete structure is heated using space heaters.

Currently, the Troy Block development occupies a full city block in the City of Seattle, bounded by Fairview Avenue North to the east, Harrison Street to the north, Boren Avenue North to the west, and Thomas Street to the south. The Property is 2.51 acres in area. The development includes a 5-level below grade parking garage with 1,120 parking stalls with 2 office towers above the garage. The North Tower is 13 stories with 418,999 square feet of rentable space and the South Tower is 12 stories with 392,521 square feet of rentable space.

1.4 PROPERTY HISTORY

The Property was initially developed prior to 1893 with residences. Residences exclusively occupied the Property until 1925, when the David Smith Building was constructed on the northwestern corner of the

Property. The Troy 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 containing heating oil, fuel, and dry cleaning solvents, as well as several aboveground storage tanks containing propane, wash water, water-softening agents, dry cleaning solvents, and heating oil, were used on the Property.

1.5 COMPLIANCE MONITORING PLAN TASK DESCRIPTIONS

The tasks proposed as part of the GCMP/SAP include the following:

- Groundwater monitoring and sampling from 2019 to at least 2024
- Well decommissioning

A summary of the GCMP/SAP schedule is provided in Table 1.

2.0 PROJECT ORGANIZATION AND MANAGEMENT

This section describes the overall project management strategy for implementing the cleanup action.

To ensure efficient decision making for field sampling and laboratory analysis, key data collection decisions, decision criteria, process for decision making, Quality Assurance/Quality Control (QA/QC) procedures, and responsibilities are described below and detailed in Table 2.

These decision and communication plans will be followed by field personnel under the direction of the field coordinator (FC) and task manager. Site quality control to ensure proper communication and adherence to this GCMP/SAP is discussed below in Section 7.0.

The remedial activities as part of the interim action are being conducted by SoundEarth on behalf of Ponte Gadea. Ecology is providing regulatory guidance of site activities. The following key personnel have been identified for the project. A summary of key personnel roles and responsibilities is provided in Table 2.

Regulatory Agency. Ecology is the lead regulatory agency for the Site. Ecology's Site Manager for the Project is:

Ms. Sunny Becker
Washington State Department of Ecology
3190 160th Avenue Southeast
Bellevue, Washington 98008
425-649-7187
hlin461@ecy.wa.gov

Project Contact. SoundEarth has been contracted by Ponte Gadea to plan and implement the groundwater monitoring program for the Site. Touchstone will serve as the Remediation Manager for the Project. The Project Contact for Touchstone is:

Mr. Paul Klansnic
Touchstone SLU LLC & TB TS/RELP LLC

1425 4th Ave, Suite 200
Seattle, Washington 98101
206-357-2305
pklansnic@touchstonenw.com

The Project Contact for Ponte Gadea is:

Frank Jakus
Ponte Gadea Seattle, LLC
270 Biscayne Boulevard Way, Suite 201
Miami, Florida 33131-2123
305-373-9559
frankj@pontegadea.com

Project Principal. The Project Principal provides oversight of all project activities and reviews all data and deliverables prior to their submittal to the Project Contact or Regulatory Agency. The Project Principal for SoundEarth is:

Mr. Thomas Cammarata
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
tcammarata@soundearthinc.com

The project principal for AEI is:

Timothy G. Bodkin, PG, CEG, LG
AEI Consultants
3880 South Bascom Avenue, Suite 109
San Jose, California 95124
p. 408-559-7600, ext. 2013
f. 408-559-7601
tbodkin@aeiconsultants.com

Project Manager. The Project Manager has overall responsibility for developing the GCMP/SAP, monitoring the quality of the technical and managerial aspects of the cleanup action, and implementing the GCMP/SAP and corresponding corrective measures, where necessary. The Project Manager for SoundEarth is:

Mr. Logan Schumacher
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
lschumacher@soundearthinc.com

Laboratory Project Manager. The Laboratory Project Manager will provide analytical support and will be responsible for providing certified, pre-cleaned sample containers and sample preservatives (as appropriate) and for ensuring that all chemical analyses meet the project quality specifications detailed in this GCMP/SAP. Friedman & Bruya, Inc. of Seattle, Washington, has been contracted to perform the chemical and physical analyses for compliance samples collected during the cleanup action. The Laboratory Project Manager is:

Mr. Mike Erdahl
Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, Washington 98119
206-285-8282
merdahl@friedmanandbruya.com

Project QA/QC Officer. The Project QA/QC Officer has the responsibility to monitor and verify that the work is performed in accordance with the GCMP/SAP and other applicable procedures. The Project QA/QC Officer has the responsibility to assess the effectiveness of the QA/QC program and to recommend modifications to the program when applicable. The Project QA/QC Officer is responsible for assuring that the personnel assigned to the project are trained relative to the requirements of the QA/QC program and for reviewing and verifying the disposition of nonconformance and corrective action reports. The Project QA/QC Officer for SoundEarth is:

Mr. Logan Schumacher
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
lschumacher@soundearthinc.com

Field Coordinator. The FC will supervise field collection of all samples. The FC will ensure proper recording of sample locations, depths, and identification; sampling and handling requirements, including field decontamination procedures; physical evaluation and logging of samples; and completing of chain-of-custody forms. The FC will ensure that all field staff follows the GCMP/SAP and adheres to standardized methods for sample acceptability. The FC will ensure that field staff maintain records of field sampling events using the forms included as Appendix A of this GCMP/SAP. The FC will be responsible for proper completion and storage of field forms. The FC for SoundEarth is:

Mr. Logan Schumacher
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102
206-306-1900
Fax: 206-306-1907
lschumacher@soundearthinc.com

Field Staff. Members of the field staff must understand and implement the QA/QC program, coordinate and participate in the field sampling activities, coordinate sample deliveries to the laboratory, and report

any deviations from project plans as they relate to the cleanup action objectives as presented in the GCMP/SAP. Major deviations from the GCMP/SAP, such as the inability to collect a sample from a specific sampling location, obtaining an insufficient sample volume for the required analyses, or a change in sampling method, must be reported to the Project Manager.

3.0 COMPLIANCE MONITORING PLAN

This section describes the compliance monitoring activities that will be performed at the Property and the adjacent ROWs as part the interim remedial action. Compliance monitoring activities identified in this section will fulfill the requirements of ongoing monitoring in accordance with MTCA (WAC 173-340-410).

3.1 PERFORMANCE MONITORING

Performance monitoring tasks associated with the interim action are summarized below and are described in greater detail in the SAP presented in Section 4.0. Performance monitoring examines the effectiveness of the soil removal and groundwater treatment programs (i.e., ERD) previously conducted at the Site. Performance groundwater samples will be collected from the existing monitoring well network located on the Property and in the adjacent ROWs, and submitted for laboratory analyses of the COCs. Performance monitoring will be conducted on a semiannual basis until concentrations of COCs in groundwater beneath the Property and the adjacent ROWs have met the cleanup standards.

3.2 CONFIRMATIONAL MONITORING

Confirmational monitoring will also include collection and laboratory analysis of groundwater samples from the monitoring well network. Confirmational monitoring will begin when concentrations of COCs have met the cleanup standards. Confirmational monitoring will include four (4) consecutive quarters of groundwater monitoring and sampling to confirm that the concentrations of COCs remain below the cleanup levels.

3.3 CLEANUP LEVELS AND POINTS OF COMPLIANCE

Sections 3.4 through 3.5 summarize the cleanup standards for groundwater beneath the Property and the adjacent ROWs and provide a discussion of the points of compliance for groundwater and procedures for showing compliance with cleanup standards.

3.3.1 Cleanup Levels

Cleanup standards have been established for the Property and the adjacent ROWs. Since PCE, TCE, cis-1,2-DCE, vinyl chloride, GRPH, DRPH, and ORPH are the only COCs that have been detected in groundwater beneath the Property and adjacent ROWs, cleanup standards for these COCs are presented in the following subsection.

3.3.2 Groundwater

- PCE—5 micrograms per liter (µg/L)
- TCE—5 µg/L
- cis-1,2-DCE—16 µg/L
- Vinyl chloride—0.2 µg/L

- GRPH—1,000 µg/L
- DRPH—500 µg/L
- ORPH—500 µg/L

The cleanup standards for COCs are based on MTCA Method A and B cleanup levels in accordance with WAC 173-340-704, -705, 720, and -740. The compound trans-1,2-DCE, although a common degradation product of TCE, is not considered a COC for the Property and the adjacent ROWs, because to date the compound has not been detected in groundwater samples collected from the monitoring well network.

3.4 POINT OF COMPLIANCE

The point of compliance for the groundwater cleanup level is based on the ingestion exposure pathway. The MTCA standard point of compliance for ingestion is throughout the Site, from the uppermost level of the saturated zone extending vertically to its lowermost depth that could potentially be affected by the Site (WAC 173-340-720[8][b]). Because the scope of work required under the PPCD is limited to remedial activities regarding groundwater contamination beneath the Property and adjacent ROWs, the following monitoring wells comprise the compliance well network:

- On-Property: MW17 through MW25, and IW04, IW06, IW50, IW61, IW91;[1]
- Harrison Street ROW: MW01 and MW26;
- Boren Avenue ROW: MW04, MW07, MW13, and MW27; and
- Thomas Street ROW: MW28.[2]

3.5 COMPLIANCE WITH GROUNDWATER CLEANUP STANDARDS

Compliance with cleanup standards for COCs in groundwater beneath the Property and the adjacent ROWs will be evaluated based on ongoing statistical trend analysis of the groundwater monitoring results for the Site. Once the statistical trend analyses indicate that concentrations of COCs in the groundwater beneath the Property and the adjacent ROWs are declining, based on groundwater analytical results from four (4) consecutive groundwater monitoring events, a restoration timeframe for the COCs in the groundwater beneath the Property and the adjacent ROWs will be estimated. The restoration time frame refers to the period of time needed for the concentration of a COC to achieve the required cleanup level (CUL) based on the estimated decay rate. If a statistical trend analysis for any COC shows that concentrations will continue to exceed CULs after the year 2024, this will trigger additional monitoring events and analysis of groundwater treatment options in consultation with Ecology as presented in Attachment D of Exhibit C of the Prospective Purchaser Consent Decree. To account for any uncertainty in the calculated decay rate, and subsequently the estimated restoration time, a confidence level of 85 percent will be established for the decay rate. This means that 85 percent of the time the true rate of decay will be equal to or greater than the calculated decay rate and there is a high level of certainty in the estimated restoration time. The uncertainty analysis is based on guidance present in the *Ecology Natural Attenuation Analysis Tool Package for Petroleum-Contaminated Groundwater Package A Module 2*

[1] These five injection wells have been used to sample and monitor groundwater for CVOCs and geochemical parameters. One of the five injection wells (IW91) has also been used to sample for petroleum hydrocarbons.
[2] MW28 is a replacement for former MW16, which was destroyed during utility installation performed by the City of Seattle.

(Ecology). After compliance with cleanup standards has been achieved over four consecutive quarterly groundwater monitoring events and once Ecology has provided written approval, decommissioning of the groundwater monitoring well network and injection wells will take place per Section 4 of the GCMP/SAP.

4.0 SAMPLING AND ANALYSIS PLAN

To monitor the effectiveness of the soil removal and ERD groundwater treatment program previously conducted at the Property, groundwater samples will be collected from the monitoring well network located on the Property and in the adjacent ROWs. The groundwater sampling frequency and locations, procedures for sample collection and handling, analytical testing methods, and QA/QC for groundwater performance monitoring are presented below.

Field personnel will adhere to health and safety procedures during sampling activities that will be detailed under a separate cover as the project-specific Health and Safety Plan (HASP; Appendix B).

4.1 SAMPLING FREQUENCY

Groundwater sampling will be conducted to evaluate the effect of ERD on CVOCs in groundwater beneath the Property and the adjacent ROWs. Performance monitoring will be conducted on a semiannual basis beginning in 2019 until concentrations of COCs have met the cleanup standards. Confirmational monitoring will then be conducted on a quarterly basis until four consecutive sampling events confirm that concentrations of COCs in groundwater beneath the Property and the adjacent ROWs remain below cleanup levels.

4.2 SAMPLING LOCATIONS

Performance and confirmational groundwater samples will be collected from the existing monitoring well network, which is comprised of the following monitoring wells:

- On-Property: MW17 through MW25, and IW04, IW06, IW50, IW61, IW91;
- Harrison Street ROW: MW01 and MW26;
- Boren Avenue ROW: MW04, MW07, MW13, and MW27; and
- Thomas Street ROW: MW28.

The monitoring well locations are shown on Figure 2.

4.2.1 Sample Identification

The groundwater samples collected for groundwater compliance monitoring will be assigned a unique sample identifier and number. The number will include a prefix of the well identification and the sampling date. For example, the groundwater sample collected from MW17 on October 31, 2018, would be numbered MW17-20181031. The sample identification will be placed on the sample label, the Field Report Form, the Groundwater Purge and Sample Form, and the Sample Chain of Custody Form.

4.2.2 Sample Collection and Handling Procedures

Groundwater samples for performance monitoring will be collected and handled in accordance with the 1996 US Environmental Protection Agency (EPA) guidance document*, Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures*, following the procedures described below:

- The locking well cap from the monitoring well will be removed, and the groundwater level in the well will be allowed to equilibrate to atmospheric pressure for a minimum of 20 minutes.
- The depth to groundwater in the monitoring well will be measured relative to the top of well casing to the nearest 0.01 foot using an electronic water level meter. The depth to the monitoring well bottom will also be measured to evaluate the presence of sediment inside the monitoring well casing and to calculate the estimated purge water volume. Non-disposable equipment will be decontaminated between uses.
- Each monitoring well will be purged at a low-flow rate (100 to 300 milliliters per minute) using a peristaltic pump or a bladder pump and dedicated polyethylene tubing. The pump intake will be placed at the approximate center of the screened interval. Groundwater parameters including temperature, pH, conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential will be monitored during purging using a water quality meter equipped with a flow-through cell while purging to determine when stabilization of these parameters occurs.
- Groundwater samples will be collected directly from the pump outlet following stabilization of groundwater parameters. If the monitoring well is completely dewatered during purging, samples will be collected when the groundwater in the well has recovered to at least 80 percent of the pre-purge casing volume.
- If low-flow sampling methods are not practical, the monitoring well will be allowed to recharge for no longer than 2 hours following cessation of purging and will then be sampled using a dedicated, disposable, polyethylene double-check valve bailer and sampling cord.
- The sample containers will be filled directly if collected from a pump, or the water samples will be transferred immediately from the bailer into laboratory-supplied sample containers, taking care to minimize turbulence. Care will be taken not to handle the seal or lid of the container when decanting the sample into the containers. The containers will be filled completely to eliminate any headspace, and the seals/lid will be secured.
- Each sample container will be labeled with the date and time sampled, well identification number, project number, and preservative(s), if any.
- All sample collection information will be documented on a Sample Chain of Custody form; the sample will be placed in a cooler chilled to near 4 degrees Celsius and transported to the laboratory.
- The Chain of Custody protocols will be maintained during sample transport and submittal to the laboratory.
- Purge water will be temporarily stored in an appropriately labeled container at the Property pending receipt of waste profiling results. An estimated volume of 10 gallons

of purge and decontamination water is anticipated to be generated during each performance sampling event.

- Non-reusable sampling and health and safety supplies and equipment will be disposed of in an appropriate waste dumpster at the Property.
- The well cap and monument will be secured following sampling. Damaged or defective well caps or monuments will be noted and scheduled for replacement, if necessary.

Field personnel will be required to prepare Groundwater Purge and Sample Forms during groundwater monitoring and sampling activities. The forms will include depth to groundwater and total depth measurements, as well as groundwater parameter measurements, including pH, temperature, dissolved oxygen, specific conductance, oxidation-reduction potential, and turbidity. In addition, the sample identifier (ID), date of sample collection, and analyses will be recorded on the form. An example of the Groundwater Purge and Sample Form is included in Appendix A.

4.3 SAMPLE HANDLING AND QUALITY CONTROL PROCEDURES

Sections 4.2 through 4.8 summarize sample labeling, containers, handling, chain of custody, and field quality control procedures to be applied during the groundwater monitoring program.

4.4 SAMPLE IDENTIFICATION

Each groundwater sample collected during the groundwater monitoring program will be assigned a unique sample ID and number. Sample ID labels will be filled out and affixed to appropriate containers immediately prior to sample collection. The label will be filled out in indelible ink and will include the following information: media, date, time sampled, sample identification and number, project name, project number, sampler's initials, and analyte preservative(s) if any. An example of the Sample ID Label is included in Appendix A of this GCMP/SAP.

4.4.1 Groundwater

Groundwater sample IDs will include a prefix of the well identification and the sampling date. For example, the groundwater sample collected from monitoring well MW22 on October 22, 2018, would be numbered MW22-20181022. The sample identification will be placed on the Sample ID label, the Field Report Form, the Groundwater Purge and Sample Form, and the Sample Chain of Custody Form.

4.5 DECONTAMINATION PROCEDURES

Decontamination of all non-disposable tools and equipment will be conducted prior to each sampling event and between each sampling location. A sufficient supply of pre-decontaminated small equipment will be mobilized to the sampling locations to minimize the need for performing field decontamination. Field personnel will change disposable latex or nitrile gloves before collecting each sample and before decontamination procedures, and will take precautions to prevent contact with water used in the decontamination process. The following steps will be followed to decontaminate reusable groundwater sampling equipment:

- The equipment will be washed with a solution of Alconox (or an equivalent detergent) and water.

- The equipment will be rinsed with tap water.
- A final rinse will be conducted with distilled or deionized water.

Residual sample media from the equipment, used decontamination solutions and associated materials, and disposable contaminated media will be disposed of according to the procedures described in Section 4.10, Management of Investigation-Derived Waste.

4.6 SAMPLE CONTAINER AND HANDLING PROCEDURES

Groundwater samples will be collected in accordance with the EPA's 1996 guidance *Low Flow (Minimal Drawdown) Groundwater Sampling Procedures*. Required containers, preservation, and holding times for each anticipated analysis are listed in Table 3.

SoundEarth personnel will be responsible for following the container handling procedures below:

- Each sample container will be labeled and handled with the date and time sampled, well identification number, project number, and preservative(s), if any.
- Sample collection information will be documented on a Sample Chain of Custody form; the sample will be placed in a cooler chilled to near 4 degrees Celsius and transported to the laboratory.

The FC will check all container labels, chain of custody for entries, and field notes for completeness and accuracy at the end of each day.

4.7 SAMPLE CHAIN-OF-CUSTODY PROCEDURES

The written procedures that will be followed whenever samples are collected, transferred, stored, analyzed, or destroyed are designed to create an accurate written record that can be used to trace the possession and handling of the sample from the moment of its collection through analysis and reporting of analytical values. This written record, the Sample Chain of Custody form, will be filled out by the field sampling team at the time the sample is obtained. An example of the Sample Chain of Custody form is included in Appendix A.

All samples submitted to the laboratory are accompanied by the Sample Chain of Custody Form. This form is checked for accuracy and completeness and then signed and dated by the laboratory sample custodian accepting the sample. At the laboratory, each sample is assigned a unique, sequential laboratory identification number that is stamped or written on the Sample Chain of Custody Form.

All samples are held under internal chain of custody in the sample control room using the appropriate storage technique (i.e., ambient, refrigeration, frozen). The Laboratory Project Manager assigned to a particular client will be responsible for tracking the status of the samples throughout the laboratory. Samples in the sample control room will be documented in a sample control logbook by the analyst who will prepare the samples for analysis.

The Sample Chain of Custody form will include the following information: client, project name and number, date and time sampled, sample identification, sampler's initials, analysis, and analyte preservative(s), if any.

4.8 FIELD QUALITY ASSURANCE SAMPLING

Field and laboratory activities will be conducted in such a manner that the results be valid and meet the data quality objectives for this project. QA/QC groundwater samples will be collected during the course of the groundwater monitoring to provide for data validation as detailed in Section 7.0. QA/QC samples will consist of field duplicates and trip blanks. QA/QC samples will be collected and sent to the laboratory along with the primary field samples. Based on the sampling frequency and number of groundwater samples anticipated, it is estimated that one (1) groundwater field duplicate sample will be submitted per sampling event, and one (1) trip blank will accompany each batch of groundwater samples sent to the laboratory. The QA/QC samples will be assigned a unique sample identifier and number. The number will include a prefix of MW99 for field duplicates. For example, a field duplicate collected on October 22, 2018, would be labeled MW99-20181022. SoundEarth will note the locations of the field duplicates in the field notes. The QA/QC groundwater sample will be collected from monitoring well MW25.

4.9 ANALYTICAL TESTING

Groundwater performance and confirmational samples will be analyzed for the following:

- GRPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx;
- DRPH and ORPH by Method NWTPH-Dx;
- Benzene, toluene, ethylbenzene, and total xylenes by EPA Method 8021B; and
- CVOCs by EPA Method 8260B.

Select groundwater samples will also be analyzed for natural attenuation parameters which will include the following:

- Volatile organic fatty by EPA Method 300.0 and 300.0;
- Modified total organic carbon by EPA Method 352.2;
- Chloride, sulfate, and nitrate by EPA 300.0;
- Total manganese and iron by EPA Method 200.8;
- Ferrous iron by EPA Method 3500; and
- Methane, ethane, and ethene by EPA Method RSK-175.

Groundwater parameters will be measured and recorded at all groundwater monitoring wells, including pH, dissolved oxygen, oxidation-reduction potential, turbidity, and temperature using a water quality meter with a flow-through cell.

Analytical results for CVOCs will be compared to applicable MTCA Methods A and B cleanup levels for groundwater to evaluate the groundwater conditions beneath the Property and the adjacent ROWs. Measurements of field parameters and natural attenuation parameter will be used to evaluate whether the chemistry of the groundwater is conducive to the degradation of CVOCs.

Compliance samples will be submitted to an Ecology-accredited analytical laboratory and analyzed on a standard turnaround time. The contract laboratory is expected to meet the following minimum requirements when completing chemical analyses for this project:

- Adhere to Ecology and EPA analytical procedures of the COCs.
- Deliver electronic data as specified.
- Meet reporting requirements for deliverables.
- Meet turnaround times for deliverables.
- Implement laboratory quality control requirements, and performance evaluation testing requirements.
- Notify the project QA/QC manager of any QA/QC problems when they are identified to allow for quick resolution.
- Allow laboratory and data audits to be performed, if deemed necessary.

Table 2 presents the analytes, analytical methods, and practical quantitation limits (PQLs) for compliance samples, which will be compared to applicable regulatory limits. The PQL for each analyte is below the applicable regulatory limits.

Copies of the *Laboratory Quality Assurance Manual* from Friedman & Bruya, Inc. are on file at SoundEarth's offices for review and will be followed throughout the cleanup action. Access to laboratory personnel, equipment, and records pertaining to the collection, transportation, and analyses of the groundwater samples can be provided. Container requirements, holding times, and preservation methods for groundwater are summarized in Table 3.

Sample laboratory analytical results for each analyte will be compared to regulatory limits applicable to the cleanup action. A detailed description of the analytical methods, laboratory PQLs, and applicable regulatory limits for each analyte is provided in Table 4.

4.10 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

Contaminated groundwater and disposable equipment generated during the cleanup action will be handled in accordance with a "contained-in" determination, if applicable, and in accordance with other applicable state and federal regulations. The procedures for managing investigation-derived waste for the expected waste streams are discussed in Sections 4.10.1 and 4.10.2 below.

4.10.1 Water

All purge water will be temporarily stored in appropriately labeled containers at the Property pending receipt of waste profiling results. An estimated volume of 20 to 30 gallons of purge and decontamination water is anticipated to be generated during the development of each well and during each performance sampling event.

4.10.2 Disposables

Disposable personal protective clothing (e.g., Tyvek suits, rubber gloves, and boot covers) and disposable sampling devices (e.g., plastic tubing, plastic scoops, and bailers) will be placed in plastic garbage bags and disposed of as nonhazardous waste.

4.11 WELL DECOMMISSIONING

Upon completion of the required confirmational monitoring, and upon written approval from Ecology, the compliance monitoring wells and the injection wells will be decommissioned in accordance with the

Ecology standards under WAC 173-160-460. Ecology may require ongoing maintenance of the injection wells and/or monitoring wells until a final cleanup action for the Site is selected and/or implemented.

5.0 DATA QUALITY OBJECTIVES

Field and laboratory activities will be conducted to ensure valid results and meet the data quality objectives for this project. Guidance for QA/QC will be derived from the protocols developed for the cited methods within EPA's documents *Test Methods for the Evaluation of Solid Wastes Laboratory Manual Physical/Chemical Methods SW-846* and the National Contract Laboratory Review Program, National Functional Guidelines for Organic Data Review. The data quality objectives are designed as the following:

- Assist the project manager and project team to focus on the factors affecting data quality during the planning stage of the project.
- Facilitate communication among field, laboratory, and project staff as the project progresses.
- Document the planning, implementation, and assessment procedures for QA/QC activities for the cleanup action.
- Verify that the Data Quality Objectives (DQOs) are achieved.
- Provide a record of the project to facilitate final report preparation.

The DQOs for the project include both qualitative and quantitative objectives, which define the appropriate type of data and specify the tolerable levels of potential decision errors that will be used as a basis for establishing the quality and quantity of data needed to support the cleanup action. To verify that the DQOs are achieved, this GCMP/SAP describes aspects of sample collection and analyses including analytical methods, QA/QC procedures, and data quality reviews. This GCMP/SAP describes both qualitative and quantitative measures of data quality to verify that the DQOs are achieved.

Detailed QA/QC procedures in the field and at the laboratory are provided in the following sections. The DQOs for the cleanup action will be used to develop and implement procedures to verify that data collected is of sufficient quality to adequately address the objectives of the cleanup action as defined in the Interim Action Plan. All observations and measurements will be made and recorded in such a manner as to yield results representative of the media and conditions observed and/or measured. Goals for representativeness will be met by verifying that sampling locations are selected properly, a sufficient number of samples are collected, and field screening and laboratory analyses are conducted properly.

The quality of the laboratory data will be assessed by precision, accuracy, representativeness, completeness, comparability, and sensitivity. Definitions of these parameters and the applicable QC procedures are described in Sections 5.1 through 5.6. Quantitative DQOs are provided following each definition. Laboratory DQOs have been established by the analytical laboratory. Applicable quantitative goals for these DQOs are listed in Table 5.

5.1 PRECISION

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of two or more measurements compared to their average values. Precision is calculated from results of duplicate sample analyses. Precision is quantitatively expressed as the relative percent difference (RPD) and is calculated as follows:

$$RPD = \frac{(C_1 - C_2)}{(C_1 + C_2)/2} \, x \, 100$$

Where:
RPD = relative percent difference
C_1 = larger of the two duplicate results (i.e., the highest detected concentration)
C_2 = smaller of the two duplicate results (i.e., the lowest detected concentration)

There are no specific RPD criteria for organic chemical analyses. Quantitative RPD criteria for organic analyses will be based on laboratory-derived control limits.

5.2 ACCURACY

Accuracy is a measure of the closeness (bias) of the measured value to the true value. The accuracy of chemical analytical results is assessed by "spiking" samples in the laboratory with known standards (a surrogate or matrix spike of known concentration) and determining the percent recovery. The accuracy is measured as the percent recovery (%R) and is calculated as follows:

$$\%R = \frac{(M_{sa} - M_{ua})}{C_{sa}} \, x \, 100$$

Where:
%R = percent recovery
M_{sa} = measured concentration in spiked aliquot
M_{ua} = measured concentration in unspiked aliquot
C_{sa} = actual concentration of spike added

Laboratory matrix spikes and surrogates will be carried out at the analytical laboratory in accordance with EPA SW-846 and Ecology methods and procedures for inorganic and organic chemical analyses. The frequency of matrix spikes and matrix spike duplicates will each be one per batch of 10 groundwater samples or less. Quantitative percent recovery criteria for organic analyses will be based on laboratory-derived control limits for surrogate recovery and matrix spike results.

The accuracy of sample results can also be affected by the introduction of contaminants to the sample during collection, handling, or analysis. Contamination of the sample can occur because of improperly cleaned sampling equipment, exposing samples to chemical concentrations in the field or during transport to the laboratory, or because of chemical concentrations in the laboratory. To demonstrate that the samples collected are not contaminated, laboratory method blank samples will be analyzed. The laboratory will run method blanks at a minimum frequency of 5 percent or one per batch to assess potential contamination of the sample within the laboratory.

5.3 REPRESENTATIVENESS

Representativeness is a qualitative assessment of how closely the measured results reflect the actual concentration or distribution of the constituent concentrations in the matrix sampled. The sampling plan

design, sample collection techniques, sample handling protocols, sample analysis methods, and data review procedures have been developed to verify that the results obtained are representative of the Site conditions. These issues are addressed in detail in Section 4.9, Analytical Testing, and Section 7.0, Quality Control Procedures.

5.4 COMPLETENESS

Completeness is defined as the percentage of measurements judged to be valid. Results will be considered valid if they are not rejected during data validation (Section 7.0, Quality Control Procedures). Completeness is calculated as follows:

$$C = \frac{(Number\ of\ Valid\ Measurements)}{(Total\ Number\ of\ Measurements)}\ x\ 100$$

Objectives for completeness are based, in part, on the subsequent uses of the data (i.e., the more critical the use, the greater the completeness objective). The objectives for completeness of samples are expressed as percentages, which refer to the minimum acceptable percentages of samples received at the laboratory in good condition and acceptable for analysis. The objectives of completeness for other samples are 95 percent for groundwater water samples. These objectives will be met through the use of proper sample containers, proper sample packaging procedures to prevent breakage during shipment, proper sample preservation, and proper labeling and chain-of-custody procedures. A loss of 5 to 10 percent of intended samples is common, and the goals set are sufficient for intended data uses.

The objectives for completeness of chemical analyses are also expressed as percentages and refer to the percentages of analytical requests for which usable analytical data are produced. The initial objective for completeness of chemical analyses in the laboratory is 95 percent.

5.5 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. The use of standard Ecology and EPA methods and procedures for both sample collection and laboratory analysis will make the data collected comparable to both internal and other data generated.

5.6 SENSITIVITY

Analytical sensitivities are measured by PQLs, which are defined as the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. PQLs are determined by the laboratory. The specific analytes and their corresponding PQLs that will be required for the cleanup action are presented in Table 4. The detection or reporting limits for actual samples may be higher depending on the sample matrix and laboratory dilution factors.

6.0 DATA COLLECTION

This section outlines the procedures to be followed for the inventory, control, storage, and retrieval of data collected during performance of the cleanup action. The procedures contained in this GCMP/SAP are designed to verify that the integrity of the collected data is maintained for subsequent use. Moreover,

project-tracking data (e.g., schedule and progress reports) will be maintained to monitor, manage, and document the progress of the cleanup action.

6.1 DATA COLLECTION APPROACH

Procedures that will be used to collect, preserve, transport, and store samples are described in Section 4.3, Sample Handling and Quality Control Procedures. All sampling protocols will be performed in accordance with generally accepted environmental practices and will meet or exceed current regulatory standards and guidelines. Sampling procedures may be modified, if necessary, to satisfy amendments to current regulations, methods, or guidelines. The data collection approach for key elements of the groundwater sampling field program will verify the project DQOs are met or exceeded.

6.2 DATA TYPES

A variety of data will be generated during the cleanup action, including sampling and analytical data. The laboratory analytical data will be transmitted to SoundEarth as an electronic file, in addition to a hardcopy laboratory data report. This method will facilitate the subsequent validation and analysis of these data while avoiding transcription errors that may occur with computer data entry. Examples of data types include manually recorded field data, such as groundwater purge and sampling forms, and electronically reported laboratory data.

6.3 DATA TRANSFER

Procedures controlling the receipt and distribution of incoming data packages to SoundEarth and outgoing data reports from SoundEarth include the following:

- Incoming documents will be date-stamped and filed. Correspondence and transmittal letters for all reports, maps, and data will be filed chronologically. Data packages, such as those from field personnel, laboratories, will be filed by project task, subject heading, and date. If distribution is required, the appropriate number of copies will be made and distributed to the appropriate persons or agencies.
- A transmittal sheet will be attached to all project data and reports sent out. A copy of each transmittal sheet will be kept in the administrative file and the project file. The Project Manager and Project QA/QC Officer will review all outgoing reports and maps.

6.4 DATA INVENTORY

Procedures for filing, storage, and retrieval of project data and reports are discussed below.

6.4.1 Document Filing and Storage

Electronic copies of files will be maintained in a project directory and backed up daily, weekly, and monthly.

6.4.2 Access to Project Files

Access to project files will be controlled and limited to Touchstone and its authorized representatives, Ecology, and SoundEarth personnel.

6.5 DATA VALIDATION

Data quality review will be performed where applicable in accordance with the current EPA guidance as set forth in *Guidance on Environmental Data Verification and Data Validation* (EPA QA/G-8). The following types of QC information will be reviewed, as appropriate:

- Method deviations
- Sample extraction and holding times
- Method reporting limits
- Blank samples (equipment rinseate and laboratory method)
- Duplicate samples
- Matrix spike/matrix spike duplicate samples (accuracy)
- Surrogate recoveries
- Percent completeness and RPD (precision)
- A QA review of the final analytical data packages for samples collected during the cleanup action.

6.6 DATA REDUCTION AND ANALYSIS

The Project Manager and Project QA/QC Officer are responsible for data review and validation. Data validation parameters are outlined as quantitative DQOs in Section 5.0, Data Quality Objectives. The analyses and presentation method selected for any given data set will depend on the type, quantity, quality, and prospective use of the data in question. The analysis of the project data will require data reduction for the preparation of tables, charts, and maps. To verify that data are accurately transferred during the reduction process, two (2) data reviews will be performed, including one by the Project QA/QC Officer or Project Manager and another by the Project Principal, prior to issuing the documents. Any incorrect transfers of data will be highlighted and changed.

7.0 QUALITY CONTROL PROCEDURES

This section provides a description of the QC procedures for both field activities and laboratory analysis. The field QC procedures include standard operating procedures for sample collection and handling, equipment calibration, and field QC samples.

7.1 FIELD QUALITY CONTROL

Field QC samples (e.g., duplicate and trip blank samples) will be collected during this project and will follow the standard operating procedures during field screening activities. The procedural basis for these field data collection activities will be documented on the field report forms, as described in Section 9.1, Field Documentation. Any deviations from the established protocols will be documented on the field report forms.

QA/QC groundwater samples will be collected during the cleanup action to provide for data validation, as described in Section 5.0 Data Quality Objectives. QA/QC samples will consist of field duplicates. QA/QC samples will be collected and shipped to the laboratory along with the primary field samples. Based on the sampling frequency and number of groundwater samples anticipated, it is estimated that one field

duplicate sample will be submitted per sampling event. The QA/QC samples will be assigned a unique sample identifier and number. The number will include a prefix of MW99 or MW98 (if two field duplicates are collected) for field duplicates. For example, a field duplicate collected on October 22, 2018, would be labeled MW99-20181022. SoundEarth will note the locations of the field duplicates in the field notes.

7.2 LABORATORY QUALITY CONTROL

Analytical laboratory QA/QC procedures are provided in the *Laboratory Quality Assurance Manual* that is on file at SoundEarth's office for Friedman & Bruya, Inc. and are summarized below:

- **Laboratory Quality Control Criteria.** Results of the QC samples from each sample group will be reviewed by the analyst immediately after a sample group has been analyzed. The QC sample results will then be evaluated to determine whether control limits were exceeded. If control limits are exceeded in the sample group, corrective action (e.g., method modifications followed by reprocessing the affected samples) will be initiated prior to processing a subsequent group of samples. All primary chemical standards and standard solutions used in this project will be traceable to documented and reliable commercial sources. Standards will be validated to determine their accuracy by comparison with an independent standard. Any impurities identified in the standard will be documented.

The following paragraphs summarize the procedures that will be used to assess data quality throughout sample analysis:

- **Laboratory Duplicates.** Analytical duplicates provide information on the precision of the analysis and are useful in assessing potential sample heterogeneity and matrix effects. Analytical duplicates are subsamples of the original sample that are prepared and analyzed as a separate sample. A minimum of 1 duplicate will be analyzed per sample group or for every 20 samples, whichever is more frequent.
- **Matrix Spikes and Matrix Spike Duplicates.** Analysis of matrix spike (MS) samples provides information on the extraction efficiency of the method on the sample matrix. By performing matrix spike duplicate (MSD) analyses, information on the precision of the method is also provided for organic analyses. A minimum of one (1) MS/MSD will be analyzed for every sample group or for every twenty (20) samples, whichever is more frequent.
- **Laboratory Control Samples.** A laboratory control sample is a method blank sample carried throughout the same process as the samples to be analyzed, with a known amount of standard added. The blank spike compound recovery assesses analytical accuracy in the absence of any sample heterogeneity or matrix effects.
- **Surrogate Spikes.** All project samples analyzed for organic compounds will be spiked with appropriate surrogate compounds as defined in the analytical methods. Surrogate recoveries will be reported by the laboratories; however, no sample result will be corrected for recovery using these values.
- **Method Blanks.** Method blanks are analyzed to assess possible laboratory contamination at all stages of sample preparation and analysis. A minimum of one (1) method blank will be analyzed for every extraction batch or for every twenty (20) samples, whichever is more frequent.

7.3 DATA QUALITY CONTROL

All data generated by Friedman & Bruya, Inc. will undergo two (2) levels of QA/QC evaluation: one (1) by the laboratory and one (1) by SoundEarth. As specified in Friedman & Bruya, Inc.'s *Laboratory Quality Assurance Manual*, the laboratory will perform initial data reduction, evaluation, and reporting. The analytical data will then be validated at SoundEarth under the supervision of the Project QA/QC Officer. The following types of QC information will be reviewed, as appropriate:

- Method deviations
- Sample transport conditions (temperature and integrity)
- Sample extraction and holding times
- Method reporting limits
- Blank samples
- Duplicate samples
- Surrogate recoveries
- Percent completeness
- RPD (precision)

SoundEarth will review field records and results of field observations and measurements to verify procedures were properly performed and documented. The review of field procedures will include:

- Completeness and legibility of field logs
- Preparation and frequency of field QC samples
- Equipment calibration and maintenance
- Sample Chain-of-Custody forms

Corrective actions are described in Section 8.0, Corrective Actions.

7.4 DATA ASSESSMENT PROCEDURES

The Project Manager and Project QA/QC Officer are responsible for data review and validation. Upon receipt of each data package from the laboratory, calculations using the equations presented for precision, accuracy, and completeness will be performed. Results will be compared to quantitative DQOs, where established, or qualitative DQOs. Data validation parameters are outlined in Section 5.0, Data Quality Objectives.

7.5 PERFORMANCE AUDITS

Performance audits will be completed for both sampling and analysis work. Field performance will be monitored through regular review of Sample Chain-of-Custody forms, field forms, and field measurements. The Project Manager and/or the Project QA/QC Officer may also perform periodic review of work in progress at the Site.

Accreditations received from Ecology for each analysis by Friedman & Bruya, Inc. demonstrate the laboratory's ability to properly perform the requested methods. Therefore, a system audit of the analytical laboratory during the course of this project will not be conducted.

The Project Manager and/or Project QA/QC Officer will oversee communication with the analytical laboratory on a frequent basis while samples are being processed and analyzed at the laboratory. This will allow SoundEarth to assess progress toward meeting the DQOs and to take corrective measures if problems arise.

The analytical laboratory will be responsible for identifying and correcting, as appropriate, any deviations from performance standards as discussed in Friedman & Bruya, Inc.'s *Laboratory Quality Assurance Manual.* The laboratory will communicate to the Project Manager or the Project QA/QC Officer all deviations to the performance standards and the appropriate corrective measures made during sample analysis. Corrective actions are discussed in Section 8.0.

8.0 CORRECTIVE ACTIONS

Corrective actions will be the joint responsibility of the Project Manager and the Project QA/QC Officer. Corrective procedures can include:

- Identifying the source of the violation.
- Reanalyzing samples, if holding time criteria permit.
- Resampling and analyzing.
- Re-measuring parameters.
- Evaluating and amending sampling and analytical procedures.
- Qualifying data to indicate the level of uncertainty.

During field sampling operations, the Project Manager and field staff will be responsible for identifying and correcting protocols that may compromise the quality of the data. All corrective actions taken will be documented in the field notes.

9.0 DOCUMENTATION AND RECORDS

Project files and raw data files will be maintained at SoundEarth's office. Project records will be stored and maintained in a secure manner. Each project team member is responsible for filing all necessary project information or providing it to the person responsible for the filing system. Individual team members may maintain files for individual tasks, but must provide such files to the central project files upon completion of each task. A project-specific index of file contents will be kept with the project files. All sampling data will be submitted to Ecology in both printed and electronic formats pursuant to WAC 173-340-840(5) and Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements).

9.1 FIELD DOCUMENTATION

Documentation of field activities will be included on Field Report forms, Groundwater Purge and Sample Forms, Sample ID Labels, Non-Hazardous Waste Material Labels, Hazardous Waste Material Labels, Drum Inventory Sheet, and Sample Chain-of-Custody forms, examples of which are provided in Appendix A. Field

forms will be scanned and saved to an electronic project folder. Original and copied forms will be filed in a binder that will be maintained by the Project Manager.

Field personnel will be required to keep a daily field log on a Field Report form. Field notes will be as descriptive and as inclusive as possible, allowing independent parties to reconstruct the sampling situation from the recorded information. Language will be objective, factual, and free of inappropriate terminology. A summary of each day's events will be completed on a Field Report form. At a minimum, field documentation will include the date, job number, project identification and location, weather conditions, sample collection data, personnel present and responsibilities, field equipment used, and activities performed in a manner other than specified in the GCP/SAP. In addition, if other forms are completed or used (e.g., Sample Chain-of-Custody form), they will be referred to in and attached to the Field Report form. Field personnel will sign the Field Report form. An example of the Field Report form is included in Appendix A.

9.2 ANALYTICAL RECORDS

Analytical data records will be retained by the laboratory and stored electronically in the SoundEarth project file and project database. For all analyses, the data reporting requirements will include those items necessary to complete data validation, including copies of all raw data. The analytical laboratory will be required to report the following, as applicable: project narrative, chain-of-custody records, sample results, QA/QC summaries, calibration data summary, method blank analysis, surrogate spike recovery, matrix spike recovery, matrix duplicate, and laboratory control sample(s).

FIGURES

6/9/2015

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\FIGURE 1\0731-004-04_FIG 1_F.DWG

SoundEarth Strategies

WWW.SOUNDEARTHINC.COM

TROY LAUNDRY PROPERTY
307 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT #0731-004

FIGURE 1
PROPERTY LOCATION MAP

1/10/2019

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\CMP\0731-004_2018_EL_20190110.DWG

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

THOMAS STREET

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01

MW26

B09/ MW02

B10/ MW03

B11/ MW04

B15/ MW07

B31/ MW12

B13/ MW06

B28/ MW10

B30/ MW11

B26/ MW08

B49/ MW15

MW27

B12/ MW05

B37/ MW13

B27/ MW09

B50/ MW16

B38/ MW14

MW17

MW18

MW19

MW20

MW24

MW25

MW21

MW22

MW23

MW28

AIW01

AIW02

AIW03

AIW04

AIW05

AIW06

AIW07

AIW08

AIW09

AIW10

AIW11

AIW12

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 IW91

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL USED AS MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

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TROY LAUNDRY PROPERTY
307 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT # 0731-004

FIGURE 2
MONITORING WELL LOCATION MAP

TABLES

Table 1
Preliminary Project Schedule
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Scope of Work*	Schedule [(1)]
Compliance groundwater monitoring and sampling	2nd and 4th Quarters of 2019
Compliance groundwater monitoring and sampling report	Submit report 6 weeks after each monitoring event
Compliance groundwater monitoring and sampling	2nd and 4th Quarters of 2020
Compliance groundwater monitoring and sampling report	Submit report 6 weeks after each monitoring event
Compliance groundwater monitoring and sampling	2nd and 4th Quarters of 2021
Compliance groundwater monitoring and sampling report	Submit report 6 weeks after each monitoring event
Compliance groundwater monitoring and sampling	2nd and 4th Quarters of 2022
Compliance groundwater monitoring and sampling report	Submit report 6 weeks after each monitoring event
Compliance groundwater monitoring and sampling report	2nd and 4th Quarters of 2023
Compliance groundwater monitoring and sampling report	Submit report 6 weeks after each monitoring event
Compliance groundwater monitoring and sampling	1st, 2nd, 3rd, and 4th Quarters of 2024
Compliance groundwater monitoring and sampling report	Submit report 6 weeks after each monitoring event

NOTE:

(1) Semi-annual groundwater sampling events from 2019 to 2023. Quarterly groundwater monitoring events in 2024 assumes the concentrations for the chemical for concern are below cleanup level at the end of 2023. The 2024 quarterly sampling event are designed to confirm that chemicals of concern remain below applicable cleanup levels and regulatory compliance has been achieved.

*Well decommissioning will be determined based on the results of compliance monitoring events.

Table 2
Key Personnel and Responsibilities
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Project Title	Name	Project Role	Organization	Mailing Address	Email Address	Phone
Regulatory Agency	Sunny Becker	Regulatory project management. Reviews and approves all submittals to Ecology.	Washington State Department of Ecology	3190 160th Avenue Southeast Bellevue, Washington 98008	hlin461@ecy.wa.gov	425-649-7187
Project Contact	Paul Klansnic	Property owner and project contact.	Touchstone Corporation	2025 First Avenue, Suite 1212 Seattle, Washington 98121	pklansnic@touchstonenw.com	206-357-2305
Project Principal	Thomas Cammarata	Reviews and oversees all project activities. Reviews all data and deliverables prior to submittal to project contact or Ecology.	SoundEarth Strategies, Inc.	2811 Fairview Avenue South, Suite 2000 Seattle, Washington 98102	tcammarta@soundearthinc.com	206-306-1900
Project Manager	Logan Schumacher	Overall project management, including GCMP development, field oversight, document preparation and submittal, and project coordination.	SoundEarth Strategies, Inc.	2811 Fairview Avenue South, Suite 2000 Seattle, Washington 98102	lschumacher@soundearthinc.com	206-306-1900
Project QA/QC Officer	Logan Schumacher	Coordinates with laboratory to ensure that GCMP requirements are followed and that laboratory QA objectives are met.	SoundEarth Strategies, Inc.	2811 Fairview Avenue South, Suite 2000 Seattle, Washington 98102	lschumacher@soundearthinc.com	206-306-1900
Field Coordinator	Logan Schumacher	Reports to the project manager. Ensures all project health and safety requirements are followed; coordinates and participates in the field sampling activities; coordinates sample deliveries to laboratory; coordinates sampling activities with site owner subcontractors; reports any deviations from project plans.	SoundEarth Strategies, Inc.	2811 Fairview Avenue South, Suite 2000 Seattle, Washington 98102	lschumacher@soundearthinc.com	206-306-1900
Field Staff	Various licensed geologists and environmental professionals	Reports to field coordinator. Conducts sampling activities.	SoundEarth Strategies, Inc.	2811 Fairview Avenue South, Suite 2000 Seattle, Washington 98102		206-306-1900
Data Manager	Jonathan Loeffler	Ensures that analytical data is incorporated into site database with appropriate qualifiers following validation.	SoundEarth Strategies, Inc.	2811 Fairview Avenue South, Suite 2000 Seattle, Washington 98102	jloeffler@soundearthinc.com	206-306-1900
Data Validation	Jonathan Loeffler	Coordinates with laboratory to ensure that the GCMP requirements and laboratory QA/QC objectives are met.	SoundEarth Strategies, Inc.	2811 Fairview Avenue South, Suite 2000 Seattle, Washington 98102	jloeffler@soundearthinc.com	206-306-1900
Laboratory Project Manager	Michael Erdahl	Provides analytical support and will be responsible for providing certified, precleaned sample containers and sample preservatives (as appropriate) and for ensuring that all chemical analyses meet the project quality specifications detailed in the GCMP.	Friedman & Bruya, Inc.	3012 16th Avenue West Seattle, Washington 98119	merdahl@friedmanandbruya.com	206-285-8282

NOTES:
Ecology = Washington State Department of Ecology
GCMP = Groundwater Compliance Monitoring Plan
QA/QC = quality control/quality assurance
SAP = Sampling Analysis Plan

Table 3
Analytical Methods, Container, Preservation, and Holding Time Requirements
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Analyte and Analytical Method	Size and Type of Container	Number of Containers	Preservation Requirements	Holding Time
CVOCs by EPA Method 8260C	40-mL VOA vial	3	HCl/4°C	14 days
BTEX by EPA Method 8021B	40-mL VOA vial	3	HCl/4°C	14 days
DRPH and ORPH by Method NWTPH-Dx	500-mL amber	2	4°C	14 days
Methane, Ethane, and Ethene by RSK 175	40-mL VOA vial	2	HCl/4°C	14 days
Sulfate	250 ml HDPE	1	4°C	28 days
Nitrate	250 ml HDPE	1	4°C	48 hours
Fatty Acids	40 ml VOA vial	2	4°C	28 days
Total Organic Carbon	250 ml HDPE	1	HCl/4°C	28 days
Total Manganese	250 ml HDPE	1	nitric acid/4°C	6 months
Ferrous Iron	250 ml amber	1	HCl/4°C	24 hours
Total Iron	250 ml HDPE	1	nitric acid/4°C	6 months
Vapor Samples				
CVOCs by EPA Method TO-15	Summa Canister	1	None	30 days
CVOCs by EPA Method 8260C	1-L Tedlar Bag	1	None	72 hours

NOTES:

BTEX = benzene, toluene, ethylbenzene, and total xylenes

Table 4
Analytes, Analytical Methods, Laboratory Practical Quantitation Limits, and Applicable Regulatory Limits
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Analyte	Analytical Method	Unit	Laboratory PQL[(1)]	Applicable Regulatory Limit[(2)]
Benzene	EPA Method 8021B	µg/L	<1	5
Toluene	EPA Method 8021B	µg/L	<1	1,000
Ethylbenzene	EPA Method 8021B	µg/L	<1	700
Total xylenes	EPA Method 8021B	µg/L	<1	1,000
DRPH	NWTPH-Dx	µg/L	<0.25	500
ORPH	NWTPH-Dx	µg/L	<0.40	500
PCE	EPA Method 8021B	µg/L	<1	5
TCE	EPA Method 8260C	µg/L	<1	5
Vinyl Chloride	EPA Method 8260C	µg/L	<0.2	0.2
cis-1,2-DCE	EPA Method 8260C	µg/L	<1	16
trans-1,2-DCE	EPA Method 8260C	µg/L	<1	160
Methane, Ethane, Ethene	RSK 175	µg/L	<0.5	NA
Chloride	SM 4500-Cl	µg/L	<2000	NA
Sulfate	ASTM D516-02	µg/L	<5000	NA
Nitrate	EPA 353.2	µg/L	<50	NA
Fatty Acids	EPA 300.0	µg/L	<500	NA
Total Organic Carbon	SM 5310B	µg/L	<1000	NA
Total Manganese	EPA 6010C	µg/L	<10	NA
Ferrous Iron	SM 3500-Fe	µg/L	<40	NA

NOTES:

[(1)]Standard laboratory PQLs for Friedman & Bruya, Inc.

[(2)]MTCA Method A or B Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

[a]Cleanup levels for gasoline in groundwater without benzene 1,000 µg/L, respectively. Cleanup levels for gasoline igroundwater that contain benzene are 800 µg/L, respectively.

µg/L = micrograms per liter

ASTM = American Society of Testing and Materials

cis-1,2-DCE = cis-1,2-dichloroethylene

DRPH = diesel-range petroleum hydrocarbons

EPA = U.S. Environmental Protection Agency

mg/kg = milligrams per kilogram

MTCA = Washington State Model Toxics Control Act

NA = not applicable

NE = not established

NWTPH = Northwest Total Petroleum Hydrocarbon

ORPH = oil-range petroleum hydrocarbons

PCE = tetrachloroethylene

ppbv = parts per billion by volume

PQL = practical quantitation limit

SIM = selected ion-monitoring mode

SM = Standard Method

TCE = trichloroethylene

trans-1,2-DCE = trans-1,2-dichloroethylene

Table 5
Quantitative Goals of Data Quality Objectives
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Analyte	Analytical Method	Precision[1]	Accuracy[2]			Completeness[3]	Sensitivity[4]
		RPD (%)	Surrogate (% Recovery)	MS (% Recovery)	LCS (% Recovery)	(%)	PQL[5]
GRPH	NWTPH-Gx	20	50–150	50–150	50–150	95	<100
Benzene	EPA Method 8021B	20	50–150	50–150	50–150	95	<1
Toluene	EPA Method 8021B	20	50–150	50–150	50–150	95	<1
Ethylbenzene	EPA Method 8021B	20	50–150	50–150	50–150	95	<1
Total Xylenes	EPA Method 8021B	20	50–150	50–150	50–150	95	<3
DRPH	NWTPH-Dx	20	50–150	50–150	50–150	95	<50
ORPH	NWTPH-Dx	20	50–150	50–150	50–150	95	<250
PCE	EPA Method 8260C	20	36–160	36–160	50–150	95	<1
TCE	EPA Method 8260C	20	36–160	36–160	50–150	95	<1
Vinyl Chloride	EPA Method 8260C	20	36–160	36–160	50–150	95	<0.2
cis-1,2-DCE	EPA Method 8260C	20	36–160	36–160	50–150	95	<1

NOTES:

[1]Precision measured in RPD between sample and lab duplicate, LCS and LCS duplicate, and/or MS and MS duplicate.

[2]Laboratory to follow in accordance with the EPA SW-846 and Ecology methods and procedures for inorganic and organic chemical analyses. Method Blanks will be analyzed for each analyte in addition to the quantitative data quality objectives listed in this table.

[3]Refers to the minimum acceptable percentages of samples received at the laboratory in good condition that are acceptable for analysis.

[4]Sensitivity is measured by the laboratory PQL for each analyte.

[5]Standard PQLs for Friedman & Bruya, Inc., standard PQLs.

% = percent
< = less than
cis-1,2-DCE = cis-1,2-dichloroethene
DRPH = diesel-range petroleum hydrocarbons
Ecology = Washington State Department of Ecology
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
LCS = laboratory control sample
MS = matrix spike
NWTPH = Northwest Total Petroleum Hydrocarbon Method
ORPH = oil-range petroleum hydrocarbons
PCE = tetrachloroethene
PQL = practical quantitation limit
RPD = relative percent difference
TCE = trichloroethene

APPENDIX A
FIELD SAMPLING FORMS

FIELD REPORT

Client & Site Name/Number:		SoundEarth Project Number:	Date:
Site Address:		Purpose of Visit/Task #:	Field Report Prepared by:
Temp/Weather:	Permit Required to Work:	Time of Arrival/Departure (2400): _____ onsite to _____ offsite	Personnel Onsite:

Attachments:

SoundEarth Strategies

GROUNDWATER PURGE AND SAMPLE FORM
LOW FLOW PUMP

Sample Date:_____

General Info

Client: _____ Project #: _____

Site Name/ #: _____ Field/Sampling Personnel: _____ **Well ID Number:** _____

Well Details

Total Depth (TD)	Depth to Water (DTW) (Immediately Prior to Purging)	Water Column (WC) (=TD-DTW)	Casing Diameter / Volume Conversion Factor (VC)					Casing Volume (=WC x VC)
			0.75"	1"	2"	4"	6"	
Feet BTOC	Feet BTOC	Feet BTOC	0.023	0.041	0.16	0.65	1.44	gallons

Screened Interval: _____ to _____ Feet bgs

Screen Submerged? ☐ **NO** ⟹ Place tubing intake 2 to 3 feet below depth to water.
☐ **YES** ⟹ Place tubing intake at approximate center of screen.

Equipment

Pump Method: ☐ Peristaltic ☐ Other: _____ Owner/ID #: _____ **Water Quality Meter** Brand/Model: _____ Owner/ID #: _____

Water Level Instrument: ☐ WL Meter ☐ Bubbler ☐ Interface ☐ Other: _____ Owner/ID #: _____

Sampling

Depth of Tubing Intake: _____ Feet BTOC Time Start Purge: _____

Time (3-5 min intervals)	Water Level (feet) drawdown <0.33 feet	**Purge Rate** (L/min) 0.1 – 0.5	**pH**[1] *± 0.1*	**Specific Conductivity**[1] **UNITS:** _____ *± 3%*	**Turbidity**[1] (NTU) *If ≥10, ±10% if <10, stabilized*	**Dissolved Oxygen**[1] (mg/L) *If ≥1.00, ± 10% if ≤1.00, ± 0.2*	Temperature (ºC)	ORP (mV)
Minimum # of Readings								

Sample Time: _____ **Field Duplicate Sample Time:** _____ **Time Sampling Ended:** _____

Sampling Comments: _____

Analytical

Sample Number/ID	Number of Containers and Type	Preservative	Field Filtered?			Analysis Request
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	
			No	0.45	0.10	

Purge Water

Sheen? ☐ NO ☐ YES **Odor?** ☐ NO ☐ YES ⟹ Describe: _____ Color (describe): _____

Total Discharged (1gal = 3.88 liter): _____ gallons Disposal Method: ☐ Drummed ☐ Remediation System ☐ Other: _____

Well Condition

Well/Security Devices in good condition (i.e.: Monument, Bolts, Seals, J-cap, Lock)? ☐ YES ☐ NO ⟹ Describe: _____

Water in Monument? ☐ NO ☐YES ⟹ Describe: _____

Additional Well Condition Comments or Explanation of any Access Issues: _____

[1]At minimum, pH, specific conductivity, and turbidity or dissolved oxygen must stabilize within the limits (indicated in *italics*) for three successive readings prior to sampling.

SoundEarth Strategies

GROUNDWATER PURGE AND SAMPLE FORM
LOW FLOW PUMP – *Continued*

General Info

Client: ________________ Project #: ________________________

Site Name/ #: ________________ Field/Sampling Personnel: ________________________ **Well ID Number:** ___________________________

See Page 1 for well construction and purge water information

Sample Date: ________________ **Sample Time:** ____________ **Field Duplicate Sample Time:** ________________ **Time Sampling Ended:** ________________

Sampling *(Continued from Page 1)*

Time (3-5 min intervals)	Water Level (feet) drawdown <0.33 feet	**Purge Rate** (L/min) 0.1 – 0.5	**pH**[1] *± 0.1*	**Specific Conductivity**[1] **UNITS:** __________ *± 3%*	**Turbidity**[1] (NTU) *If ≥10, ±10%* *if <10, stabilized*	**Dissolved Oxygen**[1] (mg/L) *If ≥1.00, ± 10%* *if ≤1.00, ± 0.2*	Temperature (ºC)	ORP (mV)

Additional Sampling Comments: ____

[1]At minimum, pH, specific conductivity, and dissolved oxygen or turbidity must stabilize within the limits (indicated in *italics*) for three successive readings prior to sampling.

FRIEDMAN & BRUYA, INC.	
Client:	
Sample ID:	
Date Sampled:	Time:
Project:	
Analysis Request:	
Preservative:	

NON-HAZARDOUS WASTE

GENERATOR INFORMATION (Optional)

SHIPPER _____

ADDRESS _____

CITY, STATE, ZIP _____

CONTENTS _____

_____

NON-HAZARDOUS WASTE

HAZARDOUS WASTE

ACCUMULATION
START DATE _____

CONTENTS _____

HANDLE WITH CARE!

CONTAINS HAZARDOUS OR TOXIC WASTES

DRUM INVENTORY SHEET

Site Name: _____

Site Address: _____

Reason for Site Visit: _____

Date of Inventory: _____

Field Personnel: _____

_____

Drum #[1] (eg. 001)	Content Information	Date(s) Accumulated	Fullness (%)	Sample Analysis Performed?	Composite Soil Sample (RCRA 8 metals)[2] (Y/N)	Saturated Soil[3] (Y/N)	Drum Labeled (Y/N)	Drum Location Photo (Y/N)	Drum Access[4]
Eg. 001	Soil, B05, 5'-15'	2/3/10	100%	Gx, BTEX	Y	N	Y	Y	Combo lock #xxxx
Eg. 002	Purge Water	2/3/10	100%	Gx, BTEX	N/A	N/A	Y	Y	Combo lock #xxxx

NOTES:

[1]Drum #— Write the Drum # on the drum lid, as well as on the non-hazardous or hazardous waste labels.

[2]Composite Soil Sample—For all sites, collect one composite soil sample from each drum onsite. Place sample on hold at the laboratory, for future RCRA 8 metals analysis. Collect sample in one-4 ounce jar.

[3]Saturated soil—Add bentonite chips or kitty litter to the water that has accumulated or may accumulate inside the drum. Bentonite chips available in the garage.

[4]Drum access for pickup—(eg. fenced, owner notification, lock combination?)

SAMPLE CHAIN OF CUSTODY

Send Report to _____

Company SoundEarth Strategies, Inc.

Address 2811 Fairview Avenue E, Suite 2000

City, State, ZIP Seattle, Washington 98102

Phone # 206-306-1900 Fax # 206-306-1907

SAMPLERS *(signature)*	
PROJECT NAME/NO.	PO #
REMARKS	

Page # _____ of _____

TURNAROUND TIME
- ☐ Standard (2 Weeks)
- ☐ RUSH_____

Rush charges authorized by:
_____

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Return samples
- ☐ Will call with instructions

Sample ID	Sample Location	Sample Depth	Lab ID	Date Sampled	Time Sampled	Matrix	# of Jars	ANALYSES REQUESTED								
								NWTPH-Dx	NWTPH-Gx	BTEX by 8021B	VOCs by 8260	SVOCs by 8270				Notes

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

APPENDIX B
PROJECT-SPECIFIC HEALTH AND SAFETY PLAN

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

HEALTH AND SAFETY PLAN

APPENDIX B OF THE GROUNDWATER COMPLIANCE MONITORING PLAN

Property:
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington
Ecology Facility ID: 19135499

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

Report Date:
January 10, 2019

Health and Safety Plan

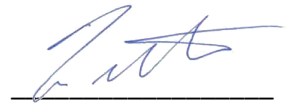
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington 98121
Ecology Facility ID: 19135499

Prepared for:

Touchstone SLU LLC
2025 First Avenue, Suite 1212
Seattle, Washington 98121

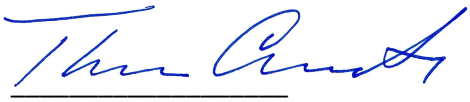
Project No.: 0731-004

Prepared by:



Terry Montoya, PE
Principal Engineer

Reviewed by:



Tom Cammarata
Principal Environmental Geochemist

Initiation Date: January 10, 2019
Expiration Date: January 9, 2020

HAZARD SUMMARY

SoundEarth Strategies, Inc. (SoundEarth) has prepared this Health and Safety Plan (HASP) for Touchstone SLU LLC Troy Laundry Property, located at 307 Fairview Avenue North in Seattle, Washington (the Property). The HASP was written in general accordance with the Washington State Model Toxics Control Act (MTCA) as promulgated in Chapter 173-340-350 of the Washington Administrative Code.

SITE DESCRIPTION

The "site" is located on a topographically low-lying area within the downtown area of the City of Seattle. Elevations range from 68 feet (northwest corner of the Property) to 105 feet (southeast corner of the Property) above NAVD88 and slope toward the northwest. Lake Union is located approximately 0.4 mile to the north of the site, and Elliot Bay is located approximately 1.5 miles to the west of the site.

The Property was initially developed prior to 1893 with residences. Residences exclusively occupied the Property until 1925, when the David Smith Building was constructed on the northwestern corner of the Property. The Troy 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, wash water, water-softening agents, dry cleaning solvents, and heating oil, were used on the Property.

Based upon the findings of previous investigations, including the remedial investigation, the site includes soil, soil vapor, and groundwater contaminated with gasoline-, diesel-, and oil-range petroleum hydrocarbons (GRPH, DRPH, and ORPH, respectively); tetrachloroethylene (PCE); trichloroethylene (TCE); cis-1,2-dichloroethylene (cis-1,2-DCE); and/or vinyl chloride (VC) beneath the Property, as well as beneath the Boren Avenue North right-of-way (ROW). The impacts beneath the site likely are associated with a release of chlorinated solvents from the industrial laundry and dry cleaning facility that operated on the Property from 1927 to 1985. The highest concentrations of chlorinated and Stoddard solvents are located in the center of the Property near the loading dock.

FIELD ACTIVITIES

- Excavation oversight
- Subsurface soil sampling
- Well installation
- Pressurized injections
- Groundwater sampling and monitoring

HAZARD SUMMARY (CONTINUED)

SITE HAZARDS

Hazards present at the site include the following:

Chemical

- PCE in soil, groundwater, and soil vapor
- TCE in soil, groundwater, and soil vapor
- cis-1,2-DCE in groundwater and soil vapor
- VC in groundwater
- GRPH as Stoddard solvents in soil, groundwater, and soil vapor
- DRPH in soil and groundwater
- ORPH in soil and groundwater

Physical

- Compressed air
- Confined spaces
- Electrical hazards
- Ergonomic hazards
- Flammable liquids
- Heavy equipment/moving machinery
- Hot work
- Noise exposure
- Overhead utilities and features
- Potentially flammable or explosive environment
- Pressurized injectate
- Slips, trips, and falls
- Temperature extremes
- Traffic and moving equipment
- Underground utilities and features
- Unsecure/uncontrolled site
- Unstable ground
- Hazardous processes

HAZARD SUMMARY (CONTINUED)

- Work at heights
- Work near water

HAZARD CONTROLS

The following hazard controls, based on the tasks identified in the Fieldwork Activities above, are required for employees of SoundEarth while performing work on the site:

- Level D personal protective equipment, which includes hard hats, steel-toed boots, safety glasses, and a reflective safety vest
- Nitrile gloves
- Noise protection while drilling
- Lockout/tag-out procedures when disconnecting and cutting electrical lines
- Splash shield during injections
- Caution tape and traffic control in all parking areas and on streets

This hazard summary is presented solely for introductory purposes, and the information contained in this section should be used only in conjunction with the full text of this report. A complete description of the project, site conditions, investigation methods, and investigation results can be found in previous reports referenced in Section 5.1.1, Reports that Provide Chemical Data.

TABLE OF CONTENTS

FIGURES

ATTACHMENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) was written for the use of SoundEarth Strategies, Inc. (SoundEarth) and its employees. The health and safety and emergency response protocols outlined in this plan are designed to ensure compliance with state and federal regulations governing worker safety on hazardous waste sites. The U.S. Department of Labor has published final rules (Part 1910.120 of Title 29 of the Code of Federal Regulations, March 6, 1990) that amend the existing Occupational Safety and Health Administration standards for hazardous waste operations and emergency response. Within Washington State, these requirements are addressed in Chapter 296-843 of the Washington Administrative Code, Hazardous Waste Operations. These regulations apply to the activities to be performed at this site as a site remediation, or cleanup, under the Federal Resource Conservation and Recovery Act of 1976 and/or the Washington State Model Toxics Control Act.

Subcontractors to SoundEarth are required to prepare and effectively implement their own HASP based on their unique scope of work and professional expertise. Each subcontractor's HASP must comply with all applicable federal, state, and local regulations. The subcontractor's HASP should employ appropriate best practices to protect all personnel working on the site, as well as the public, and to prevent negative impacts to the project or site.

The responsibilities of SoundEarth for safety on this site are limited to the following:

- **Implementation** of the provisions of this HASP for the protection of its employees and visitors on the site to the extent that the site and its hazards are under the control of SoundEarth.
- **Protection of the site**, other personnel, and the public from damage, injury, or illness as a result of the activities of SoundEarth and its employees while on the site.
- **Provision** of additional safety-related advice and/or management as contractually determined between the parties.

This plan is active for this site until SoundEarth implements a scope of work change not covered by this HASP, after which time it must be reviewed and extended.

NOTE: Standard Safety Procedures (SSPs) incorporated into this HASP refer to the documents that compile detailed information and instructions for protecting SoundEarth employees from chemical and physical hazards applicable to this HASP. The Standard Safety Procedures identified in this HASP are provided in Attachment A. This HASP must be present at the site during field activities.

2.0 PROJECT INFORMATION

Property Name: Troy Laundry Property
Property Address: 307 Fairview Avenue North, Seattle, Washington 98121
Property Owner: Touchstone SLU LLC
Property Tenant: David Smith Antiques (Retail), Integrity Interior Solutions
Nature of Activities at this Property: Current: Retail furniture sales and storage. Past: Commercial and industrial-scale laundry and dry cleaning services, vehicle refueling, and residential single-family residences.
Figures B-1 and B-2 show the site location and features.

3.0 PROJECT RESPONSIBILITIES

Site personnel shall acknowledge that they have reviewed a copy of the HASP for this project, that they understand it, and that they agree to comply with all of its provisions by signing and dating the Acknowledgement and Agreement form found in Attachment B.

A daily health and safety tailgate meeting shall take place at the start of every day in the field. Persons attending this meeting are to print and sign their name on the attached Daily Health and Safety Briefing Log in Attachment C.

(Standard Safety Procedure [SSP] 02, General Site Safety Requirements, provides more information.)

Project Manager: Logan Schumacher
Site Manager: Logan Schumacher
Principal in Charge: Tom Cammarata
Corporate Health and Safety Administrator: Chris Carter

4.0 EMERGENCY INFORMATION

For a critical emergency, 911 should be called.

Note: A SoundEarth employee MAY NOT transport a non-SoundEarth employee off the site for medical attention.

Local Emergency Numbers		
Institution/Department	**Name/Address**	**Phone Number**
Hospital	Virginia Mason Medical Center 1100 Ninth Avenue Seattle, Washington	911 or 206-223-6600

Local Emergency Numbers		
Institution/Department	**Name/Address**	**Phone Number**
Alternative Hospital	Harborview Medical Center 325 9th Avenue Seattle, Washington	911 or 206-731-3000
Ambulance		911
Police/Sheriff	City of Seattle Police Department, East Precinct 1519 12th Avenue Seattle, Washington	911 or 206-684-4300
Fire	City of Seattle Fire Department, Station #22 901 East Roanoke Street Seattle, Washington	911

Project Emergency Numbers		
Title	**Name**	**Phone Number**
Project Manager	Logan Schumacher	O: 206-306-1900 C: 206-484-7189
Site Manager	Logan Schumacher	O: 206-306-1900 C: 425-484-7189
Principal in Charge	Tom Cammarata	O: 206-306-1900 C: 425-922-9922
Corporate Health and Safety Administrator	Chris Carter	O: 206-306-1900 C: 206-618-0306

Attachment D, Hospital Routes, provides the location and driving directions. The routes must be posted at the site.

5.0 SITE HAZARD ANALYSIS

This section is used to determine the project's potential health and safety hazards specifically as they relate to the site where the work will occur. Task-related hazards are analyzed in Section 6.0, Task-Related Site Hazard Analysis.

5.1 SITE HAZARD ANALYSIS—CHEMICAL

This section describes and identifies potential and known chemical hazards that may be encountered at the site (summarized in Table 1). SSP 01, Chemical and Physical Hazards Analysis, provides more information.

5.1.1 Reports that Provide Chemical Data

- Records, Letters, and Laboratory Analytical Results for waste generated and USTs located on the Property. Seattle Times Company. 1986.
- The RETEC Corporation. Letter to Mr. Eric Rosenbrock, Facility operation Manager, the Seattle Times. October 26, 1994.
- Final Report No. 20670007: Troy Laundry, Seattle, Washington. Prepared by W.L. Gore and Associates. September 8, 2010.
- Letter Summary of Limited Phase II Environmental Assessment at the Troy Laundry Property, 307 Fairview Avenue North, Seattle; Washington. Prepared by Sound Environmental Strategies Corporation. October 28, 2010.
- December 2010 Investigation Results and SVE Conceptual System Design Troy Laundry Property, Seattle, Washington. Prepared by AECOM. January 12, 2011.
- Summary of Supplemental Subsurface Investigation Activities at the Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington. Prepared by SoundEarth Strategies, Inc. June 6, 2011.
- Draft Remedial Investigation Report, Troy Laundry Property. Prepared by SoundEarth Strategies, Inc. May 2, 2012.

5.1.2 Summary of Potential Chemical Hazards

- PCE in soil, groundwater, and soil vapor
- TCE in soil, groundwater, and soil vapor
- cis-1,2-DCE in groundwater and soil vapor
- VC in groundwater
- GRPH as Stoddard solvents in soil, groundwater, and soil vapor
- DRPH in soil and groundwater
- ORPH in soil and groundwater

5.1.3 Past Opportunities for Chemical Contamination

The Property was used as a retail and industrial laundry and dry cleaner. Both chlorinated- and petroleum-based dry cleaning solvents were used and stored at the Property. Petroleum hydrocarbons also were used and stored on the Property.

5.1.4 Opportunities for Unknown or Unidentified Chemical Contamination

The following opportunities for unknown or unidentified chemical contamination have been identified:

- The Troy Laundry Company operated on the Property from 1926 until 1985 and was equipped with at least 15 USTs that were used to store fuel, heating oil, and solvents. Additional structures associated with the former operations include several trenches and below-grade pipes, vaults, catch basins, and drains that formerly contained dangerous waste.

- The three buildings located on the Property were constructed between 1926 and 1960 and may contain hazardous materials such as asbestos and lead.

5.1.5 Existing Controls in Place

The building slabs and asphalt-paved parking lots cap in place and limit direct contact with any residual soil or groundwater contamination that may have resulted from the historical operations described in Section 5.1.3.

5.1.6 Chemical Analytical Results

The soil analytical data collected during the investigations conducted at the site indicate that GRPH as Stoddard solvents and chlorinated solvent concentrations were highest in the center of the Property near the loading dock, which is the probable source area. The high concentrations of PCE in soil and perched groundwater in the vadose zone are inferred to be evidence of a release from the former dry cleaning facility that operated on the Property. Concentrations of chemicals of concern in the soil decrease rapidly—both horizontally and vertically—with distance from the source area. Beyond the high source area concentrations, which are to be limited vertically by a dense silt layer that appears to have restricted vertical contaminant migration, the vertical and lateral distribution of PCE concentrations is relatively consistent throughout the southwestern portion of the Property. The widespread extent of PCE in soil exhibiting relatively low concentrations is indicative of a long-term release via vapor-phase diffusion. The soil contamination appears to be limited to within the Property boundaries.

Impacts to groundwater within the primary water-bearing zone extend approximately 350 north-south and up to 240 feet east-west, generally trending west-southwest from the source area. Concentrations of chlorinated solvents within the groundwater are relatively low; the highest on-Property concentration of PCE in groundwater (21 micrograms per liter) was collected from MW11, which was installed near the source area. With the exception of groundwater collected from wells MW05 and MW13, groundwater collected from wells installed beyond the Property boundary exhibited only TCE exceedances, also observed at relatively low concentrations. Likewise, groundwater collected from the two impacted deep wells (MW09 and MW12) also did not contain detectable concentrations of PCE, which is consistent with the peripheral degradation of chlorinated solvents within the primary water-bearing zone.

Data collected from wells north of the Property confirm that no risks to surface water or sediment exist as a result of the release at the Property, and that ongoing risks to human health and the environment as a result of vapor intrusion will be mitigated following excavation of the source area, as discussed in the proceeding sections. Empirical evaluation of the lateral distribution of groundwater contamination, which is present at relatively low concentrations in the primary water-bearing zone, was limited to the south and west as a result of physical and technological constraints and was therefore supplemented by a conservative mathematical model approach that allowed for the definition of the worst-case extent of groundwater contamination. The evaluation of the vertical distribution of contamination in groundwater was conducted by sampling the former supply well on the Property, which was installed to a depth of approximately 498 feet below ground surface. The results of sampling conducted at the well demonstrated that the deeper aquifer beneath the site has not been impacted by a release from the former property operations.

Analytical data associated with the investigations conducted at the site are available in the Draft Remedial Investigation Report prepared by SoundEarth in 2012.

TABLE 1 CHEMICAL HAZARDS

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
1,2-DCE (1,2-Dichloroethylene, and cis- or trans-isomers)	DOSH PEL: 200 ppm TWA 250 ppm STEL	NIOSH REL: 200 ppm TWA IDLH: 1,000 ppm FP: 36–39˚F LEL: 5.6%	Inhalation, ingestion, skin or eye contact Slightly acidic, chloroform-like odor	Eye and respiratory system irritation, central nervous system depression	Eyes, respiratory system, central nervous system	▪ Impermeable, chemical-resistant, disposable clothing ▪ Silver Shield/ composite glove If PEL is exceeded, min SA continuous flow or PAPR OV cartridge	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
Ethylbenzene	DOSH PEL: 100 ppm TWA 125 ppm STEL	NIOSH REL: 50 ppm TWA 100 ppm STEL IDLH: 700 ppm FP: 55˚F LEL: 0.8%	Inhalation, ingestion, skin or eye contact Sweet, floral odor	Irritation of eyes, skin, nose, respiratory system; dizziness; headache; drowsiness; unsteady gait; defatting; inflammation of skin; possible liver injury; reproductive effects	Eyes, skin, central nervous system, liver, respiratory system, reproductive system Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately	▪ Impermeable, chemical resistant disposable clothing ▪ Silver Shield/ composite glove If PEL is exceeded, min ½ Mask AP with OV cartridge	If potential for exposure exists: Initial personal air sampling Additional sampling if necessary based on initial results Verify method with laboratory prior to ordering media and equipment Real Time: 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
Stoddard Solvent	DOSH PEL 100 ppm TWA 150 ppm STEL OSHA PEL 500 ppm TWA	IDLH: 20,000 mg/m^3 FP: 102-110°F	Inhalation, ingestion, skin or eye contact Kerosene-like odor	Irritation eyes, nose, throat; dizziness; dermatitis; chemical pneumonitis (aspiration liquid); in animals: kidney damage	Eyes, skin, respiratory system, central nervous system, kidneys	▪ Impermeable, disposable clothing ▪ Nitrile or Neoprene gloves If PEL is exceeded: ▪ min ½ Mask AP with OV cartridge	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 9.8 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
Tetra-chloroethylene (PCE)	DOSH PEL 25 ppm TWA 38 ppm STEL Skin OSHA PEL 100 ppm TWA	IDLH: 150 ppm Carcinogen	Inhalation, ingestion, skin absorption, skin or eye contact Mild, chloroform-like odor	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system	▪ Impermeable, chemical resistant disposable clothing ▪ Nitrile If PEL is exceeded, any SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
Toluene	DOSH PEL: 100 ppm TWA 150 ppm STEL OSHA PEL: 200 ppm TWA C 300 ppm 500 ppm (10-minute maximum peak)	NIOSH REL: 100 ppm TWA 150 ppm STEL IDLH: 500 ppm FP: 40˚F LEL: 1.1%	Inhalation, ingestion, skin absorption, skin or eye contact Sweet, pungent benzene-like odor	Irritation of eyes and nose, weakness, exhaustion, confusion, euphoria, dizziness, headache, dilated pupils, tear discharge, anxiety, muscle fatigue, insomnia, tingling, prickling, and inflammation of skin, liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys	▪ Impermeable, chemical-resistant, disposable clothing ▪ Nitrile or Silver Shield gloves (for more extensive contact) If PEL is exceeded, min ½ Mask AP with OV cartridge	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 9.8 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
TPH as Diesel or Oil (petroleum distillates as a surrogate)	DOSH PEL: 100 ppm TWA 150 ppm STEL OSHA PEL: 500 ppm TWA	NIOSH REL: 86 ppm TWA 444 ppm STEL IDLH: 1,100 ppm FP: -40 to -86˚F LEL: 1.1%	Inhalation, ingestion, skin or eye contact Gasoline or kerosene-like odor	Irritation of eyes, nose, throat; dizziness; drowsiness; headache; nausea; dry cracked skin; inflammation of lungs	Eyes, skin, respiratory system, central nervous system	▪ Impermeable, chemical-resistant, disposable clothing ▪ Nitrile or Neoprene gloves If PEL is exceeded, any SA respirator	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
TPH as Gasoline	DOSH PEL: 300 ppm TWA 500 ppm STEL OSHA PEL: None	FP: -45°F LEL: 1.4%	Inhalation, ingestion, skin absorption, skin or eye contact Characteristic odor	Irritation of eyes, skin, and mucous membranes; inflammation of skin and lungs; headache; weakness; exhaustion; blurred vision; dizziness, slurred speech; confusion; convulsions; possible liver and kidney damage; (potential occupational carcinogen)	Eyes, skin, respiratory system, central nervous system, liver, kidneys	▪ Impermeable, chemical-resistant, disposable clothing ▪ Nitrile gloves If PEL is exceeded, any SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
Trichloroethylene	DOSH PEL: 50 ppm TWA 200 ppm STEL OSHA PEL: 100 ppm TWA 200 ppm STEL 300 C	IDLH: 1,000 ppm LEL: 8%	Inhalation, skin absorption, ingestion, skin or eye contact Chloroform-like odor	Irritation of eyes and skin; headache; visual disturbance; weakness; exhaustion; dizziness; tremor; drowsiness; nausea; vomiting; tingling, pricking, and inflammation of skin; cardiac arrhythmias; liver injury (potential occupational carcinogen)	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system	▪ Impermeable, chemical resistant disposable clothing ▪ Nitrile gloves If PEL is exceeded, min full-face SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
Vinyl Chloride	DOSH PEL 1 ppm TWA 5 ppm STEL	Gas (FP N/A) LEL: 3.6% Carcinogen	Inhalation, ingestion, skin or eye contact Pleasant odor at high concentrations	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]	Liver, central nervous system, blood, respiratory system, lymphatic system	▪ Impermeable, chemical resistant disposable clothing ▪ Silver Shield / composite gloves If PEL is exceeded, any SA respirator in positive pressure/ pressure demand mode	If potential for exposure exists: ▪ Initial personal air sampling ▪ Additional sampling if necessary based on initial results ▪ Verify method with laboratory prior to ordering media and equipment Real Time: ▪ 10.2 or 10.6 eV PID

Chemical (or Class)	DOSH PEL/AL (OSHA PEL if different)	Other Pertinent Limits	Routes of Exposure / Warning Properties	Exposure Symptoms	Target Organs	Recommended PPE / Respiratory Protection	Recommended Monitoring/ Sampling Method
Xylenes	DOSH PEL: 100 ppm TWA 150 ppm STEL	NIOSH REL: 100 ppm TWA 150 ppm STEL IDLH: 900 ppm FP: 81-90˚F LEL: 0.9-1.1%	Inhalation, ingestion, skin absorption, skin or eye contact Aromatic odor	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal cell debris; anorexia, nausea, vomiting, abdominal pain; inflammation of skin	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately	▪ Impermeable, chemical-resistant, disposable clothing ▪ Nitrile gloves If PEL is exceeded, min ½ Mask AP with OV cartridge	If potential for exposure exists: Initial personal air sampling Additional sampling if necessary based on initial results Verify method with laboratory prior to ordering media and equipment Real Time: 10.2 or 10.6 eV PID

NOTES:
The NIOSH Pocket Guide provides more information for the chemical in question or for a chemical not listed.

µg/m^3 = micrograms per cubic meter
AL = action limit
AP = air purifying respirator
APF = assigned protection factor
C = ceiling exposure limit
DOSH = Washington State Department of Labor and Industries, Division of Occupational Safety and Health (formerly the Washington Industrial Safety and Health Act)
eV = electron volt
^{o}F = degrees Fahrenheit
FP = flash point
HEPA = high efficiency particulate air cartridge
IDLH = immediately dangerous to life and health
LEL = lower explosive limit
mg/m3 = milligrams per cubic meter
min = minimum
N/A = not applicable
NIOSH = National Institute of Safety and Health
OSHA = Occupational Safety and Health Administration
OV = organic vapor cartridge
PEL = permissible exposure limit
PID = photoionization detector
PPE = personal protective equipment
ppm = parts per million
REL = recommended exposure limit
SA = supplied air respirator
STEL = short-term exposure limit, 15 minutes, unless otherwise noted
TPH = total petroleum hydrocarbon
TWA = time-weighted average

5.2 SITE HAZARD ANALYSIS—PHYSICAL

This section addresses known and potential physical hazards specific to the site. SSP 01, Chemical and Physical Hazards Analysis, provides more information. Site documents provided by the client/owner/tenant can be helpful to identify site-specific hazards (such as non-SoundEarth HASPs, traffic control plans, and operation and maintenance plans).

5.2.1 Site-Specific Physical Hazards

Described below are physical hazards that may be encountered while on the site:

- Compressed air
- Confined spaces
- Electrical hazards
- Ergonomic hazards
- Flammable liquids
- Heavy equipment/moving machinery
- Hot work
- Noise Exposure
- Overhead utilities and features
- Potentially flammable or explosive environment
- Pressurized injectate
- Slips, trips, and falls
- Temperature extremes
- Traffic and moving equipment
- Underground utilities and features
- Unsecure/uncontrolled site
- Unstable ground
- Hazardous processes
- Work at heights
- Work near water

5.2.2 Utility Hazards

Described below are utility hazards that may be present at the site. In order to locate utilities, the Utilities Underground Location Center should be called at 800-424-5555, a private locate should be scheduled (as appropriate), side sewer cards should be reviewed, owner/tenant documents should be reviewed, and the site should be visually inspected.

5.2.2.1 Underground Utilities (SSP 12, Underground Services Location and Protection)

Seven sanitary side sewer lines enter the Property from the west and connect to the 8-inch-diameter combined sewer line that runs beneath Boren Avenue North: two connect to the David Smith Building, one connects to the original Troy Building beneath the easement, one appears to be abandoned at the western Property boundary, and the remaining lines connect to the 1964-vintage addition of the Troy Building.

Three water mains enter the Property from the west and connect to the 8-inch-diameter cast iron water line that runs beneath Boren Avenue North.

The following subsurface utilities enter the Property from the north: a 6-inch-diameter natural gas line, an 8-inch-diameter combined sewer line, and an electrical conduit. Within the former alley, the gas line connects to both the Mokas and Troy buildings, and the combined sewer line connects to the Troy Building. The electrical line that enters from the north connects to the Mokas Building.

From the south, a telephone line enters the 1964-addition to the Troy Building.

From the east, a buried electrical line and water main enter the Property and connect to the Mokas Building, and two sanitary side sewer lines connect to the Troy Building from 8- and 12-inch-diameter combined sewer lines that run beneath Fairview Avenue North.

A buried electrical conduit is present along the northeastern exterior of the Troy Building.

Several generations of trench and vault networks remain inside the Troy Building and are associated with the former laundry and dry cleaning operations and heating systems. The existing features were compared to archived building plans for the Property. From east to west, the following subsurface features were observed (Figure B-2):

- A pit and trench system installed between 1946 and 1966.
- Brine and water pits associated with the water-softening equipment, installed between 1946 and 1966.
- A transformer vault and associated floor drains reportedly installed in 1964.
- Three vaults located in the central portion of the Property; their installation date is unknown.
- Zipper drains inside the north boiler room, installed after 1946.
- Floor drains in the center of the 1964-vintage garage addition.
- A zipper drain system within the northern portion of the 1964-vintage addition.
- A French drain at the base of the garage ramp, installed after 1964.

City of Seattle side sewer cards and building plans from the early 1940s to 1990s depicted the Property's former utility layout, which included the following:

- Product delivery and fill lines, which were associated with four former 2,000-gallon USTs, were present beneath the central portion of the Property.

- Storm and sanitary sewer lines were installed near the northern portion of the Troy Building and connected to combined sewer lines that were located within the center of the Property.
- Historical side sewer lines connected to the former sanitary sewer line located within the Harrison Avenue ROW to the former residences in the northern portion of the Property.
- Side sewers associated with the former residences located on the southern portion of the Property connected to the combined sewer present beneath the Boren Avenue North ROW.

Although USTs were discovered in a ground-penetrating radar survey of the Property, additional USTs may exist throughout the Property. Contents of unknown USTs may include extremely volatile or flammable substances. Known USTs closed in place are presented on Figure B-2.

5.2.2.2 Overhead Utilities (SSP 10, Electrical Safety)

- Overhead telephone lines are present within the alley and connect to the three on-Property Buildings.
- Overhead power and telephone lines are present above the sidewalks that run north-south along Boren Avenue North and east-west along Harrison Street.
- Bus wires are present above the southern lane of Harrison Street.
- Guy poles are present in the north and south sidewalks of Harrison Street. Guy wires cross Harrison Street and connect to the poles.

6.0 TASK-RELATED SITE HAZARD ANALYSIS

This section outlines the health and safety hazards that may be present on the site as a result of the tasks to be performed by SoundEarth or subcontractors as they relate to the chemical and physical hazards identified in Sections 5.1 and 5.2, above. The SSPs noted in Table 2 are provided in Attachment A. The SSPs contain detailed information and instructions for protecting SoundEarth employees from chemical and physical hazards applicable to this HASP. A summary of the controls specific to the site is presented in Section 7.0, Task-Related Site Hazard Controls.

TABLE 2 SITE-SPECIFIC TASK-RELATED HAZARDS

Tasks	Role	Hazard	Standard Safety Procedures
Sampling – Environmental	Task performed by SoundEarth	Chemicals	Table 1, Chemical Hazards 01, Chemical and Physical Hazards Analysis
		Confined spaces	15, Confined Space Awareness

Tasks	Role	Hazard	Standard Safety Procedures
Sampling – Environmental (Continued)	Task performed by SoundEarth	Dust	01, Chemical and Physical Hazards Analysis 02, General Site Safety Requirements
		Emergencies	02, Emergency Response Plan
		Ergonomics	09, Ergonomics
		General site hazards	02, General Site Safety Requirements
		Ladders or heights	11, Ladder Safety and Work at Heights
		Spills	01, Chemical and Physical Hazards Analysis 19, Safe Handling of Flammable Liquids
		Temperature extremes	08, Temperature Extremes
		Unstable ground	13, Unstable Ground
		Visibility	02, General Site Safety Requirements
		Working near water	18, Work Near Water
Drilling and Subsurface Investigation	Subcontractor Observation	Chemicals	Table 1, Chemical Hazards 06, Chemical Hazard Controls 17, Sample Collection
		Emergencies	02, Emergency Response Plan
		Ergonomics	11, Ergonomics
		General site hazards	07, General Site Safety Requirements
		Noise	15, Noise and Hearing Protection

Tasks	Role	Hazard	Standard Safety Procedures
Drilling and Subsurface Investigation (Continued)	Subcontractor Observation	Overhead electric utilities	10, Electrical Safety
		Powered tools and equipment	10, Electrical Safety;
		Temperature extremes	13, Temperature Extremes
		Traffic/mobile equipment	18, Traffic and Moving Equipment Hazards
		Unsecure/uncontrolled site	08, Site Security and Overall Site Control
		Underground utilities and features	19, Underground Services Location and Protection 10, Electrical Safety
		Unstable ground	20, Unstable Ground
		Visibility	07, General Site Safety Requirements 18, Traffic and Moving Equipment Hazards
UST Decommissioning	Subcontractor Observation	Chemicals	Table 1, Chemical Hazards 06, Chemical Hazard Controls 17, Sample Collection
		Confined spaces	09, Confined Space Awareness
		Cutting/welding	10, Electrical Safety 14, Hot Work Awareness 25, Demolition
		Demolition	25, Demolition
		Emergencies	02, Emergency Response Plan
		Ergonomics	11, Ergonomics
		General site hazards	07, General Site Safety Requirements

Tasks	Role	Hazard	Standard Safety Procedures
UST Decommissioning (Continued)	Subcontractor Observation	Noise	15, Noise and Hearing Protection
		Overhead utilities and features	10, Electrical Safety 16, Overhead Hazards
		Potentially flammable or explosive environment	06, Chemical Hazard Controls 24, Safe Handling of Flammable Liquids
		Powered tools and equipment	10, Electrical Safety;
		Unsecure/uncontrolled site	08, Site Security and Overall Site Control
		Temperature extremes	13, Temperature Extremes
		Traffic/mobile equipment	18, Traffic and Moving Equipment Hazards
		Underground utilities and features	10, Electrical Safety 19, Underground Services Location and Protection
		Unstable ground	20, Unstable Ground
		Visibility	07, General Site Safety Requirements 18, Traffic and Moving Equipment Hazards
Excavation and Trenching	Subcontractor Observation	Chemicals	Table 1, Chemical Hazards 06, Chemical Hazard Controls 17, Sample Collection
		Confined spaces	09, Confined Space Awareness
		Cutting/welding	10, Electrical Safety 14, Hot Work Awareness
		Demolition	25, Demolition

Tasks	Role	Hazard	Standard Safety Procedures
Excavation and Trenching (Continued)	Subcontractor Observation	Dust	06, Chemical Hazard Controls 07, General Site Safety Requirements 17, Sample Collection
		Emergencies	02, Emergency Response Plan
		Ergonomics	11, Ergonomics
		General site hazards	07, General Site Safety Requirements
		Noise	15, Noise and Hearing Protection
		Overhead utilities and features	10, Electrical Safety 16, Overhead Hazards
		Powered tools and equipment	10, Electrical Safety
		Temperature extremes	13, Temperature Extremes
		Traffic/mobile equipment	18, Traffic and Moving Equipment Hazards
		Unsecure/uncontrolled site	08, Site Security and Overall Site Control
		Underground utilities and features	10, Electrical Safety; 19, Underground Services Location and Protection
		Unstable ground	20, Unstable Ground
		Visibility	07, General Site Safety Requirements 18, Traffic and Moving Equipment Hazards

7.0 TASK-RELATED SITE HAZARD CONTROLS SUMMARY

The following controls are required for SoundEarth employees while performing work on the site:

- Level D PPE, which includes hard hats, steel-toed boots, safety glasses, and a reflective safety vest
- Nitrile gloves

- Noise protection while drilling
- Lockout/tag-out procedures when disconnecting and cutting electrical lines
- Splash shield during injections
- Caution tape and traffic control in all parking areas and on streets

FIGURES

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\DELIVERABLES\2012 CAP\APPENDIX B HASP\FIGURES\0731-004-04 FIG 1 F.DWG

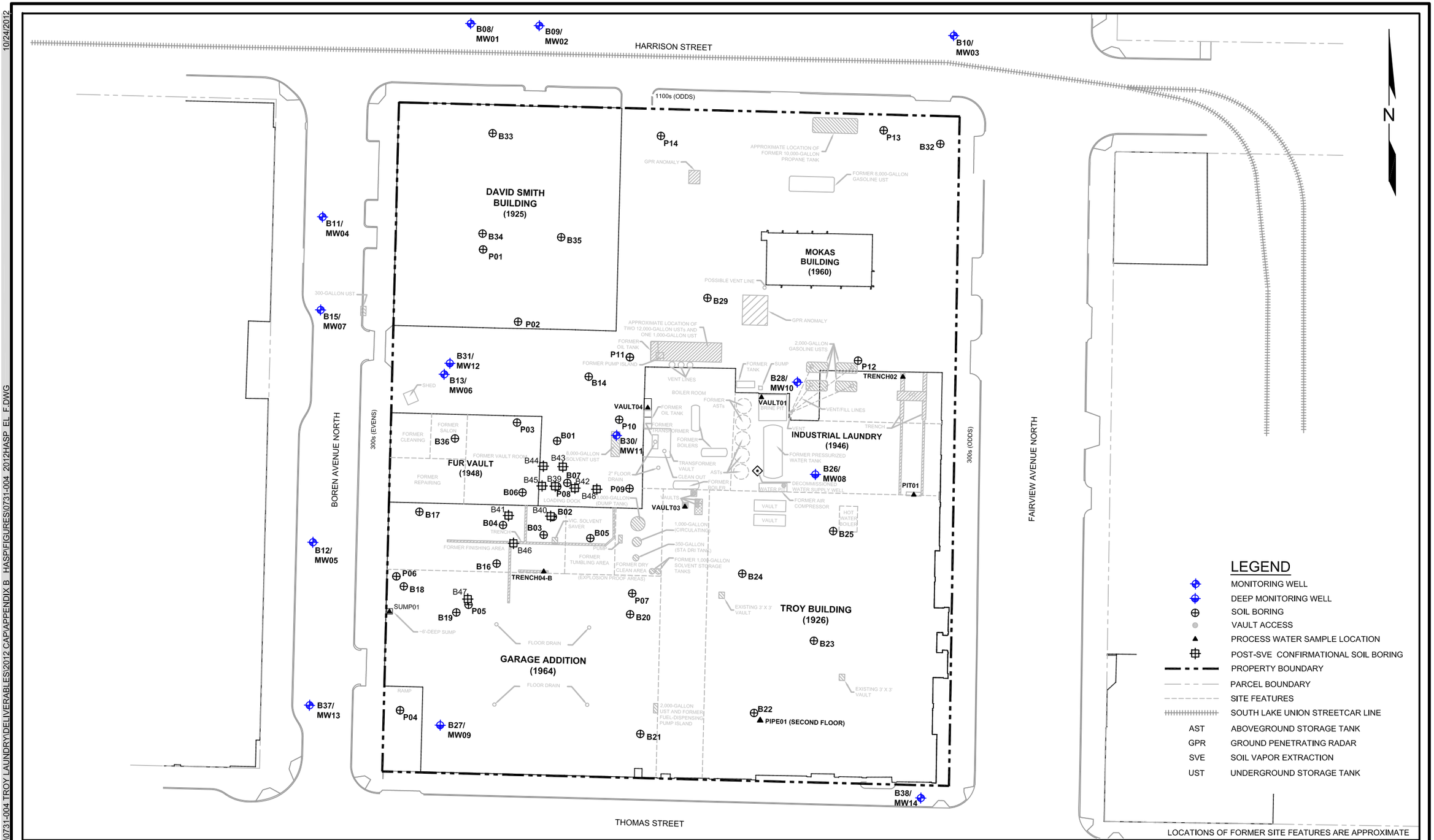
SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE:	06/06/2011
DRAWN BY:	JQC
CHECKED BY:	RMT
CAD FILE:	0731-004-04_FIG1

PROJECT NAME:	TROY LAUNDRY PROPERTY
PROJECT NUMBER:	0731-004-04
STREET ADDRESS:	307 FAIRVIEW AVENUE NORTH
CITY, STATE:	SEATTLE, WASHINGTON

FIGURE B-1
PROPERTY LOCATION MAP

SOUNDEARTHINC.COM



SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE: 12/05/11
DRAWN BY: NAC
CHECKED BY: EKR
CAD FILE: 0731-004_2011RI_EL

PROJECT NAME: TROY LAUNDRY PROPERTY
PROJECT NUMBER: 0731-004
STREET ADDRESS: 307 FAIRVIEW AVENUE NORTH
CITY,STATE: SEATTLE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE B-2
PROPERTY PLAN

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\DELIVERABLES\2012 CAP\APPENDIX B HASP\FIGURES\0731-004 2012HASP EL F.DWG 10/24/2012

ATTACHMENT A
STANDARD SAFETY PROCEDURES

STANDARD SAFETY PROCEDURE 01: CHEMICAL AND PHYSICAL HAZARDS ANALYSIS

INTRODUCTION AND SCOPE

One of the most critical aspects of developing a site-specific Health and Safety Plan (HASP) is to accurately determine the hazards that can be reasonably expected to be present on the site. Those hazards may be generally summarized as site-related and task-related. In both cases, the analysis of the hazard requires a consideration of both chemical contaminants and physical hazards.

This Standard Safety Procedure (SSP) addresses the process for evaluating the potential for encountering site-related chemical and physical hazards.

KEY HAZARDS

- Chemical exposure from known or unknown sources
- Physical hazards, including, but not limited to, noise, pressure, or heat

PRE-FIELD CONSIDERATIONS

Request all available information from the client and site owner/operator regarding chemical hazards and environmental data on the site, including the following topics:

- Past activities that resulted in soil or water contamination.
- Any processes that involve known contaminants and processes with contaminants that are not fully identified or well characterized.
- Any existing environmental mitigation activities or controls.
- Hazardous processes noted on a site map.
- Environmental Phase I and II assessment reports.
- Building surveys for asbestos, lead, or other hazardous materials.
- Details and locations of underground storage tanks and associated fueling system components or other chemical storage areas.
- Safety Data Sheets or other company hazard communication information relating to areas personnel will be working .

Request and gather the following information on physical hazards at the site:

- Overhead electrical lines or other utilities
- Internal and public roadways and movement of on-site machinery or equipment
- Any site emergency response provisions that might apply to SoundEarth personnel in the event of a site-related emergency, such as site emergency response capabilities, emergency reporting number and procedure, and the meaning of alarms

GENERAL REQUIREMENTS

A full analysis of potential chemical and physical hazards should be completed prior to work on-site and summarized in the site-specific HASP. Personnel should continually assess hazards while working, as hazard risk can change due to changing work conditions.

A public one-call locate and private utility locate will be conducted on all sites where subsurface work will be completed. The public one-call must be called in 72 hours before the start of work, with the area marked in white paint. Refer to SSP #12 Underground Services Location and Protection for additional details on utility locates.

Identify whether proximity to neighbors could present additional hazards to SoundEarth personnel. In addition, identify the potential for neighbors to be impacted by SoundEarth's activities on the site.

APPLICABLE PPE AND CONTROLS

Standard Level D personal protective equipment (PPE) is required at all SoundEarth work sites. See SSP #06 Chemical Hazard Controls for applicable PPE for chemical hazards.

OTHER CONSIDERATIONS

Conduct a public records search if property information is not readily available from the client, owner, or operator.

REGULATORY REFERENCES

None.

STANDARD SAFETY PROCEDURE 02: GENERAL SITE SAFETY REQUIREMENTS

INTRODUCTION AND SCOPE

Safety is a joint responsibility of all parties on a worksite. The following basic guidelines are written to help protect SoundEarth Strategies, Inc. (SoundEarth) employees and the public and are a mandatory responsibility for personnel working on a SoundEarth worksite.

PRE-FIELD CONSIDERATIONS

Before any work begins on a new site, a site-specific Health and Safety Plan (HASP) will be drafted. Prior to the commencement of work, the Site Manager will review the provisions of the HASP for that project with all personnel who will be on the site. An emphasis should be placed on the hazards identified for the site/project and any special precautions or requirements for the control or mitigation of those hazards.

In addition, a daily briefing on applicable health and safety topics will be conducted and recorded on the Daily Health and Safety Briefing Log, which is an attachment to the HASP.

Unsafe site conditions observed at any time should be reported to the project manager (PM) and contractor on-site for immediate correction.

A site telephone (which may be an employee cell phone), sanitary facilities (if not located within a reasonable distance from the project site), and potable water will be provided.

GENERAL REQUIREMENTS

All employees must follow the safe practices and rules contained in this Standard Safety Procedure (SSP) and such other rules and practices as pertain to the project or are communicated on the job. Employees must also follow all client safety rules and regulations when working on client-owned or client-operated sites. When working for a general contractor or directly under the supervision of an owner/operator, the higher-tiered employer's rules must be followed as they apply to work by SoundEarth personnel.

Employees should report all unsafe conditions or practices to the PM or their direct supervisor. If corrective action is not taken in a timely fashion, employees have a right and obligation to report significant hazards to higher level management or the Corporate Health and Safety Administrator (CHSA).

Personnel must practice the following safe work habits:

- Maintaining good housekeeping, cleaning up waste, and eliminating trip hazards with extension cords, tools, hoses, and similar equipment.
- Using sound ergonomic methods that maintain a neutral spine when handling drums or lifting heavy materials. If necessary, two people should perform heavy or awkward lifts. Mechanical means should be used for loads that are too heavy for two people to lift.
- Checking that electrical equipment is bonded and grounded and using ground fault circuit interrupters for plug-in electrical devices and extension cords (three-pin plugs only). In addition, using spark-proof and explosion resistant equipment as necessary on some projects.

- Avoiding working alone in an isolated area or an Exclusion Zone. Where necessary, use the buddy system.
- Trying to stay upwind of potential airborne hazards when collecting samples or providing oversight.
- Reporting all injuries or potential exposures to hazardous materials to the PM and CHSA. Follow the attached Incident Reporting Flow Chart for specific instructions.
- Reporting to the CHSA for investigation of all incidents that resulted in injury, potential for illness, damage to equipment (ours or other parties), interference with site operations, or public impacts. Follow the attached Incident Decision Tree for specific instructions.
- Reporting to the CHSA for communication of all safety observations that could have resulted in injury, potential for illness, damage to equipment (ours or other parties), interference with site operations, or public impacts. Fill out the attached Safety Observation Form and send to the CHSA.
- Being familiar with the site—its physical characteristics, hazardous processes in or near the work area, wind direction, access, overhead utilities, location of communication devices, and safety equipment.
- Checking that the locations of overhead power lines and underground utilities are established, prior to initiating intrusive activities.
- Striving to always be aware of the surroundings, the chemical/physical hazards that may be present, changes in conditions, and the limitations of personal protective equipment (PPE). This is particularly true when working in an Exclusion Zone or on a complex site, such as a construction or industrial site.
- Keeping working surfaces as clean and dry as possible to prevent accidental trips or slips.

The following practices are **expressly forbidden** on SoundEarth worksites:

- Working when ability or alertness is impaired by fatigue, illness, medication, or other causes that it could expose SoundEarth employees or others to injury.
- Smoking, eating, drinking, chewing gum or tobacco, or wearing contact lenses while in an Exclusion Zone or any potentially contaminated area.
- Using a cell phone while in an Exclusion Zone except in the case of an emergency; all work must stop prior to any cell phone use in an Exclusion Zone.
- Wearing rings, watches, bracelets, necklaces, or other jewelry that could trap chemical contamination or get caught in moving equipment.
- Having facial hair that could interfere with respirator fit on sites where respirators are in use.
- Having unnecessary contact with potentially contaminated substances, such as by walking through puddles or pools of liquid, kneeling on the ground or leaning, sitting, or placing equipment on the contaminated soil, or testing soil or collecting samples without gloves.

REQUIRED POSTINGS

The Washington State L&I, Division of Occupational Safety and Health requires that the following informational posters be posted at the employees' place of employment:

- Notice to Employees—If a Job Injury Occurs
- Job Safety and Health Protection
- Your Rights as a Non-Agricultural Worker

APPLICABLE PPE AND CONTROLS

The minimum PPE on any SoundEarth worksite includes safety vest, safety glasses, steel-toed work shoes or boots, hearing protection around noisy operations, and hard hat where there is an overhead hazard. Unless otherwise specified, nitrile or neoprene gloves should be worn when collecting samples.

All PPE must be properly fitted to each employee who will use it. It must be kept clean, sanitary, and properly maintained. Cleaning is particularly important for eye and face protection, because dirty or fogged lenses could impair vision. Personnel must inspect, clean, and maintain PPE according to the manufacturers' instructions before and after each use. Equipment must be inspected by the employee prior to each use to confirm the equipment is within the manufacturers expiration date. Expired equipment must be immediately discarded and replaced. The CHSA or Safety Supervisor can answer any questions about the appropriate PPE for the project or the correct care of it.

OTHER CONSIDERATIONS

This SSP addresses the general site safety requirements that apply to most sites. More targeted, hazard-specific information is provided in the applicable SSP addressing the hazard of concern.

Although SoundEarth personnel are not directly responsible for the safety of other employers' personnel, except as contractually determined or in regard to the hazards that the work might create, an awareness of safety should be maintained in every aspect of the job. If a safety concern is noticed, it should be reported to the applicable contractor's representative on-site. If a SoundEarth employee informs the affected employee of the concern, the affected employee's management should also be told of the conversation.

TRAINING REQUIREMENTS

- Hazardous Waste Operations
- 24-, 40-, or 80-hour training, depending on job tasks and exposure potential, and discussed in "Table 3, Training Requirements," in Title 296, Chapter 843, Section 20010 of the Washington Administrative Code (WAC 296-843-20010)
- Annual refresher training—8 hours every 12 months

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

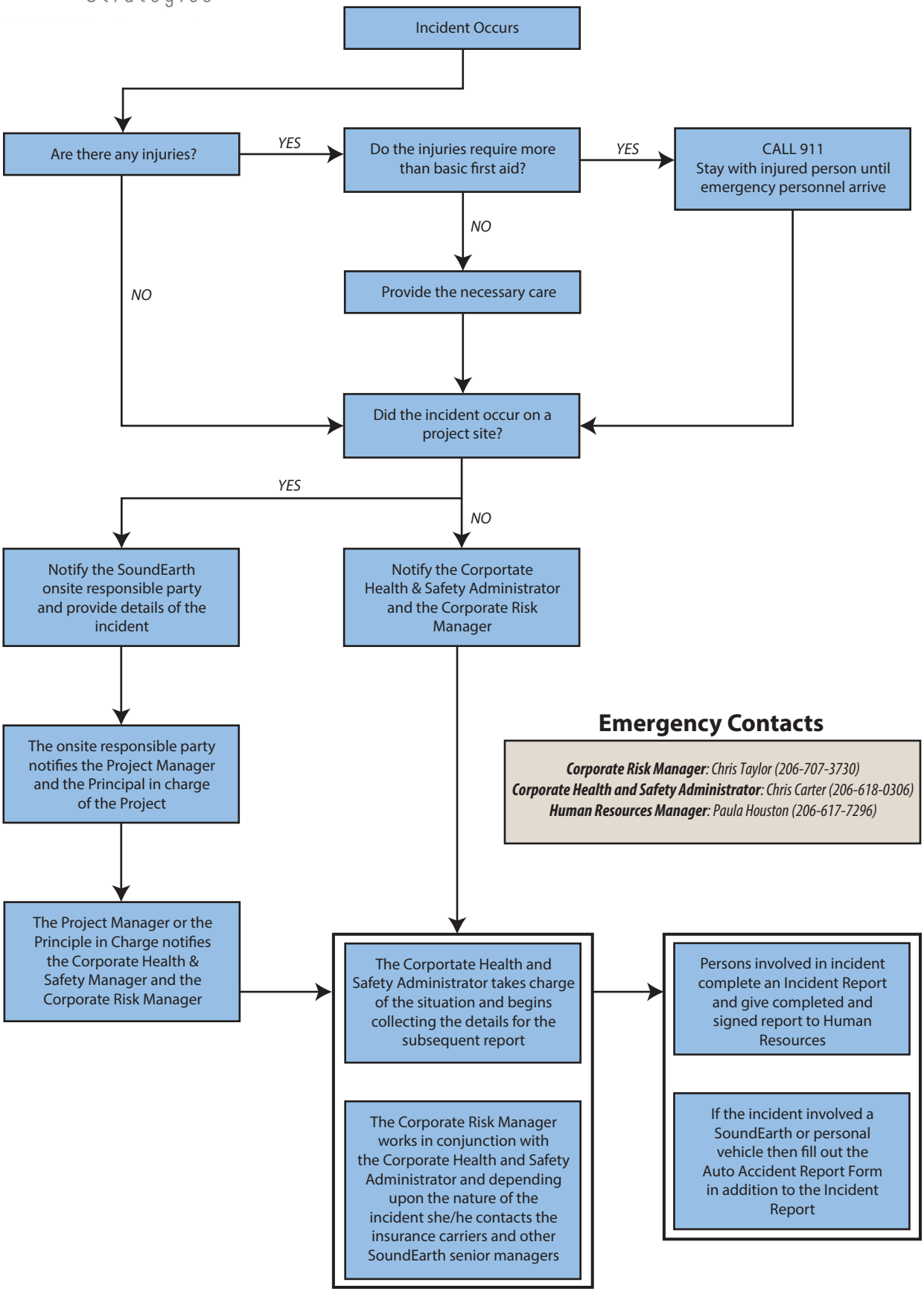
- **Title 29, Part 1926, Subpart C of the Code of Federal Regulations and WAC 296-800—General Safety and Health Provisions/Safety and Health Core Rules.** These chapters address the basic

core rules of health and safety in the workplace, including topics such as employer/employee responsibilities, housekeeping, sanitation, drinking water, illumination, first aid, accident reporting, and PPE.

Attachments:
Incident Decision Tree
Safety Observation Form

SoundEarth Strategies, Inc.
Incident Decision Tree

FEBRUARY 27, 2018



Emergency Contacts

Corporate Risk Manager: *Chris Taylor (206-707-3730)*
Corporate Health and Safety Administrator: *Chris Carter (206-618-0306)*
Human Resources Manager: *Paula Houston (206-617-7296)*

SAFETY OBSERVATION

Date: _____ **Time:** _____

Location of Observation:

Is this a SoundEarth Project? ____ **Y/N** **If yes:**

Project Name: _____**Project Number:** _____

If this is not a SoundEarth Project, did you notify the Site Safety Personnel? ____ **Y/N**

If Yes, please provide name of who was notified:

_____

Description of the Observation: _____

_____

Suggestion for Corrective Action: _____

_____

Names & Contact Information of Witnesses, if applicable: _____

_____

Name of Individual Completing Form	Signature	Date
Corporate Health & Safety Manager	Signature	Date

(Attach additional documentation as necessary.)
*COMPLETED FORM TO BE FORWARDED TO HR

STANDARD SAFETY PROCEDURE 03: SITE SECURITY AND OVERALL SITE CONTROL

INTRODUCTION AND SCOPE

Site security is necessary to prevent the exposure of unauthorized, unprotected people to site hazards and to protect the project from theft, vandalism, and interference with safe work practices.

KEY HAZARDS

- Unauthorized personnel on-site
- Pedestrian safety

GENERAL REQUIREMENTS

Work sites should be secured depending on the on-site activities, materials stored on-site, and practicality. No unauthorized personnel will be allowed on active sites.

The site-specific Health and Safety Plan should establish an entry and exit log for the site. For this purpose, personnel can use an Entry and Exit Log form, record entry and exit information in field notes for the field program, or use any other documented means to prevent unauthorized entry onto the site and make it possible to conduct an accurate headcount in the event of an emergency. All field personnel should note their time of entry and exit from the site.

The active work area on the site should be delineated using caution tape and delineator cones, at a minimum.

Normally, it is not necessary to post a guard or install a monitoring system for security during off-hours, but this type of security should be considered for a site that cannot be adequately controlled otherwise.

If unauthorized personnel enter the site, they should immediately be asked to leave. If the worker feels threatened or the unauthorized person will not leave, call the police immediately.

APPLICABLE PPE AND CONTROLS

If conditions on the site could present a hazard to unauthorized and unprotected people, or could be tempting to thieves or vandals, the site perimeter is to be fenced and locked during off-hours. Otherwise, barrier tape with appropriate signage may be used. The site should be well lit during off-hours, with a minimum 5-foot clear zone within the fencing.

Bulk chemicals are to be stored in a locked storage facility, appropriate to the type of chemical being stored.

OTHER CONSIDERATIONS

The client or contractor may include specific security provisions, which should be incorporated into these requirements when generating the site-specific Health and Safety Plan.

STANDARD SAFETY PROCEDURE 04: FIRST AID

INTRODUCTION AND SCOPE

Emergencies and first aid scenarios happen quickly and unexpectedly and require an immediate and appropriate response. It is vital that each SoundEarth Strategies, Inc. (SoundEarth) employee understands the requirements of this Standard Safety Procedure and any additional requirements that may pertain to a specific worksite. SoundEarth emergency response procedures are outlined in the Corporate Health and Safety Plan.

The first aid provider is someone who is trained in the delivery of initial medical emergency procedures, using a limited amount of equipment to perform a primary assessment and intervention while awaiting arrival of emergency medical services.

KEY HAZARD

- Medical Emergency

TRAINING REQUIREMENTS

First Aid Certification

CPR Training

- Blood-borne Pathogen refresher training is required annually for those who have not received it as part of their First Aid/CPR certification training

PRE-EMERGENCY PLANNING

The following supplies will be available and readily accessible at each work area:

- A fully stocked first aid kit, including equipment to support universal precautions to prevent the transmission of blood-borne illnesses.
- An adequate supply of fresh water and a portable emergency eye wash.
- One or more appropriately sized Type ABC portable fire extinguishers, for sites where fire hazards exist.

In addition, a vehicle will be available on-site during all work activities so that injured SoundEarth personnel who do not require medical treatment beyond first aid can be driven to the emergency medical facility identified in the Health and Safety Plan.

SoundEarth personnel may not transport subcontractors or other non-SoundEarth personnel to a medical facility for care. SoundEarth personnel will call 911 for emergency medical transport.

INCIDENT RESPONSE

When an accident occurs, the witness to the accident is to take the following actions:

- Call or instruct someone near to call 911 for help if medical assistance beyond first aid is required.

- Carefully approach the accident scene. Any assistance provided should never place the rescuer at unacceptable risk (e.g., confined space). If the victim cannot be helped without risking the rescuer's safety, obtain additional assistance or equipment immediately.
- Prevent unauthorized personnel from attempting a rescue.
- If safe to do so, begin initial first aid. If not trained in first aid, assess the victim's condition as thoroughly as possible, call 911 for instructions, and wait for the emergency medical personnel to arrive.
- Use appropriate precautions to avoid the spread of blood-borne pathogens.
- If the victim is in a dangerous area, it might be necessary to move them to safety. This decision is made by the Site Manager or other first aid-trained person. Someone with a neck or back injury should not be moved unless in a location that is immediately dangerous to life or health.
- The Site Manager is to supervise the administration of any required first aid, CPR or use of an automated external defibrillator, and to determine whether off-site support should be called or the victim should be driven to the hospital.
- For inhalation, ingestion, or absorption exposure cases, the victim should be promptly removed from the exposure but treatment should be performed only by a qualified physician. In the case of injurious contact with the skin or the eyes, immediate measures should be taken at the site to counteract the substance's effect. First aid treatment consists of flooding the affected area with copious amounts of water.

Regardless of the severity of an incident, the attached Incident Report is to be completed by the Site Manager, with input from all involved personnel, and forwarded to the project manager and Corporate Health and Safety Administrator within 24 hours of the incident. Use the attached Incident Decision Tree for instructions on incident response and reporting.

In addition, in the event of the death, probable death, or inpatient hospitalization of any employee due to an on-the-job injury, the appropriate agency must be contacted within 8 hours:

- OSHA states: Call 1-800-321-OSHA (1-800-321-6742). Note that this number can be called if working in a state not listed below.
- Washington: Call 1-800-423-7233.
- Oregon: Call 503-378-3272 or 800-922-2689.

Even if no injuries are involved, all motor vehicle accidents that occur on the site or involve a transport vehicle traveling to or from the site are to be reported using the attached Auto Accident Report Form in addition to the Incident Report.

APPLICABLE PPE AND CONTROLS

The minimum personal protective equipment on any SoundEarth worksite includes safety vest, safety glasses, steel-toed work shoes or boots, hearing protection around noisy operations, and hard hat where there is an overhead hazard. Unless otherwise specified, nitrile or neoprene gloves should be worn when administering first aid.

OTHER CONSIDERATIONS

At least one SoundEarth employee is required to be have current first aid certification and CPR training on each site.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

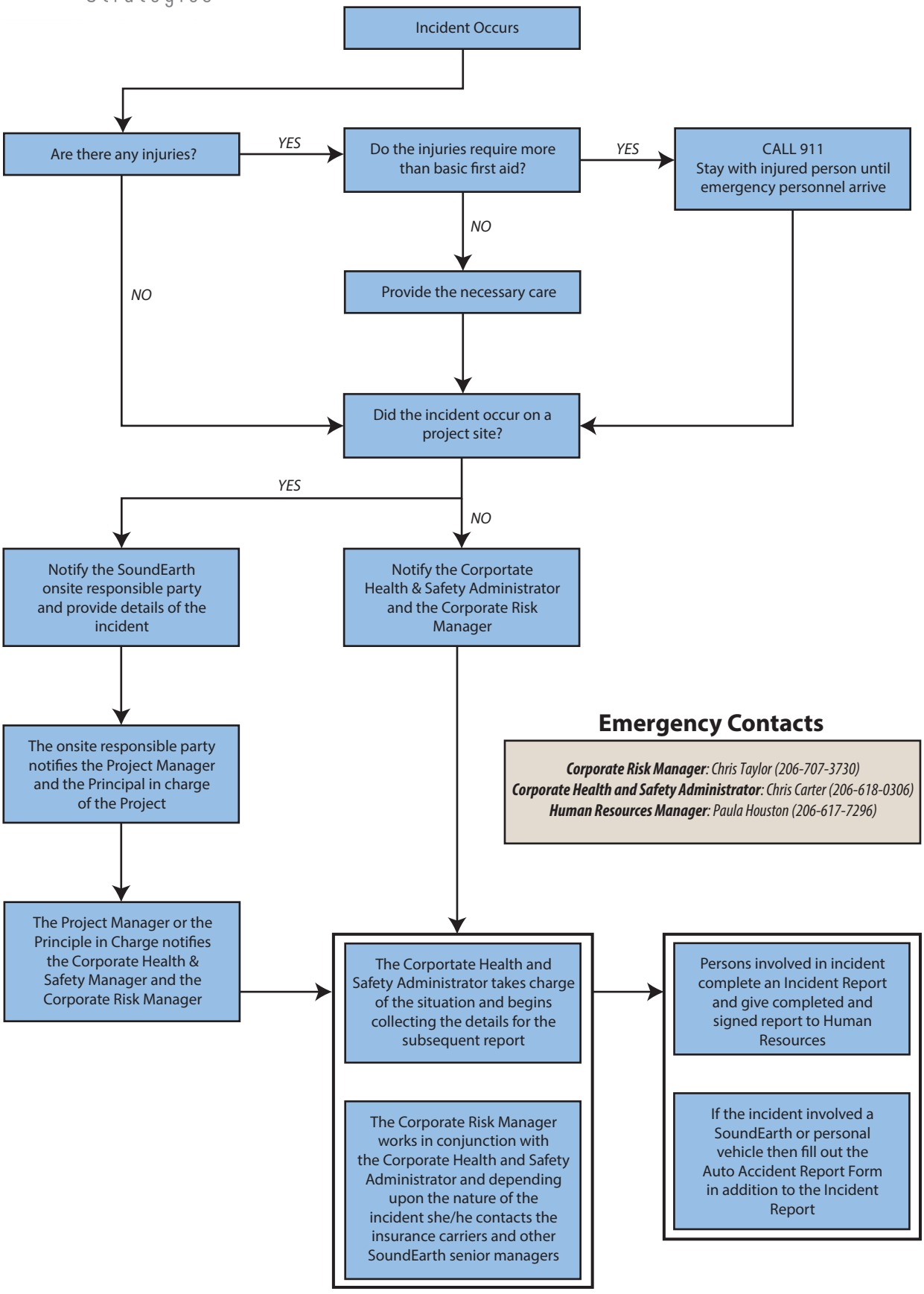
Title 29, Part 1910, Standard 1910.151 of the Code of Federal Regulations (29 CFR 1910.151)—Medical and First Aid.

Title 29, Part CFR 1910.1030 and Washington Administrative Code 296-823—Blood-borne Pathogens.

Attachments:
Incident Decision Tree
Auto Accident Report Form
Incident Report

SoundEarth Strategies, Inc.
Incident Decision Tree

FEBRUARY 27, 2018



Emergency Contacts

Corporate Risk Manager: *Chris Taylor (206-707-3730)*
Corporate Health and Safety Administrator: *Chris Carter (206-618-0306)*
Human Resources Manager: *Paula Houston (206-617-7296)*

Damage to Company Auto

Vehicle Involved_____

Vehicle No._____

Name of Driver_____

Date of Birth_____

Address_____

License No._____State_____

Describe Damage to Auto or Take Photos

_____

_____

_____

_____

_____

_____

Injured Individuals

Name_____

Address_____

Phone_____

Email_____

Name_____

Address_____

Phone_____

Email_____

SERVCO PACIFIC INSURANCE

Partnership makes the best policy.

Preliminary Auto Accident Report

Accident

Date_____Time_____

Location_____

City_____State_____

Damage to Other Parties' Car

Make_____

Model_____

License No._____

Insurance Carrier_____

Name of Owner_____

Address_____Phone_____

Name of Driver_____

Address_____Phone_____

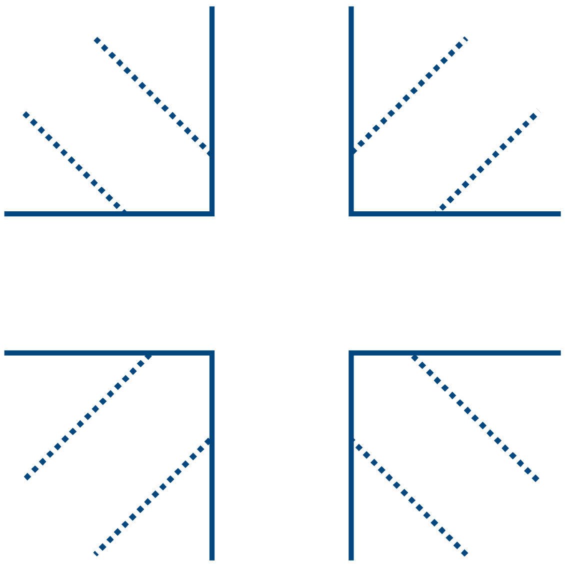
Provide Brief Description of Take Photos

_____

_____

DO NOT DISCUSS ACCIDENT *EXCEPT* with police and your insurance company representative.

Diagram of Accident Scene



WHAT TO DO IN CASE OF AN ACCIDENT

- STOP AT ONCE AND INVESTIGATE
- SET WARNING DEVICES
- HELP THE INJURED by obtaining competent first aid and calling doctor or hospital if necessary
- PROTECT YOUR VEHICLE AND CARGO from theft and further damage
- OBTAIN NAMES AND ADDRESSES OF ALL POSSIBLE WITNESSES – use witness cards inside
- COMPLETE PRELIMINARY REPORT – complete report at the scene of the accident
- CONTACT SUPERVISOR as soon as possible – either by phone or in person

Brief Description of Accident

Include information on where you were going, what speed you were going, estimated speed of other vehicles, and/or any other information that is pertinent to this accident. Take pictures, if possible.

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Police Incident Number (if any)

____
____

Servco Pacific Claims Contact Information

Jeannine Early – 206.272.3103

After Hours – 206.216.4830

Witness Information

If you witnessed the accident that just occurred, fill out the below information. Thank you.

Accident at________________________________

Date______________ Time__________ ☐ am ☐ pm

Did you see the accident happen? ☐ yes ☐ no
Did you see anyone hurt? ☐ yes ☐ no
Were you riding in a vehicle involved? ☐ yes ☐ no

Name____________________ Phone_____________
Address_____________________________________
Email_______________________________________

Witness Information

If you witnessed the accident that just occurred, fill out the below information. Thank you.

Accident at________________________________

Date______________ Time__________ ☐ am ☐ pm

Did you see the accident happen? ☐ yes ☐ no
Did you see anyone hurt? ☐ yes ☐ no
Were you riding in a vehicle involved? ☐ yes ☐ no

Name____________________ Phone_____________
Address_____________________________________
Email_______________________________________

Witness Information

If you witnessed the accident that just occurred, fill out the below information. Thank you.

Accident at________________________________

Date______________ Time__________ ☐ am ☐ pm

Did you see the accident happen? ☐ yes ☐ no
Did you see anyone hurt? ☐ yes ☐ no
Were you riding in a vehicle involved? ☐ yes ☐ no

Name____________________ Phone_____________
Address_____________________________________
Email_______________________________________

INCIDENT REPORT

Date of Incident: _____ **Time of Incident:** _____

Name(s) of Those Involved: _____

Location of Incident: _____ **Project Name**: _____

Project Number: _____

Type of Incident* (check those that apply):

___ Injury ___ Vehicle Accident

___ Underground Property Damage ___ Aboveground Property Damage

___Other (describe) _____

* Submit copy of Health & Safety Plan and Attachments for field-related incidents.

Description of Incident: _____

_____

_____

_____

Action Taken: _____

_____

Names & Contact Information of Witnesses: _____

_____

Name of Individual Completing Form	Signature	Date
Project Manager Name	Signature	Date
Corporate Health & Safety Manager	Signature	Date

(Attach additional documentation as necessary.)
*COMPLETED FORM TO BE FORWARDED TO HR

STANDARD SAFETY PROCEDURE 05: NOISE AND HEARING PROTECTION

INTRODUCTION AND SCOPE

This Standard Safety Procedure refers to the requirements for noise control, evaluation, and protection on a worksite.

KEY HAZARD

Hearing Loss

NOISE EVALUATION

Note: Anyone who will evaluate noise exposures must either be a formally trained industrial hygienist or have received training in noise monitoring and its interpretation.

It is important to collect representative noise monitoring data. If site conditions or tasks for which representative data have not yet been collected are identified, noise monitoring should be conducted. The types of site conditions or tasks that may require noise monitoring are described below:

- Work performed adjacent to noisy industrial operations or processes on-site.
- Work performed on a project site with noisy operations in close proximity.

Noise measurements should be taken using two kinds of equipment:

- Personal dosimetry—to assess employee exposure over an 8-hour day when working around noisy processes or equipment and to take into account all noise exposures during the day.
- Handheld sound level meter—to assess the contribution of specific sources.

A noise dose of 50 percent, equivalent to an **8-hour exposure at an average of 85 decibels** on the A scale (dBA), requires hearing protection and enrollment of the employee in a program of annual audiometric testing. When a work shift will exceed 8 hours, the allowable dose must be adjusted as required by Title 296, Chapter 817, Section 300 of the Washington Administrative Code (WAC 296-817-300) and/or the dosimeter manufacturer. Each 3 dBA increase results in half the amount of exposure time to receive the same noise dose.

HEARING PROTECTION

The use of hearing protection is required when employees will be working around a process, piece of equipment, or task where the noise exposure has been documented to have the potential to exceed 85 dBA as an 8-hour exposure.

If a noise exposure has not been assessed, SoundEarth personnel are to employ a conservative approach to the use of hearing protection around such processes, equipment, or tasks. If it seems noisy, then hearing protection should be worn.

Engineering Controls:

- Choose low-noise tools and machinery, when possible
- Maintain and lubricate machinery and equipment
- Place a barrier between the noise source and the workers
- Enclose or isolate the noise source

Hearing Protection:

- Ear plugs, ear caps, or ear muffs
  - Different levels of hearing protection must reduce worker exposure to a level below 85 dBA.
  - Check the Noise Reduction Rating (NRR) of the hearing protection. The NRR minus 7 dBA is the reduction in noise exposure. For example, exposure at 90 dBA with earplugs with a 17 NNR would reduce the employee exposure from 90 dBA to 80 dBA.

OTHER CONSIDERATIONS

If SoundEarth personnel encounter a noisy situation that has not been previously monitored, they should take a conservative approach and use appropriate hearing protection.

For reference:

- 130 dBA = jackhammer
- 120 dBA = jet plane take-off, car stereo, band practice
- 110 dBA = machinery
- 100 dBA = snowmobile, chain saw, pneumatic drill
- 90 dBA = lawnmower, shop tools, truck traffic
- 80 dBA = alarm clock, busy street
- 60 dBA = conversation, dishwasher
- 50 dBA = moderate rainfall
- 40 dBA = quiet room

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1910, Standard 95 of the Code of Federal Regulations and WAC 296-817—Hearing Loss Prevention.** This chapter defines the requirements for a hearing conservation program, including noise measurement and computation, audiometric testing, and hearing protective equipment.

STANDARD SAFETY PROCEDURE 06: CHEMICAL HAZARD CONTROLS

INTRODUCTION AND SCOPE

The control of chemical hazards is a necessary component of safety management on a worksite where the remediation of environmental hazards is involved. Chemical hazards pose a wide range of health hazards. Controlling exposures is a fundamental method of protecting workers.

KEY HAZARD

- Exposure to hazardous chemicals

PRECAUTIONARY MEASURES

The specific chemical hazard potentials should be identified for each site. Once identified, chemicals must be fully characterized before they can be property controlled.

Sources of chemical hazard information include product Safety Data Sheets; chemical hazard summaries, such as the National Institute for Occupational Safety and Health (NIOSH) Pocket Guide; U.S. Environmental Protection Agency hazard summaries; Occupational Safety and Health Administration Safety and Health Topics; NIOSH Health Hazard Evaluations; American Conference of Governmental Industrial Hygienists (ACGIH) documentation of Threshold Limit Values; and American Industrial Hygiene Association Workplace Environmental Exposure Levels.

Most of these documents provide regulatory or recommended exposure limits. They also provide information on the nature of the hazard—physical properties and flammability as well as health hazards, including signs and symptoms of exposure. Table 1, Chemical Hazards, located in the site-specific Health and Safety Plan (HASP) template, briefly summarizes this information for the contaminants that might commonly be encountered. Additional information listed in this table includes the level at which chemicals are Immediately Dangerous to Life or Health (IDLH), the Lower Explosive Limit (LEL), whether or not the chemical can be absorbed through the skin, and basic air monitoring methods for each chemical.

All employers with hazardous chemicals in their workplaces must have labels and Safety Data Sheets for their exposed workers, and train them to handle the chemicals appropriately. The training for employees must also include information on the hazards of the chemicals in their work area and the measures to be used to protect themselves.

Determine the process or activity that may result in exposure and the potential routes of exposure. As part of characterizing how the exposure could occur, ventilation or other mitigating factors should also be considered, as well as enclosed spaces or other factors that could increase the hazard.

Also assess nearby processes that may not be part of the processes which SoundEarth Strategies, Inc. (SoundEarth) personnel are directly involved.

ENGINEERING CONTROLS

Several means are available to control the potential for exposure to chemical hazards:

- From an exposure control perspective, site control involves establishing clearly marked and identified regulated areas and decontamination stations.
- Substitution—if a chemical product that is hazardous is being used and a less hazardous one can be substituted, this can reduce the potential for exposure.
- Natural ventilation is an advantage if work can be conducted upwind of any hazardous exposure potentials. When there is a potential flammable hazard, ventilation should be employed to maintain gas or vapor levels below 10 percent of the LEL, spark-proof and explosion resistant tools should be used, and air should be tested continuously with a combustible gas monitor.
- Isolate or enclose the hazardous process where possible.
- Consider changes to the process that may minimize the direct contact with hazardous chemicals.
- Dust should be controlled by applying water or other dust suppressant.
- Rotate job assignments or adjust work schedules to avoid overexposure to a hazardous chemical.

PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) may include safety glasses or goggles, face shield, hearing protection, hard hat, gloves, steel-toed shoes or boots, rubber boots with steel toes, reflective safety vest, and disposal coveralls. SoundEarth does not allow the use of employee-owned PPE. General site PPE requirements include safety glasses, safety vest, and steel-toed shoes or boots as a minimum, with hearing protection in any noisy areas and a hard hat where there may be an overhead hazard. Other PPE depends on the requirements of the site (owner, operator, or contractor requirements) and the potential hazards present. On hazardous waste or remediation sites, levels of protection are assigned primarily based on the seriousness of potential chemical hazards and the level of respiratory protection and other PPE required. PPE levels range from Level D (least protective) to Level A (most protective). In brief, the levels are summarized as follows:

- **Level D—**no respiratory protection, minimal skin protection.
- **Level C—**air-purifying respirator, skin protection that includes disposable chemical-resistant coveralls and chemical-resistant boots and gloves.
- **Level B—**pressure-demand, full-facepiece self-contained breathing apparatus (SCBA) or pressure-demand, full-facepiece supplied-air respirator with 5-minute escape bottle, with skin protection similar to that for Level C. This is the recommended minimum protection where hazardous unknowns may exist or during initial air monitoring in the case of extremely hazardous compounds.
- **Level A—**pressure-demand, full-facepiece SCBA or pressure-demand, full-facepiece supplied-air respirator with 5-minute escape bottle, with fully-encapsulating chemical-resistant suit.

Normally, SoundEarth personnel use Level D protection in a remediation situation. Leather gloves may be used for protection from cuts and abrasions but should be lined with a nitrile inner glove and cannot be reused once exposed to chemical contamination. Level C protection, with an air-purifying respirator, may also be necessary on certain sites.

SoundEarth personnel should not enter a Level A or B environment without permission of the Corporate Health and Safety Administrator. Work in Level C or above requires the use of the buddy system, in which two people are assigned to work together and keep track of one another, monitoring each other for signs and symptoms or exposure.

Respiratory protection should be chosen based on air monitoring results. Other considerations in respirator selection include the purpose of the respirator, the potential for oxygen deficiency, and whether or not eye protection is required. Note that SoundEarth personnel are not permitted to enter an oxygen-deficient or IDLH atmosphere.

SoundEarth personnel must be medically evaluated to determine their ability to wear a respirator before being assigned to use a respirator, and an annual fit test must be provided. Facial hair that would interfere with respirator fit is not allowed.

DECONTAMINATION PROCEDURES

For contaminant control, entry into and out of the site is controlled in order to limit the spread of contamination and to maintain adequate protection within the more hazardous areas of the site, allowing entry only for authorized persons and at designated entry and exit points. A more complex site or one involving regulated hazardous materials may include an Exclusion Zone, a Contaminant Reduction Zone with access points through a Contaminant Reduction Corridor for entry and exit, and a Support Zone (or Safe Zone).

The Exclusion Zone is the area of most significant contamination and work may be conducted only with the most stringent level of PPE specified for the site. The Contaminant Reduction Zone is an area of lesser contamination surrounding the Exclusion Zone where work can be conducted using a lesser level of PPE. Outside of the Contaminant Reduction Zone (or beyond the Exclusion Zone on a simpler project) is the Support Zone, where PPE is not required. Decontamination takes place in the Contamination Reduction Corridor or, in a simpler scenario, at the access points to the Exclusion Zone.

Personnel entering the site are required to log in at the access point and log out upon exiting the site.

The Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (refer to Additional Information below) provides more information on establishing control zones.

Decontamination facilities are set up to enable people to don protective clothing and equipment (see next section) when entering and to remove and/or decontaminate that clothing and equipment when exiting. In general, decontamination steps are as follows:

- Using equipment drop for the decontamination of sampling and other portable equipment taken into the site using essentially the same steps described for protective equipment.
- Physical cleaning of disposable outer garments by wiping off excess material onto a plastic sheet that can be picked up and disposed of.
- Disinfecting (biological agents) or inactivating chemicals, if necessary, on reusable boots and gloves; may require dilute acid or alkaline solution or detergent, such as Alconox, or an appropriate solvent rinse.

- Rinsing of reusable boots and gloves in potable water.
- Removing and bagging of outer boots and gloves.
- Removing and disposing of disposable outer garments, respirators, and glove liners.
- If not disposable, removing of respirator and disposing of used cartridges.
- Washing of hands and face; showering as soon as possible.
- Cleaning of respirator facepiece in mild detergent solution and rinsing in clean potable water; bagging for later final cleaning and air drying in respirator cleaning station.

All cleaning solutions and rinse water must be collected for appropriate disposal as hazardous material.

In addition, sampling and other portable technical equipment can be protected from contamination by wrapping in plastic to minimize the need for decontamination before leaving the site.

If necessary, a decontamination station should be set up for trucks and heavy equipment used on the site. This equipment should be thoroughly washed down with potable water. It may be necessary to collect this water for disposal as hazardous waste, depending on the site and the nature of the contamination.

In the event of an emergency, where immediate evacuation or medical treatment is necessary to prevent loss of life or severe injury, decontamination should be delayed until the evacuation is complete and/or the victim is stabilized. SoundEarth does not normally work on sites where site- or task-related hazards are so severe that decontamination could not be delayed.

TRAINING REQUIREMENTS

- Hazardous Waste Operations:
  - 24-, 40- or 80-hour training, depending on job tasks and exposure potential, discussed in "Table 3, Training Requirements" in Title 296, Chapter 843, Section 20010 of the Washington Administrative Code (WAC 296-843-20010).
  - Annual refresher training—8 hours every 12 months.
  - Respiratory Protection.

OTHER CONSIDERATIONS

SoundEarth subcontractors are responsible for developing and implementing their own HASPs to maintain the protection of their personnel and to protect other personnel, the site, and the public from damage, injury, or illness as a result of their activities.

However, SoundEarth personnel are generally responsible for implementing systems to contain chemical hazards within a controlled hazardous materials work area and for maintaining appropriate procedures and PPE for the protection of individuals working within the area of contamination. In this case, subcontractors, other contractors and site personnel, and visitors are expected to comply with the systems established by SoundEarth. SoundEarth will direct and monitor compliance with the systems that

have been implemented but will refer personnel who refuse to comply to their respective management for enforcement of required procedures. Visitors who do not comply will be denied entry into the site.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1910, Standard 1910.120 of the Code of Federal Regulations (29 CFR 1910.120) and WAC 296-843—Hazardous Waste Operations (HAZWOPER).** This chapter addresses the requirements for working safely on a hazardous waste site or in the event of a chemical spill. It includes the requirements for a written HASP and addresses most of the specific topics discussed in this Standard Safety Procedure.

  It also addresses medical surveillance from a general perspective. Specific requirements for chemicals with substance-specific standards, such as benzene and asbestos, are also addressed. Another reference that provides recommendations for biological monitoring is the ACGIH current annual book of Threshold Limit Values and Biological Exposure Indices (BEIs), which lists BEIs.

- **29 CFR 1910.119 and WAC 296-67—Process Safety Management of Highly Hazardous Chemicals.** This chapter defines the requirements for a process safety program for the management of highly hazardous chemicals and complex chemical systems.

STANDARD SAFETY PROCEDURE 07: AIR MONITORING

INTRODUCTION AND SCOPE

Airborne contaminants can present a significant threat to workers. Identification and air monitoring should be conducted to assess the potential exposure on sites and is important to ensure the health and safety of workers. Air monitoring should be done when there is potential for airborne levels of contaminants, either present on the site or generated by the task.

KEY HAZARD

- Chemical Exposure

PRE-FIELD CONSIDERATIONS

- Identify the potential chemicals or airborne hazards present on the site.
- Identify the source or task that generates the hazard.
- Evaluate the effectiveness of existing or proposed control measures.
- It is recommended that an industrial hygienist be consulted in regard to the sampling or be engaged to perform the monitoring directly.

AIR MONITORING APPROACHES

Air monitoring may be performed either by using site monitoring equipment, direct-reading equipment, or by collecting air samples for chemical analysis, as appropriate.

Site Monitoring

Site monitoring priorities will be based on information from the initial site characterization. Four categories of site monitoring may be necessary:

- Monitoring for Immediate Danger to Life and Health (IDLH) conditions – Air monitoring for dangerous conditions such as flammable or explosive atmospheres, oxygen-deficient environments, or highly toxic levels of airborne contaminants. Extreme caution should be used when monitoring for IDLH conditions. SoundEarth Strategies, Inc. (SoundEarth) personnel are not permitted to enter any confined space.
- General on-site monitoring – Air sampling should be conducted to identify the major airborne contaminants and concentrations present on the site. Modified Level D protection should be used during the initial sampling. Sampling should start downwind, and work upwind until reaching the source area. Levels of personal protective equipment (PPE) should be based on the initial air monitoring results.
- Perimeter monitoring – Fixed location at the site perimeter, to measure contaminant migration from the site.
- Periodic monitoring – Air monitoring should be conducted periodically as site conditions or work changes. If work begins on a different portion of the site, different contaminants are present, or

a different task is being performed, additional monitoring should be conducted to assess the potential change in atmospheric conditions.

Direct-reading instruments include the following:

- Combustible gas meters, which measure the concentration of combustible gas or vapor. Combustible gas meters are not compound-specific; however, they are often included in a combination gas meter that reads combustible gases and several common compounds, such as carbon monoxide, oxygen, and hydrogen sulfide. Certain gas meters may be able to detect other compounds.
- Portable volatile organic compound (VOC) monitors, which use a photoionization detector (PID) to measure VOCs in the parts per million and/or parts per billion range. These can be calibrated to specific compounds but are often used more broadly. Often, they are set to hexane or methane as a reference, or they may be set to be benzene-specific, since benzene is commonly the VOC on remediation sites with the lowest permissible exposure limit (PEL).
- Single-gas personal monitors, which can be used where continuous monitoring is required, with an alarm capability.
- Colorimetric detection tubes, which are compound-specific. A hand-held pump may be used to spot check for a particular chemical, or a colorimetric detector tube may be worn with a continuously operating pump for a personal sample over a longer period of time.

Laboratory Samples

Air samples can be collected on various types of filters and treated or impregnated filters, on charcoal and other adsorbent tubes, and on organic vapor badges. Often monitoring with direct reading instruments is not sensitive enough to measure low concentrations of potential toxins or are limited because they only measure specific substances. To measure low-level contaminants, laboratory analysis of air samples may be necessary.

The appropriate sampling media will depend on the specific chemical and the physical state of the chemical. Specific air sampling methods are discussed in the SKC Guide to OSHA/NIOSH/ASTM Air Sampling Methods and can be accessed at <http://www.skcinc.com/OSHA-NIOSH/default.asp>. A guide from a comprehensive industrial hygiene laboratory, such as Galson Laboratories Inc. <http://www.galsonlabs.com/samplinganalysis/sampling-analysis-guide/>, is also useful.

AIR MONITORING RESULTS AND ANALYSIS

If it is determined that there is a potential airborne hazard, initial air samples must first be collected and compared with the Department of Occupational Safety and Health PEL or other applicable exposure limit. If representative exposure monitoring shows that exposures are likely to be less than one-half the PEL (or less than the action level [AL] in the case of a compound with a substance-specific standard that includes an AL), then monitoring may be discontinued.

If the initial sampling exceeds one-half the PEL, where there is no substance-specific standard, then additional monitoring should be done to obtain a statistical analysis that confirms with a 95 percent

upper confidence level that the PEL will not be exceeded. If the PEL may be exceeded, then the controls discussed in the next section of this Standard Safety Procedure must be provided.

If the chemical being monitored has a substance-specific standard, then a determination must be made of whether or not the AL is exceeded. Refer to the specific standard in question. Generally, exposures exceeding the AL require medical surveillance and additional monitoring. Where the exposure exceeds the PEL, the remaining required controls must be implemented, which typically include regulated areas, hygiene facilities, respiratory protection, and PPE.

In addition to compound-specific air monitoring, VOC or combustible gas monitoring may be conducted. In general, a VOC level above 5 parts per million (ppm) requires additional evaluation. A combustible gas reading exceeding 10 percent of the LEL requires that work be stopped, the source evaluated and controlled, and additional sampling be conducted. Work may not resume until readings are below 10 percent of the LEL.

Air monitoring data should be recorded on the attached Air Monitoring Log.

APPLICABLE PPE AND PERSONAL MONITORING

Standard PPE should be worn. Modified Level D should be worn (respirator with cartridge appropriate to the potential exposure) during initial site sampling if concentrations are unknown.

Personal monitoring samples can be collected to evaluate worker safety. The personal monitoring sample should be collected from the breathing zone, while working closest to the source. If workers closest to the source are not significantly exposed, then other workers do not need to be monitored. The type of medium for collection is compound-specific. Most media require a personal pump, worn by the employee for a time weighted average (TWA) sample. In some cases (asbestos area samples), a high-volume pump may be used. This pump requires an electrical outlet or generator to energize the pump. Air samples can be collected on various types of filters and treated or impregnated filters, on charcoal and other adsorbent tubes, and on organic vapor badges. Other kinds of sample collection media are available but less commonly used. An organic vapor badge is a small, self-contained collection device that works on the principle of diffusion and does not require a pump.

OTHER CONSIDERATIONS

Hazardous waste sites have several uncontrollable variables that can affect airborne concentrations. Changes in temperature, wind speed and direction, rainfall, moisture content, and work activities can all affect the vapor concentrations on a worksite. These factors should be considered when developing a site air monitoring program and during site work.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1910, Standard Number 1910.1000 of the Code of Federal Regulations and Title 296, Chapter 841 of the Washington Administrative Code—Airborne Contaminants.** This chapter includes a list of the airborne chemical contaminants for which a PEL has been established. In some cases (benzene, for instance), a substance-specific standard has been promulgated. In such a situation, that standard is referenced. Continuing with benzene as an

example, the PEL for benzene as a 1 ppm TWA and a 5 ppm Short-Term Exposure Limit. In addition, the substance-specific standard for benzene is listed.

Attachment:
Air Monitoring Log

AIR MONITORING LOG

Client:	
Project Name:	
SoundEarth Project Number:	
SoundEarth Field Representative:	

Sample Information												Laboratory Results		
Sample Number	Date	Worker/Area/ Pump/Instrument	Type	Start Time	Flow L/Min	Stop Time	Flow L/Min	Total Min	Average Flow L/Min	Total Volume L	Instrument Reading (include units)	Fibers / Field	Fibers / cc	Limit of Detection

Sample Types:
A = Area
C = Clearance
N = Negative Exposure Assessment
P = Personal
PRE = Pre Abatement
FB = Field Blank
LB = Lot Blank
X = Excursion

Analyzed By: _____

STANDARD SAFETY PROCEDURE 08: TEMPERATURE EXTREMES

INTRODUCTION AND SCOPE

Heat-related illness and cold stress are well-recognized hazards in the outdoor work environment. Heat stress is a condition that can develop when the body is unable to adequately cool itself through responses such as sweating and blood circulation. Employees may experience heat stress due to a combination of environmental factors such as temperature; humidity; radiant heat (i.e., from the sun or another heat source); air velocity; and the concurrent use of personal protective equipment (PPE). Cold stress is a condition caused by prolonged exposure to cold that results in lowered body temperatures. Cold stress can lead to hypothermia or frostbite.

Heat stroke and cold stress should be treated as medical emergencies.

KEY HAZARDS

- Heat Exhaustion or Heat Stroke
- Hypothermia or Frostbite

PRECAUTIONARY MEASURES

For Hot Conditions	For Cold Conditions
(1) Stay Hydrated. Drink at least one quart of water per hour. Drink water every 15 minutes.	(1) Avoid caffeine, nicotine, and certain medications.
(2) Sufficient potable water will be provided on each worksite.	(2) Take frequent breaks in heated shelter.
(3) Wear breathable clothing where possible.	(3) Drink warm, sweet liquids and eat warm, high-calorie food.
(4) Avoid caffeine, alcohol, and nicotine.	(4) Do not begin work with wet clothes or resume work with wet clothes. Wear layers, gloves, and a hat. Bring hand and foot warmers.
(5) Keep an eye on workers, minimize overexertion. Take frequent breaks in the shade.	(5) Monitor workers for symptoms of cold stress.

Consider if planned work will contribute to possible temperature exposures and if work can be safely completed in the current conditions.

SYMPTOMS

Heat Exhaustion: Heat rash, fainting, heat cramps; shallow breathing; profuse sweating; pale, cool, or moist skin; dizziness; and physical or mental exhaustion.

Heat Stroke: Red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong rapid pulse; coma.

Heat cramps: Muscle spasms, pain, usually in abdomen, arms, or legs.

Hypothermia: Sever shivering, fatigue, abnormal behavior, pain in fingers or toes, drowsiness, slowing, loss of coordination, confusion and disorientation, weakness.

Severe Hypothermia: No shivering, blue skin, dilated pupils, inability to walk, slow pulse and breathing, unconsciousness.

Frostbite: Localized. Ranges from sudden blanching or whitening of skin; skin becomes waxy and is firm to touch; tissues are cold, pale, and solid.

FIRST AID RESPONSE

Heat stroke and hypothermia are medical emergencies. Obtain help immediately.

If a worker is experiencing symptoms of heat exhaustion, place worker in cool, shaded area. Wet workers skin and increase air movement around worker. Replace fluids as soon as possible. Call for emergency help if signs and symptoms worsen or do not improve. If a worker is experiencing heat stroke, call 911 immediately. While waiting, follow the same procedure as heat exhaustion. Stay with the worker until help arrives.

If a worker is experiencing symptoms of hypothermia or frostbite, move the worker into a warm room or shelter. Remove wet clothing. Warm the center of their body first – chest, neck, head, and groin – using electric or regular blankets. Do not cover their face. Place warm bottles or hot packs in armpits, sides, and groin, if possible. Give warm sweetened drinks, but do not give alcoholic beverages. Do not give beverages to an unconscious person. For localized frostbite, do no walk on frostbitten toes or feet. Immerse the area in warm (but not hot) water or warm the affected area using body heat. Do not rub or massage the frostbitten area.

APPLICABLE PPE AND CONTROLS

Standard PPE is required on all worksites. If Tyvek or additional layers of PPE are required during hot temperatures, the action temperature will be lower. The following table presents the temperatures at which the above precautions should be taken, based on the type of clothing and/or PPE being worn:

Type of Clothing/PPE	Action Temperature
Non-breathable clothes, including vapor-barrier clothing or PPE such as chemical-resistant suits	52 °F
Double-layer woven clothes, including coveralls, jackets, and sweatshirts	77 °F
All other clothing	89 °F

NOTE:
°F = degrees Fahrenheit

OTHER CONSIDERATIONS

During all times of the year and regardless of temperature, adequate potable water must be supplied to each worksite. Staff trained in first aid must also be present at each worksite.

TRAINING REQUIREMENTS

- Site Managers must be trained in preventing heat related illnesses and cold stress prior to employee supervision. All supervisors and employees will be trained in emergency response procedures.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

Occupational Safety and Health Administration (OSHA). Safety and Health Topics, Occupational Heat Exposure. Available online at <http://www.osha.gov/SLTC/heatstress/index.html>.

Safety and Health Topics, Emergency Preparedness and Response, Safety and Health Guides, Cold Stress. Available online at <http://www.osha.gov/SLTC/emergencypreparedness/guides/cold.html>.

Cold Stress Equation. Available online at <http://www.osha.gov/Publications/coldcard/coldcard.html>.

U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health. Prepared by National Institute for Occupational Safety and Health, Occupational Safety and Health Administration, U.S. Coast Guard, and U.S. Environmental Protection Agency. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities. Chapter 8 of Publication No. 85-115. October 1985.

STANDARD SAFETY PROCEDURE 09: ERGONOMICS

INTRODUCTION AND SCOPE

Good ergonomics is essential to everything we do. Whenever we work, we move—we lift, push, and pull. We hold a position at our desk. We reach for something. To create an ergonomic workplace, all SoundEarth Strategies, Inc. employees must consider how the workplace is designed and how we move and use our bodies in our work.

KEY HAZARD

- Bodily Injury

PRECAUTIONARY MEASURES

While you may not be performing the tasks described or for the time periods described, it is useful to consider the nature of the postures you assume to do your job. Awkward postures include kneeling, squatting, reaching overhead, and working with your neck or back bent. One key to good ergonomics is to maintain a neutral spine and a neutral position in critical joints, such as the wrists, which are subjected to repeated motions.

Consider the work you are doing and look for opportunities to eliminate awkward postures, use them less, or use them with less weight or force. Be aware of your own limitations, including pre-existing injuries, which might make you more likely to sustain further injury. Find opportunities to improve your own ergonomics and help others to do so, too. If you need help with a task, ask.

Lifting loads over 50 pounds will increase the risk of injury.

LIFTING TECHNIQUES

- Lift with your legs, not with your back. Bend at the knees, not at the waist, to maintain the proper spine alignment.
- While carrying materials, hold within the “power zone”: close to your body, between mid-thigh and mid-chest.
- Use ramps, lift-gates, or other mechanical means where available.
- Use two or more people for heavy objects.
- Avoid twisting or reaching while lifting.

OFFICE ERGONOMICS

When working at your desk, the best postures for your neck and your wrists are neutral postures. Try to assume a posture that allows your joints and muscles to be reasonably relaxed.

Also, consider how you might vary your task and your position. For instance, placing your wastebasket on the other side of the room will force you to get up periodically and move about. Our bodies are made for movement and don’t like to assume a static position for too long, especially if that position is awkward or unnatural.

To rest your eyes, look for opportunities throughout the day to focus at a distance. Your eyes, like any other part of your body, become strained when forced to maintain a single position for too long.

These are examples of simple ways to improve your own office ergonomics. However, if your workstation configuration forces you to adopt an unnatural position for extended periods of time and especially if you experience discomfort, contact the Corporate Health and Safety Administrator (CHSA) for assistance in solving the problem.

APPLICABLE PPE AND CONTROLS

Use mechanical controls to assist with lifting, where applicable and available. Use suction devices to lift boxes or other smooth surfaces which places a temporary handle to make lifting easier.

OTHER CONSIDERATIONS

Good ergonomics involves asking questions. Is this the best way to lift this piece of equipment? If you are uncomfortable at your desk or workstation, ask the CHSA to evaluate your concern.

STANDARD SAFETY PROCEDURE 10: ELECTRICAL SAFETY

INTRODUCTION AND SCOPE

This standard safety procedure (SSP) addresses the requirements for electrical safety on project worksites, with an emphasis on basic electrical safety precautions, including grounding and work around overhead power lines. This SSP addresses procedures and guidelines to eliminate injuries resulting from possible malfunctions or improper grounding.

The SSP also addresses energy control. The purpose of energy control (i.e., lockout/tagout procedures) is to prevent sometimes severe injuries that result from the unexpected or unintended motion, energizing, or start-up of equipment or from the release of stored energy. Employees of SoundEarth Strategies, Inc. (SoundEarth) do not normally perform work requiring lockout/tagout. However, they should be able to identify such a situation. Only authorized persons who have received specific training in the control of hazardous energy are permitted to perform lockout/tagout.

KEY HAZARDS

- Electric shocks, arcs, and blasts
- Electrocution

EMERGENCY PROCEDURE

- If an electrocution occurs, do not touch the person who is in contact with a live power line. Dial 911 immediately for emergency assistance.

BASIC ELECTRICAL SAFETY

- All electrical equipment must be used only for its approved or listed purpose. This includes electrical outlets and extension cords.
- Assume all overhead wires are energized at lethal voltages.
- In wet or damp locations, use only equipment designed for that purpose.
- Do not use equipment if the original approvals/markings have worn off.
- Do not remove or modify equipment guards.
- Inspect all electrical equipment, including cords and connections, before use.
- Maintain all flexible cords and cables in good condition and use them only as approved.
- Damaged items shall be tagged “DO NOT USE” and removed from service until repaired and tested.
- Protect all flexible cords and cables from pinching, cutting, or crushing that could damage insulation and expose an electrical hazard.
- Do not run flexible cords through holes in walls, ceilings, and floors or through doorways and windows.
- Do not attach flexible cords to building surfaces.

- Do not use electrical cords to raise or lower equipment.
- Keep cords out of walkways or anywhere they might present a tripping hazard.
- Do not plug or unplug energized equipment or extension cords if your hands are wet.
- Employees of SoundEarth are not allowed to open high-power electrical cabinets on client facilities or to enter client structures that house high-power equipment.

OVERHEAD POWERLINES

The following precautions should be taken when working near overhead power lines:

- Know the location and height of all overhead power lines before starting work.
- Check that any non-SoundEarth personnel working under SoundEarth direction or oversight who will be operating mobile cranes, drilling rigs, excavators, or other equipment with an overhead reach are aware of overhead power lines and their height in relation to the equipment.
- Maintain a safe working distance (at least 10 feet) between equipment and overhead wires and power transmission lines. Very high voltage levels (over 50 kilovolts) require distances greater than 10 feet.
- Contact the overhead power utility or owner of the overhead lines if there might be difficulty maintaining the minimum safe distance to determine a safe approach to the work.
- Do not allow scaffolds, portable ladders, pipes, or tools to come within 10 feet of power lines. Use only nonconductive wooden or fiberglass ladders; do NOT use aluminum ladders.
- Use a trained and qualified spotter whenever it might be difficult for the equipment operator to judge and maintain the required distance.
- If there is any possibility that equipment could contact the power lines, keep personnel working below the lines well away at all times.
- Remember that electronic warning devices can also be installed on cranes or other equipment to alert the operator if the boom is coming too close to an energized line.

In the event that a power line is downed, take the following additional precautions:

- Never touch a downed power line; assume it is live.
- If your vehicle contacts an overhead power line, do NOT leave the vehicle or touch anything that might be metal.
- If you are forced to jump out of a vehicle because of fire, do not touch the vehicle, anything metal or any wires and keep your feet together.

LOCKOUT/TAGOUT PROCEDURE AWARENESS

Cord-and-plug equipment is the only type of equipment expected to require energy control by SoundEarth personnel. Therefore, SoundEarth personnel are not trained to perform more complex lockouts and are considered authorized only to lock out a cord-and-plug device.

Work on cord-and-plug-connected electrical equipment is exempt from the requirement to lock out the equipment when the following two conditions are met:

- Exposure to the hazards of unexpected energization or start-up of the equipment can be controlled by unplugging the equipment from the energy source —*and*—
- The plug is under the exclusive control of the employee performing the servicing or maintenance.

The following basic procedure applies to locking out cord-and-plug equipment when the plug is out of sight or otherwise not directly in your control:

- Check that the machine or equipment has a single cord-and-plug energy source that can be readily identified and isolated.
- Check that the machine or equipment has no potential for stored or residual energy or accumulation of stored energy after shut down, which could endanger employees.
- Isolate the energy source to completely de-energize and deactivate the machine or equipment.
- Apply your personal lock to the plug using an appropriate lockout device to accommodate the lock.
- Apply a notice to the lockout/tagout device that explains the reason for the lockout control and identifies the responsible party who has authority to remove the controls.
- Keep the key to your personal lock under your exclusive control during the servicing or maintenance.
- Be sure that the servicing or maintenance does not create hazards for other employees.
- Fill out the Lockout/Tagout Audit Record Form (attached).
- Remove the lock when the servicing or maintenance is completed.
- If the lock is removed by a supervisor, complete the Supervisor Removal of Lockout/Tagout Device Form (attached).
- Keep your lock and key in a secure place until the next time they are required.

Note that incidents involving the unexpected activation or re-energization of a machine or equipment during servicing or maintenance requires the use of a more extensive procedure.

CONTROLS – GROUNDING EQUIPMENT

The ground fault circuit interrupter (GFCI) is a fast-acting circuit breaker that senses small imbalances in a circuit caused by current leakage to the ground and, in a fraction of a second, shuts off the electricity. It is important to understand what protections a GFCI does and does not provide.

- A GFCI protects against the most common form of electrical shock hazard—the ground fault—and also protects against fires, overheating, and destruction of insulation on wiring.
- A GFCI does not protect against line-to-line contact hazards, such as holding two “hot” wires or a hot and a neutral wire in each hand.

At construction sites, GFCIs must be used on all 120-volt, single-phase, 15- and 2-ampere receptacle outlets that are not part of the permanent wiring of the building or structure.

TRAINING REQUIREMENTS

- Awareness training for all personnel.
- Basic training in the lockout of a cord-and-plug device.
- Certified training, as required by the standard, for personnel who must use lockout/tagout for other forms of hazardous energy control.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1910, Standard 1910.301 through 1910.308 of the Code of Federal Regulations (29 CFR 1910.301-308) and Title 296, Chapter 800, Section 280 of the Washington Administrative Code (WAC 296-800-280)—Basic Electrical Rules.** This chapter defines the requirements for protecting employees from the hazards of working with electrical equipment, tools, and appliances. (Note that the comparable rules under the Occupational Safety and Health Administration are more spread out. The Washington Industrial Safety and Health Act of 1973 standards are more readily accessible and easily referenced.)
- **29 CFR 1910.147 and WAC 296-803—Lockout/Tagout (Control of Hazardous Energy).** This chapter presents the requirements for using lockout/tagout as an energy source control. This control reduces the risk of a person being injured by the unexpected energization or start-up of a machine or equipment.

Attachments:
Lockout/Tagout Audit Record Form
Supervisor Removal of Lockout/Tagout Device Form

SoundEarth Strategies

LOCKOUT/TAGOUT AUDIT RECORD FORM

INSPECTOR:_____ DATE: _____

EQUIPMENT INSPECTED: _____

LOCATION OF EQUIPMENT INSPECTED: _____

AUTHORIZED EMPLOYEE'S NAME: _____

Observations

Observations

1. Foremen and affected personnel notified of lockout/tagout activity? _____
2. The entry/exit inventory sheet has been checked and all personnel have exited the lockout area and are accounted for? _____
3. All energy sources deenergized and isolated? _____
4. All lockout/tagout devices applied properly? _____
5. If a lockout is used, has a tag also been applied? _____
6. All tags filled out correctly? _____
7. System tested (i.e., Tryout) for deenergization prior to workstarting? _____
8. Proper transfer procedures used, if applicable? _____
9. Foremen and affected personnel notified before reenergization procedures begun?

SoundEarth Strategies

SUPERVISOR REMOVAL OF LOCKOUT/TAGOUT DEVICE FORM

DATE:_____ TIME: _____

1. Name of lockout/tagout installer: _____

2. Efforts made to locate the person who installed the lock or tag:

   a. Called on radio: _____

   b. Contacted supervisor: _____

   c. Checked parking area: _____

   d. Called home: _____

   Was contact made? _____
   If yes, by whom?_____

3. Explain why this lockout/tagout removal is necessary:

   _____
   _____
   _____
   _____

4. Has the entire portion of the system under lockout/tagout been inspected and been found to be safe to reenergize? Has it been verified that the person is not in the area?_____
   If yes, by whom?_____

5. Have all personnel in the area of the system been notified of the pending reenergization? If yes, by whom?_____

6. **WARNING: The authorized employee whose lockout/tagout has been removed must be informed of the removal before he/she is allowed to resume work.**

7. The lockout/tagout device may be removed only by the person signing below.

   Supervisor: _____

STANDARD SAFETY PROCEDURE 11: LADDER SAFETY AND WORK AT HEIGHTS

INTRODUCTION AND SCOPE

The following procedure applies to all SoundEarth Strategies, Inc. (SoundEarth) employees who perform work at heights that may require the use of a ladder or fall protection.

Falls are the leading cause of on-the-job deaths in construction, and they happen in an instant. The average person's reaction time is half a second—the time it takes to fall 4 feet. This Reference presents steps and procedures for reducing the risk of falls from a height, including the safe use of ladders, precautions to take when working on scaffolds, and the use of personal fall protection.

KEY HAZARDS

- Fall from heights
- Falling onto hard surfaces
- Overhead equipment falling on personnel
- Correct use of fall protection

PRECAUTIONARY MEASURES

SoundEarth employees should only use properly manufactured ladders. The following general precautions and procedures should be followed:

- Identify all potential tripping and fall hazards before work starts.
- Practice good housekeeping to minimize tripping hazards.
- Ladders should be inspected by a competent person for visible defects before every use.
- Ladders that are identified with structural defects shall be removed from service until properly repaired.
- Identify the appropriate fall protection for the work being completed.

GENERAL LADDER REQUIREMENTS

- The self-supporting and non-self-supporting ladders shall both be able to support a least 4 times the maximum intended load to be used. Check with the manufacture for the maximum intended load. For 1A metal or plastic ladders that are extra heavy duty, the ladder shall support 3.3 times the maximum intended load.
- Ladder side rails shall extend a minimum of 3 feet (0.9 meter) above the top of a landing surface. If the ladder is not able to be extended then the ladder shall be secured at its top to a rigid support that will not deflect and a grasping device, such as a grab-rail shall be provided.
- Every cleat must be cable of supporting at a minimum 1 load of 250 pounds (114 kilograms) applied at the center of the cleat.
- The cleats of the ladder shall be parallel, level, and uniformly spaced when the ladder is in position for use and have some form of skid-resistance to prevent slipping.

- Extension ladders shall be placed at a minimum ratio of 4:1 feet (vertical over horizontal).
- Place the ladder only on stable and level surfaces.

LADDER USE SAFETY

- Employee(s) shall use the hand over hand method to grasp the ladder when progressing up and/or down the ladder. One hand must be on the cleat at all times. Maintain three points of contact while climbing.
- Always face towards the ladder while progressing up or down the ladder.
- Do not carry objects or a load that could cause the employee to lose balance or exceed the maximum load limit.
- Never stand on the top of a ladder.
- Ladders should only be used for the purpose for which they were designed.
- Keep the area below the ladder clear.
- Do not apply more weight on the ladder than it is designed to support per the manufacturer.
- Use only ladders that comply with OSHA design standards.
- Fall protection may be required depending on the type and height of ladder and type of work being performed. If there are any questions regarding the fall protection requirements employees shall contact the Project Manager or the Corporate Health and Safety Administrator.

SCAFFOLDING SAFETY

SoundEarth personnel do not normally erect scaffolds, but they might work on a scaffold erected by a contractor or subcontractor. A fall from a scaffold that has not been properly designed and erected can result in serious or even fatal injuries.

Take the following precautions before working on another party's scaffold:

- Do not use a scaffold unless you are authorized to do so.
- If possible, check whether the scaffold has been erected under the supervision of an appropriately trained and qualified competent person. Only materials designed for scaffold flooring can be used as walking/working surfaces.
- Do not mount a scaffold if it has not been erected on a firm and level footing, does not have guardrails on walkways, or does not have a permitted means of access, such as a ladder, stair tower, or ramp.
- Do not climb the crossbars of a scaffold.
- Do not work outside of the guardrails of a scaffold without using a personal fall protection system (see Step 4, below) that is secured to an anchorage capable of supporting a minimum fall impact load of at least 5,000 pounds. The fall protection system must never be attached to the scaffold!

- If a scaffold appears questionable, do not mount or use it. Check with the SoundEarth Corporate Safety and Health Administrator prior to using the scaffold.

FALL PROTECTION

If a SoundEarth employee will be working outside of established guardrails at a height of 4 feet or more, within the Washington State, a fall protection system must be utilized. Note that OSHA interprets this to include work above water.

Where fall protection is used for fall arrest, it must be capable throughout the system of supporting a minimum fall impact load of at least 5,000 pounds, applied at the lanyard point of connection. A full body harness must be used, with the attachment point of the body harness located in the center of the wearer's back near shoulder level or above the wearer's head. All system components must be designed for the purpose, compatible, and inspected before each use.

Prior to any SoundEarth employee's use of fall protection, a Site-Specific Fall Protection Work Plan (template attached) must be prepared for the site and the specific use, and the affected personnel must receive training in the procedures and equipment to be used. A method for the prompt, safe removal of injured workers must be addressed in both the Fall Protection Work Plan and the fall protection training.

APPLICABLE PPE

Standard PPE is required on all worksites.

TRAINING REQUIREMENTS

Washington

1. You must train employees to recognize ladder hazards and the procedures to minimize these hazards.
2. You must have a competent person train employees that use ladders in at least the following topics:
    a. The proper construction, use, placement, and care in handling ladders.
    b. The maximum intended load capacities of ladders that are used.
3. You must provide refresher training to employees as necessary to make sure they know and understand the content of the original training.

REGULATORY REFERENCES

29 CFR 1926.1053 "Ladders". 29 CFR 1926 Subpart L "Scaffolds".

Stairways and Ladders, A guide to OSHA Rules; OSHA publication 3124-12R 2003.

WAC 296-876 and -874 (Washington)

Title 8 CCR 3276 (California)

Occupational Health and Safety Administration (OSHA). “Stairways and Ladders: A Guide to OSHA Rules,” OSHA Publication No. 3124-12R, 2003.

Occupational Health and Safety Administration (OSHA). “A Guide to Scaffold Use in the Construction Industry,” OSHA Small Business Safety Management Series, OSHA Publication No. 3150, 2002 (revised).

Attachment:
Site-Specific Fall Protection Work Plan Template

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

SITE-SPECIFIC FALL PROTECTION WORK PLAN

PREPARED FOR USE BY SOUNDEARTH STRATEGIES, INC. EMPLOYEES

Property:
[Property Name]
[Street Address]
[City, State]

Prepared for:
[Client Name]
[Street Address]
[City, State]

Report Date:
[Month X, YEAR]

DRAFT – ISSUED FOR CLIENT REVIEW

Site-Specific Fall Protection Work Plan

Prepared for:

[Client Name]
[Street Address]
[City, State XXXXX]

[Property Name]
[Street Address]
[City, State XXXXX]

Project No.: [XXXX-XXX-XX]

Prepared by:

DRAFT

_____
[Name]
[Title]

Prepared by:

DRAFT

_____
[Name]
[Title]

DRAFT

_____
[Name]
[Title]

[Month X, YEAR]

FALL HAZARD IDENTIFICATION AND PROTECTION SELECTION WORKSHEET

In the table below, identify each fall hazard of 10 feet or more that exists or will exist during this construction project and then select the protection method from the options identified below the table.

√	Hazard Type	General Location(s)	Fall Protection Method	Overhead Protection
	Roof > 4/12 Pitch			
	Roof < 4/12 Pitch			
	Skylight Openings			
	Roof Openings			
	Floor Openings			
	Window Openings			
	Open-sided Floors			
	Decks			
	Balconies			
	Leading Edge Work			
	Mobile Lift Work			
	Excavation Edges			
	Grade Drop-Offs			
	Other _____			

Fall Protection Methods: Select a fall protection method from the list below for each hazard identified above. Assembly and implementation instructions for the method(s) used are located elsewhere in this document.

Standard Guardrails	Fall Arrest Harness	Fall Restraint Harness/Belt
Warning Line System	Safety Net	Cover or Hatch
Warning Line & Safety Monitor	Positioning Belt	Other: _____

Overhead Hazard Protection Methods: For each overhead hazard identified, specify the method(s) of protection for workers below. Refer to the "Overhead Protection" Section of this plan for any special installation instructions.

Hard Hats Required	Screens on Guardrails
Overhead Hazard Signs	Barricade to Control Access to Area
Debris Nets	Other: _____
Toeboards on Guardrails	Other: _____

FALL PROTECTION SYSTEM ASSEMBLY AND MAINTENANCE

Fall protection systems will be assembled and maintained according to manufacturer's instructions when using a manufactured system. A copy of these instructions will be attached to this Work Plan and available on-site for reference. Any fall protection system used will meet WISHA (Washington Industrial Safety and Health Act) regulations as contained in accordance with Title 296, Chapter 155 of the Washington Administrative Code (WAC 296-155) Part C-1. Assembly and maintenance instructions unique to this worksite such as components, placement of systems, anchor points, areas where systems are particularly subject to damage, etc., are specified below.

STANDARD GUARDRAILS:

- Must be 39 inches to 45 inches above the work surface at top rail with midrail and toeboard.
- Must be able to withstand 200 pounds of pressure on the top rail in any direction.
- Must not have significant deflection.
- Must be inspected regularly by the Site Manager for damaged or missing components.

Note: A guardrail does not protect a person standing on a ladder, box, or other surface above the work surface.

Post Material: _____ Rail Material: _____

Post Spacing (8 feet max): _____ Anchor Method: _____

Other Instructions: _____

FALL ARREST HARNESS:

- Must have anchor points capable of withstanding a 5,000-pound shock unless a deceleration device in use limits fall to 2 feet, in which case a 3,000-pound anchor point may be used.
- Free fall may not exceed 6 feet.
- A lower level may not be contacted during a fall.
- Lifelines must be placed or protected to prevent abrasion damage.
- Snap hooks may not be connected to each other, or to loops in webbing.
- Inspect components for deformation, wear, and mildew.

System Component List: _____

Anchor Point at this Worksite: _____

Configuration and Placement Sketch Attached? Yes _____ No _____

Other Instructions: _____

POSITIONING BELT:

- Employees must not be able to fall more than 2 feet.
- The anchorage must be able to sustain four times the intended load.
- Snap hooks must not be connected to each other, or to loops in webbing.

System Component List: _____

Anchor Point at this Worksite: _____

Other Instructions: _____

FALL RESTRAINT HARNESS/BELT:

Fall restraint protection must conform to the following provision:

- Personal fall restraint systems must be rigged to allow the movement of employees only as far as the unprotected sides and edges of the walking/working surface, and must consist of the following requirements:
  - A full body harness must be used.
  - The full body harness must be attached to securely rigged restraint lines.
  - All hardware assemblies for full body harness must be capable of withstanding a tension loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.
  - Compatibility of components must be ensured.
  - Anchorage points used for fall restraint must be capable of supporting four times the intended load.
  - Rope grab devices are prohibited for fall restraint applications unless they are part of a fall restraint system designed specifically for the purpose by the manufacturer, and used in strict accordance with the manufacturer's recommendations and instructions.

ANCHOR POINTS:

- Must withstand four times the intended load.
- Must ***always*** prevent a free fall from the work surface. (Several alternate anchor points may be necessary to achieve this requirement.)
- Inspect components for deformation, wear, and mildew.

System Component List: _____

Anchor Point at this Worksite: _____

Configuration and Placement Sketch Attached? Yes _____ No _____

Other Instructions: _____

SAFETY NETS:

- Must be installed within 30 feet vertically of the work surface. The potential fall area to the net must be unobstructed.
- Must extend out from the outermost projection of the work surface as specified in the table below:

Vertical distance from working levels to horizontal plane of net	***Minimum required horizontal distance of outer edge of net from the edge of the working surface***
Up to 5 feet	8 feet
More than 5 feet up to 10 feet	10 feet
More than 10 feet	13 feet

- Must be tested or certified to withstand a 400-pound object dropped from the highest work surface.
- Mesh at any point must not exceed 36 square inches with the largest opening being 6 inches side to side.
- Inspect weekly for mildew, wear, or damage and remove any objects in the net as soon as possible.

Note: A person falling into the net cannot contact any object below the net.

System Component List: _____

Anchor Point at this Worksite: _____

Maximum Fall Distance from Work Surface to Net: _____ Feet

Distance from Outer Edge of Net to Outermost Edge of Work Surface:

_____ Up to 5 Feet Fall = 8 Feet _____ 5 Feet to 10 Feet Fall = 10 Feet _____ > 10 Feet Fall = 13 Feet

Configuration and Placement Sketch Attached? Yes _____ No _____

Other Instructions: _____

COVERS OR HATCHES:

- Must be able to support twice the weight of employees and equipment that would be on it at the same time or twice the maximum axle load of the largest vehicle that would cross it.
- Must be secured to prevent accidental displacement.
- Must be marked with the word “Cover” or “Hole”.

Material to Use: _____

Other Instructions: _____

WARNING LINE SYSTEMS:

- Must blocked access to all fall hazards in the work area.
- Must be placed 6 feet back from the edge.
- Must be made of rope wire or chain between 39 inches and 45 inches above the surface height.
- Must be flagged at 6-foot intervals
- Must be attached to stanchions such that pulling on one section of chain will not take up slack in the other sections.
- Must have stanchions that are able to withstand a 16-pound force applied horizontally at 30 inches high.

System Component List: _____

Configuration and Placement Sketch Attached? Yes _____ No _____

Other Instructions: _____

CONTROLLED ACCESS ZONES:

- Must meet the "Warning Line System" requirements described above, 6 feet to 25 feet back from the edge plus the following when employees work between the fall hazard and the warning line (control zone).
- Must have a competent person designated as "Monitor" who:
  - Wears a high-visibility vest marked "Monitor".
  - Is in visual and voice range of employees in the control zone.
  - Is on the same working surface.
  - Has no other duties except watching, warning, and directing employees regarding fall hazards.
  - Has a maximum of eight employees working in the control zone (all of whom also wear high-visibility vests and are easily distinguishable from the Monitor).

This system is not to be used in adverse weather conditions such as snow, rain, or high wind, nor after dark.

Monitor(s): _____

Control Zone Employees:

_____ _____

_____ _____

_____ _____

_____ _____

OTHER FALL PROTECTION SYSTEM:

Provide a description of how the system is to be assembled, disassembled, operated, inspected, and maintained, including specifications for materials to be used in its construction:

_____

_____

_____

EMERGENCIES AND INJURIES:

First Aid Trained Employee(s) On-Site:

Name: _____ Title: _____

Name: _____ Title: _____

First Aid Kit Location(s): _____

Nearest Medical Facility: _____

Emergency Services Phone Numbers:

Medical: _____ Fire: _____ Police: _____

Location of Nearest Telephone: _____

If a crew member is injured at elevation, the Site Manager will evaluate the employee's condition and administer first aid. Emergency services will be called as needed. If an injured employee can't return to ground level, the employee will be brought down to a lower level by emergency services. The following equipment is available on-site to facilitate lowering the injured worker:

EMPLOYEE TRAINING:

All employees must be instructed on the provisions of this plan and have been trained in the proper use of the fall protection equipment involved. By signing this document, the employees acknowledge that they understand the plan and have been trained in the use of the equipment.

Name	Signature	Date

The competent person's signature verifies that the hazard analysis has been done, the employees informed of the plan's provisions and that employees have received training in the fall protection systems in use:

Name	Signature	Date

FALL PROTECTION TRAINING GUIDE FOR EMPLOYEES

SAFETY BELT, HARNESS, AND LANYARD INSPECTION AND MAINTENANCE

I. ANSI Classification:

Class I	Body belts—used to restrain a person from falling.
Class II	Chest harness—used for restraint purposes (NOT for vertical free fall hazards).
Class III	Full body harness—used for fall arrest purposes. Can also be used for fall restraint.
Class IV	Suspension/position belt—used to suspend or support the worker. If a fall arrest hazard exists, this must be supplemented by use of a safety harness.

II. Inspection Guidelines:

To maintain their service life and high performance, all belts and harnesses must be inspected prior to each use for mildew, wear, damage, and other deteriorations. Visual inspection before each use is just common sense. Periodic tests by a trained inspector for wear, damage, or corrosion should be part of the safety program. Inspect equipment daily and replace it if any of the defective conditions in this manual are found.

BELT INSPECTION:

1. Beginning at one end, holding the body side of the belt toward you, grasp the belt with your hands 6 to 8 inches apart. Bend the belt in an inverted "U". The resulting surface tension makes damaged fibers or cuts easier to see.
2. Follow this procedure for the entire length of the belt or harness. Watch for frayed edges, broken fibers, pulled stitches, cuts, or chemical damage.
3. Special attention should be given to the attachment of buckles and D rings to webbing. Note any unusual wear, frayed or cut fibers, or distortion of the buckles or D rings.
4. Inspect for frayed or broken strands. Broken webbing strands generally appear as tufts on the webbing surface. Any broken, cut, or burned stitches will be readily seen.
5. Rivets should be tight and immovable with fingers. Body side rivet base and outside rivet burr should be flat against the material. Bent rivets will fail under stress.
6. Especially note condition of D Ring rivets and D Ring metal wear pads (if any). Discolored, pitted, or cracked rivets indicate chemical corrosion.
7. The tongue, or billet, of the belt receives heavy wear from repeated buckling and unbuckling. Inspect for loose, distorted, or broken grommets. Belts using punched holes without grommets should be checked for torn or elongated holes, causing slippage of the buckle tongue.
    a. Tongue Buckle: Buckle tongues should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. Roller should turn freely on frame. Check for distortion or sharp edges.
    b. Friction Buckle: Inspect the buckle for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment to points of the center bar.

c. Slide Buckle: Inspect buckle frame and sliding bar for cracks, distortions, or sharp edges. Sliding bar should move freely. Knurled edge will slip if worn smooth. Pay special attention to corners and ends of sliding bar.

LANYARD INSPECTION:

When inspecting lanyards, begin at one end and work to the opposite end. Slowly rotate the lanyard so that the entire circumference is checked. Spliced ends require special attention. Hardware should be examined under procedures also detailed below, i.e., Snaps, D rings, and Thimbles.

1. Steel—While rotating the steel lanyard, watch for cuts, frayed areas, or unusual wearing patterns on the wire. Broken strands will separate from the body of the lanyards.
2. Webbing—While bending webbing over a pipe or mandrel, observe each side of the webbed lanyard. This will reveal any cuts or breaks. Swelling, discolorations, cracks, and charring are obvious signs of chemical or heat damage. Observe closely for any breaks in stitching.
3. Rope—Rotation of the rope lanyard while inspecting from end to end will bring to light any fuzzy, worn, broken, or cut fibers. Weakened areas from extreme loads will appear as a noticeable change in original diameter. The rope diameter should be uniform throughout, following a short break-in-period.

FALL PROTECTION SYSTEM CONSIDERATIONS

Below are guidelines for worker protection where fall arrest or fall restraint systems are used. Some of this material may be suitable for adding to the written fall protection work plan specified in WAC 296-155-24505. Also reference WAC 296-24-88050, Appendix C, Personal Fall Arrest System.

1. Selection and use considerations: The kind of personal fall arrest system selected should match the particular work situation, and any possible free fall distance should be kept to a minimum. Consideration should be given to the particular work environment. For example, the presence of acids, dirt, moisture, oil, grease, etc., and their effect on the system, should be evaluated. Hot or cold environments may also have an adverse effect on the system. Wire rope should not be used where an electrical hazard is anticipated. As required by the standard, the employer must plan to have means available to promptly rescue an employee should a fall occur, since the suspended employee may not be able to reach a work level independently. Where lanyards, connectors, and lifelines are subject to damage by work operations such as welding, chemical cleaning, and sandblasting, the component should be protected, or other securing systems should be used. The employer should fully evaluate the work conditions and environment (including seasonal weather changes) before selecting the appropriate personal fall protection system. Once in use, the system's effectiveness should be monitored. In some cases, a program for cleaning and maintenance of the system may be necessary.
2. Testing considerations: Before purchasing or putting into use a personal fall arrest system, an employer should obtain from the supplier information about the system based on its performance during testing so that the employer can know if the system meets this standard. Testing should be done using recognized test methods. WAC 296-24-88050, Appendix C, Part II, contains test methods recognized for evaluating the performance of fall arrest systems. Not all systems may need to be individually tested; the performance of some systems may be based on data and calculations derived from testing of similar systems, provided that enough information is available to demonstrate similarity of function and design.

3. Component compatibility considerations: Ideally, a personal fall arrest system is designed, tested, and supplied as a complete system. However, it is common practice for lanyards, connectors, lifelines, deceleration devices, and body harnesses to be interchanged since some components wear out before others. The employer and employee should realize that not all components are interchangeable. For instance, a lanyard should not be connected between a body harness and a deceleration device of the self-retracting type since this can result in additional free fall for which the system was not designed for. Any substitution or change to a personal fall arrest system should be fully evaluated or tested by a competent person to determine that it meets the standard, before the modified system is put in use.
4. Employee training considerations: Thorough employee training in the selection and use of personal fall arrest systems is imperative. As stated in the standard, before the equipment is used, employees must be trained in the safe use of the system. This should include the following: application limits; proper anchoring and tie-off techniques; estimation of free fall distance, including determination of deceleration distance, and total fall distance to prevent striking a lower level; methods of use; and inspection and storage of the system. Careless or improper use of the equipment can result in serious injury or death. Employers and employees should become familiar with this material, as well as manufacturer's recommendations, before a system is used. Of uppermost importance is the reduction in strength caused by certain tie-offs (such as using knots, tying around sharp edges, etc.) and maximum permitted free fall distance. Also, to be stressed are the importance of inspections prior to use, the limitations of the equipment, and unique conditions at the worksite which may be important in determining the type of system to use.
5. Instruction considerations: Employers should obtain comprehensive instructions from the supplier as to the system's proper use and application, including, where applicable:
    a. The force measured during the sample force test.
    b. The maximum elongation measured for lanyards during the force test.
    c. The deceleration distance measured for deceleration devices during the force test.
    d. Caution statements on critical use limitations.
    e. Application limits.
    f. Proper hook-up, anchoring and tie-off techniques, including the proper dee-ring or other attachment point to use on the body harness for fall arrest.
    g. Proper climbing techniques.
    h. Methods of inspection, use, cleaning, and storage.
    i. Specific lifelines that may be used. This information should be provided to employees during training.
6. Inspection considerations: Personal fall arrest systems must be regularly inspected. Any component with any significant defect, such as cuts, tears, abrasions, mold, or undue stretching; alterations or additions which might affect its efficiency; damage due to deterioration; contact with fire, acids, or other corrosives; distorted hooks or faulty hook springs; tongues unfitted to the shoulder of buckles; loose or damaged mountings; nonfunctioning parts; or wearing or internal deterioration in the ropes must be withdrawn from service immediately, and should be tagged or marked as unusable, or destroyed.

7. Rescue considerations: When personal fall arrest systems are used, the employer must assure that employees can be promptly rescued or can rescue themselves should a fall occur. The availability of rescue personnel, ladders, or other rescue equipment should be evaluated. In some situations, equipment that allows employees to rescue themselves after the fall has been arrested may be desirable, such as devices that have descent capability.

8. Tie-off considerations:

    a. One of the most important aspects of personal fall protection systems is fully planning the system before it is put into use. Probably the most overlooked component is planning for suitable anchorage points. Such planning should ideally be done before the structure or building is constructed so that anchorage points can be incorporated during construction for use later for window cleaning or other building maintenance. If properly planned, these anchorage points may be used during construction, as well as afterwards

    b. Employers and employees should at all times be aware that the strength of a personal fall arrest system is based on its being attached to an anchoring system that does not significantly reduce the strength of the system (such as a properly dimensioned eye-bolt/snap-hook anchorage). Therefore, if a means of attachment is used that will reduce the strength of the system, that component should be replaced by a stronger one but one that will also maintain the appropriate maximum arrest force characteristics.

    c. Tie-off using a knot in a rope lanyard or lifeline (at any location) can reduce the lifeline or lanyard strength by 50 percent or more. Therefore, a stronger lanyard or lifeline should be used to compensate for the weakening effect of the knot, the lanyard length should be reduced (or the tie-off location raised) to minimize free fall distance, or the lanyard or lifeline should be replaced by one which has an appropriately incorporated connector to eliminate the need for a knot.

    d. Tie-off of a rope lanyard or lifeline around an "H" or "I" beam or similar support can reduce its strength as much as 70 percent due to the cutting action of the beam edges. Therefore, a webbing lanyard or wire core lifeline should be used around the beam, the lanyard or lifeline should be protected from the edge, or free fall distance should be greatly minimized.

    e. Tie-off where the line passes over or around rough or sharp surfaces reduces strength drastically. Such a tie-off should be avoided or an alternative tie-off rigging should be used. Such alternatives may include use of a snap-hook/D-ring connection, wire rope tie-off, an effective padding of the surfaces, or an abrasion-resistance strap around or over the problem surface.

    f. Horizontal lifelines may, depending on their geometry and angle of sag, be subjected to greater loads than the impact load imposed by an attached component. When the angle of horizontal lifeline sag is less than 30 degrees, the impact force imparted to the lifeline by an attached lanyard is greatly amplified. For example, with a sag angle of 15 degrees, the force amplification is about 2:1, and at 5 degrees sag, it is about 6:1. Depending on the angle of sag, and the line's elasticity, the strength of the horizontal lifeline and the anchorages to which it is attached should be increased a number of times over that of the lanyard. Extreme care should be taken in considering a horizontal lifeline for multiple tie-offs. The reason for this is that in multiple tie-offs to a horizontal lifeline, if one employee falls, the movement of the falling employee and the horizontal lifeline during arrest of the fall may cause other employees to also fall. Horizontal lifeline and anchorage strength

should be increased for each additional employee to be tied-off. For these and other reasons, the design of systems using horizontal lifelines must only be done by qualified persons. Testing of installed lifelines and anchors prior to use is recommended.

g. The strength of an eye-bolt is rated along the axis of the bolt, and its strength is greatly reduced if the force is applied at an angle to this axis (in the direction of shear). Also, care should be exercised in selecting the proper diameter of the eye to avoid accidental disengagement of snap-hooks not designed to be compatible for the connection.

h. Due to the significant reduction in the strength of the lifeline/lanyard (in some cases, as much as a 70 percent reduction), the sliding hitch knot should not be used for lifeline/lanyard connections except in emergency situations where no other available system is practical. The "one-and-one" sliding hitch knot should never be used because it is unreliable in stopping a fall. The "two-and-two," or "three-and-three" knot (preferable), may be used in emergency situations; however, care should be taken to limit free fall distance to a minimum because of reduced lifeline/lanyard strength.

9. Vertical lifeline considerations: As required by the standard, each employee must have a separate lifeline when the lifeline is vertical. The reason for this is that in multiple tie-offs to a single lifeline, if one employee falls, the movement of the lifeline during the arrest of the fall may pull other employees' lanyards, causing them to fall as well.

10. Snap-hook considerations:

    a. Required by this standard for all connections, locking snap-hooks incorporate a positive locking mechanism in addition to the spring loaded keeper, which will not allow the keeper to open under moderate pressure without someone first releasing the mechanism. Such a feature, properly designed, effectively prevents roll-out from occurring.

    b. The following connections must be avoided (unless properly designed locking snap-hooks are used) because they are conditions which can result in roll-out when a nonlocking snap-hook is used:

        i. Direct connection of a snap-hook to a horizontal lifeline.

        ii. Two (or more) snap-hooks connected to one D ring.

        iii. Two snap-hooks connected to each other.

        iv. A snap-hook connected back on its integral lanyard.

        v. A snap-hook connected to a webbing loop or webbing lanyard.

        vi. Improper dimensions of the D ring, rebar, or other connection point in relation to the snap-hook dimensions which would allow the snap-hook keeper to be depressed by a turning motion of the snap-hook.

11. Free fall considerations: The employer and employee should at all times be aware that a system's maximum arresting force is evaluated under normal use conditions established by the manufacturer, and in no case using a free fall distance in excess of 6 feet (1.8 meter). A few extra feet of free fall can significantly increase the arresting force on the employee, possibly to the point of causing injury. Because of this, the free fall distance should be kept at a minimum, and, as required by the standard, in no case greater than 6 feet (1.8 meter). To help assure this, the tie-off attachment point to the lifeline or anchor should be located at or above the connection point

of the fall arrest equipment to harness. (Since otherwise additional free fall distance is added to the length of the connecting means (i.e. lanyard).) Attaching to the working surface will often result in a free fall greater than 6 feet (1.8 meter). For instance, if a 6-foot (1.8-meter) lanyard is used, the total free fall distance will be the distance from the working level to the body harness attachment point plus the 6 feet (1.8 meter) of lanyard length. Another important consideration is that the arresting force that the fall system must withstand also goes up with greater distances of free fall, possibly exceeding the strength of the system.

12. Elongation and deceleration distance considerations: Other factors involved in a proper tie-off are elongation and deceleration distance. During the arresting of a fall, a lanyard will experience a length of stretching or elongation, whereas activation of a deceleration device will result in a certain stopping distance. These distances should be available with the lanyard or device's instructions and must be added to the free fall distance to arrive at the total fall distance before an employee is fully stopped. The additional stopping distance may be very significant if the lanyard or deceleration device is attached near or at the end of a long lifeline, which may itself add considerable distance due to its own elongation. As required by the standard, sufficient distance to allow for all of these factors must also be maintained between the employee and obstructions below, to prevent an injury due to impact before the system fully arrests the fall. In addition, a minimum of 12 feet (3.7 meter) of lifeline should be allowed below the securing point of a rope grab type deceleration device, and the end terminated to prevent the device from sliding off the lifeline. Alternatively, the lifeline should extend to the ground or the next working level below. These measures are suggested to prevent the worker from inadvertently moving past the end of the lifeline and having the rope grab become disengaged from the lifeline.
13. Obstruction considerations: The location of the tie-off should also consider the hazard of obstructions in the potential fall path of the employee. Tie-offs that minimize the possibilities of exaggerated swinging should be considered.
14. Other considerations: Because of the design of some personal fall arrest systems, additional considerations may be required for proper tie-off. For example, heavy deceleration devices of the self-retracting type should be secured overhead in order to avoid the weight of the device having to be supported by the employee. Also, if self-retracting equipment is connected to a horizontal lifeline, the sag in the lifeline should be minimized to prevent the device from sliding down the lifeline to a position that creates a swing hazard during fall arrest. In all cases, manufacturer's instructions should be followed.

CONSTRUCTION SELF-INSPECTION GUIDE

- ☐ **Power lines**: Minimum 10 feet clearance/insulate—de-energize, under 50 kilowatts (kw); over 50 kw – refer to WAC 296-155-24505.
- ☐ **Trench/excavation**: Any trench 4 feet or greater in depth must be sloped, shored, or braced.
- ☐ **Guardrails**: Any opening 4 feet or more above ground level must be guarded.
- ☐ **Standard guardrail**: Top rail = 39 inches to 45 inches above working surface. Midrail = halfway between top rail and floor. Toeboard = 4 inches.
- ☐ **Scaffold**: Fully planked.
- ☐ **Scaffold**: Fall protection provided if fall hazards over 10 feet exist.
- ☐ **Stairs**: Four or more risers must have handrails.
- ☐ **Fall protection**: Any exposure to fall hazards of 10 feet or greater must be eliminated by the use of safety harness/belt, lanyard or lifeline, horizontal lines, or catenary lines. Positive fall restraint/protection must be utilized at all times. Two lanyards may be necessary at the beam/upright traverse points. No exposure at any time is allowed.
- ☐ **Fall protection work plan**: Job specific, in writing; available on-site for all fall hazards above 10 feet.
- ☐ **Open belts and pulleys, chains and sprockets, points of operation:** Must be guarded to prevent accidental contact. Air compressors and electric motor pulleys are the most common hazards.
- ☐ **Radial saws**: Cutting head must return easily to start position when released; blade must not extend past the edge of the worktable; off/on switch should be at front of operator's position.
- ☐ **Table saws**: Upper hood guard; anti-kickback, push stick, belt and pulley guarded.
- ☐ **Circular saws**: Blade guard instantly returns to covering position.
- ☐ **Never wedge or pin a guard.**
- ☐ **Chain saw**: Ballistic nylon leg protection; eye, ear, face protection; hard hat.
- ☐ **Angle grinders**: 180-degree guard required.
- ☐ **Ladders**: Extended 36 inches above landing and secured to prevent displacement.
- ☐ **Articulating boomlift**: Safety harness and lanyard at all times.
- ☐ **Floor holes/openings**: Covered and secured; be sure no tripping hazards in the area.
- ☐ **Extension cords/electric power tools**: Marked/covered by Assured Grounding Program.
- ☐ **Clothing**: Minimum of short sleeve shirts, long pants, and substantial footwear; no recreational shoes.
- ☐ **Hard hats**: Readily accessible at all times; worn when overhead hazard exists.
- ☐ **Oxygen/acetylene storage areas**: Cylinders chained and separated.
- ☐ **Personal protective equipment**: Head, eye, ear, respiratory, and leg protection—high visibility vests when required.
- ☐ **Housekeeping**: Workers are responsible for their own area of exposure.
- ☐ **First aid/fire extinguishers**: Available and readily accessible.
- ☐ **First aid trained personnel**: Minimum of one person on-site at all times with first aid CPR training.
- ☐ **Accident Prevention Program**: In written format.
- ☐ **Crew Leader Meetings**: At beginning of each job and at least weekly thereafter. Documented.
- ☐ **Chemical hazard communication program**

For specific information, refer to the safety and health standards, Chapters 800, 24, 62 and 155.

REFERENCE

This plan modified from template located at
<http://www.lni.wa.gov/Safety/TrainingPrevention/Programs/FPWP.asp>.

SITE PHOTOGRAPHS

CONFIGURATION DIAGRAMS

STANDARD SAFETY PROCEDURE 12: UNDERGROUND SERVICES LOCATION AND PROTECTION

INTRODUCTION AND SCOPE

"Underground utilities" generally refers to the buried pipelines and cables that transport petroleum, natural gas, electricity, communications, cable television signals, steam, water, and sewage. Underground utilities can be publically or privately owned. Underground structural components can be damaged by drilling, excavation, or other activities.

KEY HAZARDS

- Underground releases of natural gas and propane can result in explosions, significant injuries, wide-ranging damage, and even loss of life. Contact with electrical or steam utilities can injure or kill workers in the area. Some utilities, such as water or sewer, can present an engulfment hazard to personnel working in trenches, while hazardous chemicals can damage the environment and disrupt critical private and public services.

LOCATE LAW

- Public Law 109-468 (effective December 29, 2006)—This law pertains to energy products and other hazardous materials transported by pipeline. It requires:
  - Calling 811 or contacting the state or county One-Call Notification System prior to demolition, excavation, tunneling, or construction activity or using the online Utility Notification Center at <http://www.callbeforeyoudig.org/>.
  - Conducting demolition, excavation, tunneling, or construction activity with regard to the location information or markings established by a pipeline facility operator.
  - Promptly reporting to the owner of the facility any damage that could endanger life or cause serious bodily harm or damage to property.
  - Calling the 911 emergency telephone number to report damage that results in the escape of any flammable, toxic, or corrosive gas or liquid.

Note that this regulation provides for a civil penalty of up to $100,000 for each violation, with a maximum of $1,000,000 for a related series of violations.

LOCATE PROCEDURES

- Call 811 or the appropriate Utility Notification Center for the area in which you will be working. The telephone number for King County, Washington, is 1-800-424-5555. The website <www.callbeforeyoudig.org> can also be used for the public locate.
- SoundEarth Strategies, Inc. (SoundEarth) employees must complete a public locate if conducting any activity 12 inches or more in depth that has a potential to damage underground utilities or structural components.
- SoundEarth employees must complete a public and private utility locate if conducting any subsurface excavation using **mechanical means**, including investigatory excavations and borings, regardless of depth.

- Obtain applicable as-built drawings and/or maps from the facility owner. Ask the owner for any information it has on both public and privately held underground utilities.
- Allow at least 2 business days for the location request to be fulfilled.
- Locate area must be marked in white prior to calling in the locate request.
- The location request should be in the name of SoundEarth.
- After initial marking, you may maintain markings for up to 45 days.
- Jobs having a locate area of 700 linear feet or over will require a site meeting with all named utilities on your locate ticket.

PRIVATE LOCATE

A private locate should be conducted in conjunction with the public locate on private property. The private locator will be able to locate on-property utilities, such as the side sewer, light fixtures, or other private utilities.

UTILITY PROTECTION DURING WORK

An appropriate distance should be kept from utilities during subsurface work. Conduct the drilling or excavation with as much caution as possible, using manual methods, or employ air knife soil removal with a vactor truck when excavating within close proximity to underground utilities or structural components. Utility setback distances established by the utility companies, excavation contractor, or as required by local, state, or federal regulations, must be adhered to.

- Take pictures of the markings that identify the underground utilities in relation to the drilling or excavation area. This both provides documentation and serves as a verification of what was located by the public utility companies.
- Refer to the One-Call color chart if there are questions about a marking, or contact the owner or appropriate agency if clarification is needed.
- If the markings appear to be inaccurate at any point, stop the dig and reassess.

INCIDENT RESPONSE

- Report all damage, however slight, to the owner/operator of the utility. Photograph any damage and also any steps taken to protect the line from further damage. At a minimum, stop work and protect the affected area with barrier tape until the owner/operator can provide direction.
- If a natural gas, propane gas, or power line is damaged, call 911 and evacuate all people from the area immediately.
- If any flammable, toxic, or corrosive gas or liquid is released, call 911 and the owner/operator of the facility and/or utility or pipeline immediately.
- Do not attempt to turn off water or any other type of line without direction from and permission of the owner/operator.

Submit a completed SoundEarth Incident Report (attached) to the SoundEarth Corporate Risk Manager within 24 hours.

REGULATORY REFERENCES

- **29 CFR 1926.651 and WAC 296-155-655—General protection requirements.** This regulation addresses the general protection requirements for excavations, including requirements that underground utilities be located prior to opening an excavation. Further it requires that, as the estimated location of an underground installation is approached, the exact location be determined by safe and acceptable means, as well as that the underground installations be protected, supported, or removed as necessary to safeguard employees.
- **RCW 19.122—Underground utilities.** This regulation addresses in more detail the requirements of excavators in regard to underground utilities. The stated intent of this legislation is "to assign responsibilities for locating and keeping accurate records of utility locations, protecting and repairing damage to existing underground utilities, and protecting the public health and safety from interruption in utility services caused by damage to existing underground utilities."

Attachment:
Incident Report

INCIDENT REPORT

Date of Incident: _____ **Time of Incident:** _____

Name(s) of Those Involved: _____

Location of Incident: _____ **Project Name**: _____

Project Number: _____

Type of Incident* (check those that apply):

___ Injury ___ Vehicle Accident

___ Underground Property Damage ___ Aboveground Property Damage

___Other (describe) _____

* Submit copy of Health & Safety Plan and Attachments for field-related incidents.

Description of Incident: _____

_____

_____

_____

Action Taken: _____

_____

Names & Contact Information of Witnesses: _____

_____

Name of Individual Completing Form	Signature	Date
Project Manager Name	Signature	Date
Corporate Health & Safety Manager	Signature	Date

(Attach additional documentation as necessary.)
*COMPLETED FORM TO BE FORWARDED TO HR

STANDARD SAFETY PROCEDURE 13: UNSTABLE GROUND

INTRODUCTION AND SCOPE

Unstable ground can present hazards of falling or flying rock or other loose material, and can present potentially life-threatening hazards of ground collapse and engulfment, entrapment, or burial. Unstable ground can result from activities such as drilling, excavating, and trenching. Ground can also be unstable above old and improperly supported tunnels, where underground utilities have collapsed, at old mine sites, and on landfill sites, where pockets of instability can be encountered. At landfill sites, unstable pockets can also present a hazard from toxic and/or flammable gases.

KEY HAZARDS

- Entrapment, engulfment, or burial
- Ground collapse can be sudden, catastrophic, and deadly, and rescue can be very challenging.

KEY POINTS

- Trenches 4 feet or more in depth must be provided with a fixed means of egress, no more than 25 feet from the people working in the trench.
- Trenches 4 feet deep or greater require protective system unless the excavation is made entirely of rock. Trenches 20 feet deep or greater require the protective system be designed by a registered professional engineer.
- Keep stockpiles and other heavy equipment at least 2 feet away from trench edges.

PRE-FIELD CONSIDERATIONS

Before work, it is necessary to evaluate the potential for ground instability. This can include inquiring about the history of the site and any hazards known to the site owner/operator, conducting a public records search, and requesting that public and private underground utilities be located.

Any excavation (such as of a trench or pit) of soil, rock, or other ground material or excavation of the sidewall of a mining operation presents the potential for the movement of ground materials and associated instability hazards.

A competent person must inspect trenches daily and as conditions changes. **A competent person** is: an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to workers; soil types and protective systems requirements; and who is authorized to take corrective measures to eliminate these hazards and conditions.

SoundEarth Strategies, Inc. (SoundEarth) employees are not typically identified as the competent person in charge of excavation and slope stability. Excavation sites should be evaluated and monitored by a licensed geotechnical professional or engineer. However, SoundEarth employees should be aware of the conditions that may cause slope instability or failure on sites with open excavations.

EXCAVATION AWARENESS

- The excavation is to be inspected by the competent person as follows:
  - Daily and before the start of each shift.
  - Continually during the excavation process to observe for fracture lines, cracks, subsidence, and other visual indicators of failure.
  - After every rainstorm or other weather event that could increase the hazard.
  - When fissures, tension cracks, sloughing, undercutting, water seepage, bulging at the bottom, or similar conditions are noted.
  - When there is a change in the size, location, or placement of the spoil pile.
  - When there is any indication of change or movement in adjacent structures.
  - As otherwise dictated by the work being done in the trench.
- In addition, the following precautions are also to be taken:
  - The observer should position him or herself at a location that is at the end of the long axis of the excavation, within sight of the excavator operator, and avoid the long edge of the excavation where possible.
  - Temporary spoil is to be placed at least 2 feet from the edge of the excavation and positioned so that it channels rainwater and other runoff water away from the excavation.
  - Permanent spoil is to be placed at some distance from the excavation.
  - Surface crossing of trenches is to be discouraged. When it must be done, walkways or bridges for foot traffic must comply with Title 296, Chapter 155, Part N of the Washington Administrative Code (WAC 296-155 Part N), and vehicle crossings must be designed by and installed under the supervision of a registered professional engineer.
  - Trenches 4 feet or more in depth must be provided with a fixed means of egress, no more than 25 feet from the people working in the trench, and as otherwise described in WAC 296-155 Part N. Note: Steps should have already been taken to see that underground electrical hazards are not present, but extra care must be taken when using metal ladders in a pit or trench.
  - A trench or pit with a depth of 4 feet or more could meet the definition of a confined space. If there could be a hazardous atmosphere in an excavation, the excavation must be treated as a permit-required confined space, which includes meeting the requirements for an attendant and rescue equipment on the site.
  - Employees must be protected from vehicular traffic and cranes and heavy equipment.
  - Water accumulation and standing water must be controlled.

SOIL CLASSIFICATIONS

Excavation standards require a competent person to classify soil and rock as one of the four classifications:

- **Stable Rock –** Natural solid mineral matter. Can be excavated with vertical sides.
- **Type A soil –** Cohesive soils with unconfined compressive strength of 1.5 tons per square feet (tsf) or greater. Examples include: clay, silty clay, and clay loam.
- **Type B soil –** Includes cohesive soils with unconfined compressive strength greater than 0.5 tsf and granular cohesionless soils (such as angular gravel, crushed rock, silt, sandy loam).
- **Type C soil –** Cohesive soils with unconfined compressive strength less than 0.5 tsf or granular soils, submerged soil, submerged rock that is not stable, or materials in a sloped, layered system where the layers dip into the excavation with a slope greater than 4:1.

PROTECTIVE SYSTEMS AWARENESS

Several types of protective systems are available depending on the site and soil conditions.

- **Benching:** Excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels. Benching cannot be done in Type C soil.
- **Sloping:** Involves cutting the trench wall at an angle inclined away from the excavation. Sloping at 1.5 to 1 foot is considered safe for most types of soil.
- **Shoring:** Requires installation of aluminum hydraulic or other types of supports to prevent soil movement and cave-ins.
- **Shielding:** Uses trench boxes or other types of supports to prevent soil cave-ins. The appropriate protective system should consider soil classification, depth of cut, water content, changes in weather, surcharge loads, and other operations in the vicinity.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1926, Subpart P of the Code of Federal Regulations and WAC 296-155-650, Part N—Excavation, Trenching, and Shoring.** This chapter defines the protection requirements when these activities are being conducted.

STANDARD SAFETY PROCEDURE 14: OVERHEAD HAZARDS

INTRODUCTION AND SCOPE

Employees of SoundEarth Strategies, Inc. (SoundEarth) could be subject to overhead hazards on industrial or construction sites. In addition, some projects for which SoundEarth provides direction or oversight (such as exterior lead abatement) could create an overhead hazard. Overhead hazards often exist during trenching or excavation. This Standard Safety Procedure (SSP) addresses several potential circumstances.

KEY HAZARD

- Head injury

PRECAUTIONARY MEASURE

- Wear an American National Standards Institute (ANSI)-approved hard hat when working on a site where overhead hazards may be present, such as construction, demolition, and industrial sites.

GENERAL SAFETY PROCEDURES

- Follow the requirements for the site and observe all caution signs, barriers, or other indicators of overhead hazards.
- Do not walk under obvious overhead hazards. Never walk under a suspended load.
- In addition, wear an ANSI-approved hard hat when working on a mine site or other sites where there is a hazard from flying or propelled rock or other materials.
- SoundEarth employees are not permitted underneath loads being handled by lifting or digging equipment. This includes employees working in a trench or pit, who are required to wear an ANSI-approved hard hat.
- In addition, SoundEarth employees are to be provided with adequate protection to protect them from loose rock or soil that could pose a hazard, and from excavated or other materials or equipment that could pose a hazard by falling or rolling into excavations.
- SoundEarth employees are required to stand away from any vehicle being loaded or unloaded to avoid being struck by any spillage or falling materials. Operators should remain in the cabs of vehicles being loaded or unloaded when the vehicles are equipped to provide adequate protection for the operator during loading and unloading operations.
- SoundEarth personnel directing or providing oversight of a project where there is potential for overhead hazards to other workers or the general public are to assess the hazard potential and determine the necessary steps to see that appropriate catch systems, barriers, and/or warnings are used.
- SoundEarth personnel performing this analysis and implementation are to coordinate with the contractor whose employees are performing the work. The contractor is responsible for enforcing the limitations and precautions established for the site/project with its employees.

APPLICABLE PPE AND CONTROLS

ANSI-approved hard hat in addition to other personal protective equipment.

OTHER CONSIDERATIONS

For information on overhead utilities, reference SSP 10, Electrical Safety and Lockout/Tagout.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1926.100 of the Code of Federal Regulations and Title 296, Chapter 800, Section 160 of the Washington Administrative Code—Personal Protective Equipment (PPE), head protection specifically.** This chapter requires the provision of appropriate head protection when employees are working where there is a hazard of flying or propelled objects or falling objects or materials.

STANDARD SAFETY PROCEDURE 15: CONFINED SPACE AWARENESS

INTRODUCTION AND SCOPE

Employees of SoundEarth Strategies, Inc. (SoundEarth) are ***not* permitted to perform any work within confined spaces.** However, SoundEarth personnel should be able to identify confined spaces. Therefore, this Standard Safety Procedure (SSP) describes their characteristics.

If work must be done in a confined space, a specialized contractor with that expertise should be used. If SoundEarth personnel find a project requirement to work in a confined space, additional training and company authorization are required. Note also that work in a permit-required space calls for additional equipment and at least one additional person. This should be considered in developing a bid or site-specific Health and Safety Plan (HASP) where confined space entry is involved.

SoundEarth employees should contact emergency personnel immediately upon discovery of an emergent incident within a confined space. At no time is a SoundEarth employee to enter a confined space to attempt a rescue.

KEY HAZARDS

- Asphyxiation
- Entrapment

DEFINITION OF A CONFINED SPACE

A confined space is defined as:

- Large enough and arranged so an employee could fully enter the space and work.
- Has limited or restricted entry or exit. Examples of spaces with limited or restricted entry are tanks, vessels, silos, storage bins, hoppers, vaults, excavations, and pits.
- Not primarily designed for continuous human occupancy.

Some examples of confined spaces include: tanks, engine rooms, storage bins, manholes, pits, excavation trenches, silos, tunnels, and underground utility vaults. A space that must be entered using a ladder could be considered to have restricted access.

PERMIT-CONFINED SPACE

Once it is determined that the space meets the definition of a confined space, then it must be determined whether it is considered permit-required, which means there is a potential hazard in the space that requires an additional level of precaution.

Some of the potential hazards associated with entry into confined spaces are toxic, flammable, or oxygen-deficient atmospheres; mechanical, engulfment, or electrical hazards; tapered floors or inwardly converging walls; and heat or steam hazards. Exposure to these hazards in a confined space can result in the injury, illness, or death of the entrant or an impaired ability to self-rescue.

HOW TO EVALUATE A POTENTIAL CONFINED SPACE

- Does the person have to use their hands to enter or exit the space?
- Must the person assume an awkward position when entering or exiting the space?
- Was the space designed for continuous human occupancy?

SAFETY PROCEDURES

SoundEarth personnel are not permitted to enter confined spaces.

OSHA defines “entry" as the action of passing through the opening into a permit-required confined space. Entry is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space. Do not break the plane of the confined space with your hands, foot, or head.

Site owners/operators are responsible for identifying and posting the permit-required spaces on their property. If there is a question about this, appropriate information can be obtained from the owner/operator when SoundEarth is developing a hazard analysis for the HASP.

TRAINING REQUIREMENTS

- Confined space awareness training for SoundEarth Hazardous Waste Operations and Emergency Response-certified employees.
- Permit-Required Confined Space Entry Requirements for non-SoundEarth personnel who will act as entrants or other members of a confined space entry team.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1910, Standard 1910.146 of the Code of Federal Regulations and Title 296, Chapter 809 of the Washington Administrative Code—Permit-Required Confined Space Entry.** This chapter defines a permit-required confined space and the requirements for entry.
- <http://apps.leg.wa.gov/WAC/default.aspx?cite=296-809-20002>.
- <https://www.osha.gov/dep/etools/eprcs/prcsappendices.pdf>.

STANDARD SAFETY PROCEDURE 16: HOT WORK AWARENESS

INTRODUCTION AND SCOPE

Hot work includes tasks such as welding, cutting, and burning. Examples of projects that might include hot work are the decommissioning of underground storage tanks, piping repair or reconfiguration, and building demolition, construction, or systems maintenance. Although employees of SoundEarth Strategies, Inc. (SoundEarth) do not perform hot work directly, they should be aware of the hazards associated with hot work and the necessary precautions to take when they are near hot work.

KEY HAZARDS

- Airborne exposure hazards
- Fire and explosion hazards

PRECAUTIONARY MEASURES

Hot work should be performed in an area free of flammable chemicals. If you or personnel under your direction or oversight will be working with flammables, take care that hot work will not be performed in your vicinity.

Do not approach too closely when hot work is being performed. To avoid flash burns to the eyes, do not look directly at the heat source.

Hot work should be performed in well-ventilated areas.

Ensure an appropriate fire extinguisher is close by before work begins.

Determine if a Hot Work Permit is required. If yes, the permit should be obtained before work begins.

GENERAL REQUIREMENTS FOR SUBCONTRACTORS

If a subcontractor under your direction or oversight will be performing hot work (such as cutting a tank or line), check that the subcontractor is prepared to follow the provisions of the applicable regulation(s). If applicable, determine if a Hot Work permit has been obtained before work begins. Tanks and lines should be purged of flammable liquids and filled with an inert gas to displace any residual flammable vapors before cutting.

Note that cutting on a line that has contained a chlorinated solvent can also be hazardous, as the combustion products (e.g., phosgene gas) may present a potentially deadly airborne exposure, especially in trenches, pits, or other confined areas.

Contractors should use only approved equipment in good condition and following the manufacturer's instructions.

AIR MONITORING

If hot work will be done indoors, in a confined area where metals fumes are likely to build up, or on tanks or lines that have contained a chlorinated solvent, air monitoring may be necessary to evaluate

exposure to personnel and provide information needed to implement appropriate engineering controls and identify appropriate personnel protective equipment.

For more information on air monitoring requirements, see SSP #07, Air Monitoring.

APPLICABLE PPE AND CONTROLS

Standard personal protective equipment (PPE) applies. Additional PPE may include:

- Eye protection that shields against sparks, molten metal, and welder's flash
- Heat-resistant clothing
- Gloves made of leather or other flameproof fabric
- Respiratory protection

An appropriate fire extinguisher should be available during any hot work.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Title 29, Part 1926, Subpart J of the Code of Federal Regulations and Title 296, Section 24, Part I of the Washington Administrative Code—Welding, Cutting, and Brazing.** This chapter defines the requirements for safety during welding, cutting, and brazing operations. Although its provisions are applicable to personnel performing these operations and therefore not directly applicable to SoundEarth personnel, it is presented here to provide additional information.
- Harris, Michael K. *Welding Health and Safety: A Field Guide for OEHS Professionals*. American Industrial Hygiene Association. 2002.

STANDARD SAFETY PROCEDURE 17: LONE WORKER

INTRODUCTION AND SCOPE

A key component of worker safety is looking out for each other. A lone worker can be anyone who works alone at a facility or site. Lone workers face the risks present to all workers on a job site, but in addition cannot call out for help to a fellow worker in the event of an emergency. All standard safety guidelines still apply to lone workers.

PRE-FIELD CONSIDERATIONS

- Assess the risk of the planned work for a lone worker.
- Consider possible methods of communication with lone workers.
- If work cannot be completed safely alone, two workers should be present on-site.
- Train lone workers in emergency response.

SITUATIONS TO CONSIDER

- Are there chemicals or hazardous substances that pose a risk to the worker?
- Does the work involve lifting or moving objects too large for one worker?
- Is more than one person needed to operate essential controls or equipment?
- Is there a risk of violence or an unsafe environment?
- Are young, pregnant, disabled, or workers with medical conditions at risk if they work alone?

GENERAL RECOMMENDATIONS

- Set limits for what work is permissible during lone work.
- Supervisors should check on lone workers at regular intervals. This should include large sites where workers are not visible or within shouting distance.
- Establish a clear action plan in the event of an emergency.
- ***Verify that lone workers have returned to a fixed base or home after completing the work.***
- Provide additional communication devices, such as hand-held two-way radios, cell phones, or satellite phones. A computer, webcam, or radio-frequency identification may be considered.
- Use automatic warning devices that alert others if signals are not received periodically from a lone worker.

APPLICABLE PPE AND CONTROLS

Standard personal protective equipment is still applicable to lone workers. Additional control measures may include alarms systems or communication devices.

TRAINING REQUIREMENTS

Lone workers should be trained in emergency response and how to contact others in the event of an emergency.

Workers should be trained to understand the risks inherent in the job and the additional risks of working alone.

REGULATORY REFERENCES

Washington State Department of Labor & Industries, "Working Alone Safely: Controlling the Risks of Solitary Work." <http://wisha-training.lni.wa.gov/training/presentations/WorkingAlone.pps>.

Standard 29, Part 1915, Standard Number 1915.84 of the Code of Federal Regulations—Safety and Health Standards for Shipyard Employment, Working Alone.

STANDARD SAFETY PROCEDURE 18: WORK NEAR WATER

INTRODUCTION AND SCOPE

Drowning hazards are present around irrigation canals or ditches, ponds and cisterns, liquid storage or treatment pits or tanks, water-filled well tailing pits, wells, lakes, reservoirs, rivers, and streams. Marine or shipyard work can also present a drowning hazard. This safety procedure addresses the requirements for protection of SoundEarth Strategies, Inc. (SoundEarth) employees from accidental drowning.

KEY HAZARD

- Drowning

PRECAUTIONARY MEASURES

- Prior to work on a worksite, determine if work near water is a possibility. Consider streams, culverts, stormwater systems, canals, and areas with accumulated standing water.
- Avoid entering canals or ditches that may present a hazard because of deep or fast-moving water; steep or slippery walls; grates, culverts, spillways, or in-water energy dissipation devices.
- Never enter an underground, water-filled tunnel or pipeline. Only trained commercial divers who are properly equipped and follow established safety precautions can enter these areas.
- Never enter wells, manholes, and pits without taking appropriate precautions for a permit-required confined space; refer to Standard Safety Procedure 15 (Confined Space Awareness). SoundEarth personnel are not permitted to enter confined spaces.

GENERAL SAFETY PROCEDURES

Work around other bodies of deep or fast-moving water only in teams of two or more people and using appropriate life-saving equipment.

If a task is identified as presenting a hazard of falling into water and drowning, personnel must be protected through guardrails, personal fall protection, or personal flotation devices (PFDs).

When working on a vessel, SoundEarth will expect from the vessel owner a deck plan that can be used to determine the positioning of the vessel owner, personnel, and equipment, along with work and decontamination zones for SoundEarth personnel. Ventilation and sanitary facilities will meet or exceed the minimum Occupational Safety and Health Administration/U.S. Coast Guard requirements.

The vessel owner will be expected to complete a Float Plan prior to each day's work and the vessel will be inspected daily. Ring buoys with at least 90 feet of line shall be provided by the vessel owner and be readily available for emergency rescue operations. The distance between ring buoys shall not exceed 200 feet. In addition, at least one lifesaving skiff shall be immediately available.

APPLICABLE PPE AND CONTROLS

SoundEarth personnel will wear U.S. Coast Guard-approved PFDs, in addition to other personal protection equipment (PPE) required for protection against chemical contamination. Other PPE will not

be worn such that it interferes with the function of the PFD. The PFD must be worn and fastened properly, as directed by the manufacturer. Each person will adjust his/her PFD for size prior to first use. He/she shall inspect it for defects that could alter its strength or buoyancy, prior to and following each use. Defective units will not be used and will be replaced, and the new PFD will be adjusted for size, before departing.

OTHER CONSIDERATIONS

Be aware that dams and the backwash areas below them (known as the "drowning machine") can be particularly hazardous.

Consider the presence of grates, culverts, or in-water energy dissipation devices could cause a worker to become caught by or struck by an object/grate and to become submerged.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

Standard 29, Part 1926, Standard Number 1926.106 of the Code of Federal Regulations and Title 296, Chapter 800, Section 160—Working Around Water/PPE for Protection from Drowning. This chapter defines requirements for the use of lifesaving equipment to prevent drowning accidents.

STANDARD SAFETY PROCEDURE 19: SAFE HANDLING OF FLAMMABLE LIQUIDS

INTRODUCTION AND SCOPE

Flammable and combustible liquids present two primary hazards—explosion and fire. The proper storage and handling of flammable liquids can significantly reduce the possibility of accidental fires and injury to employees.

KEY HAZARDS

- Explosion
- Fire

DEFINITIONS

Aerosol: A material which is dispensed from its container as a mist, spray, or foam by a propellant under pressure.

- Combustible Liquid: Any liquid having a flashpoint at or above 100 degrees Fahrenheit (°F; 37.8 degrees Celsius [°C]). Combustible liquids are divided into two classes as follows:
  - Class II liquids include those with flashpoints at or above 100 °F (37.8 °C) and below 140 °F (60 °C).
  - Class III liquids include those with flashpoints at or above 140 °F (60 °C).
- Flammable Liquids: Any liquid having a flashpoint below 100 °F (37.8 °C). Flammable liquids are known as Class I liquids and are divided into three classes as follows:
  - Class IA liquids include liquids having flashpoints below 73 °F (22.8 °C) and having a boiling point below 100 °F (37.8 °C).
  - Class IB liquids include liquids having flashpoints below 73 °F (22.8 °C) and having a boiling point at or above 100 °F (37.8 °C).
  - Class IC liquids include liquids having flashpoints at or above 73 °F (22.8 °C) and below 100 °F (37.8 °C).
- Flashpoint: The minimum temperature at which a liquid gives off vapor within a test vessel in sufficient concentration to form an ignitable mixture with air near the surface of the liquid.
- Safety Can: An approved container, of not more than 5 gallons capacity, having a spring-closing lid and spout cover, so designed that it will safely relieve internal pressure when subjected to fire exposure.

PRECAUTIONARY MEASURES

- A copy of all safety data sheets (SDS) for flammable liquids are kept on each worksite (as applicable), in the Safety Program Administrator's office, and within each storage location. The SDS should be reviewed prior to receiving, handling, or storage of any hazardous materials.
- Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids. Approved metal safety cans, or department of

transportation-approved containers shall be used for the handling and use of flammable liquids in quantities of 5 gallons or less, except that this shall not apply to those flammable liquid materials which are highly viscid (extremely hard to pour), which may be used and handled in original shipping containers. For quantities of 1 gallon or less, only the original container may be used for storage, use, and handling of flammable liquids.

- Gasoline shall not be used as a solvent or a cleaning agent.

STORAGE REQUIREMENTS

- No more than 25 gallons of flammable or combustible liquids shall be stored in a room outside of an approved storage cabinet. Quantities of flammable and combustible liquid in excess of 25 gallons shall be stored in an acceptable or approved cabinet. Not more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one storage cabinet.
- Storage inside storage rooms shall comply with the following table.

Fire Protection Provided	Fire Resistance	Maximum Size	Total Allowable Quantities gallons/square feet/floor area
Yes	2 hours	500 square feet	10
No	2 hours	500 square feet	4
Yes	1 hour	150 square feet	5
No	1 hour	150 square feet	2

NOTE:
Fire protection system shall be sprinkler, water spray, carbon dioxide, or other system approved by a nationally recognized testing laboratory for this purpose.

- Flammable or combustible liquids shall not be stored in areas used for exits, stairways, or normally used for the safe passage of people.
- Flammable and combustible liquid containers shall be legibly marked to indicate their contents.
- Outdoor storage of containers (not more than 60 gallons each) shall not exceed 1,100 gallons in any one pile or area. Piles or groups of containers shall be separated by a 5-foot clearance. Piles or groups of containers shall not be nearer than 20 feet to a building. Within 200 feet of each pile of containers, there shall be a 12-foot-wide access way to permit approach of fire control apparatus.

APPLICABLE PERSONAL PROTECTIVE EQUIPMENT AND CONTROLS

At least one portable fire extinguisher having a rating of not less than 20-B units shall be located not less than 25 feet, nor more than 75 feet, from any flammable liquid storage area located outside. At least one portable fire extinguisher having a rating of not less than 20-B units shall be provided on all vehicles used for transporting and/or dispensing flammable or combustible liquids.

DISPENSING LIQUIDS

- Transfer flammable liquids from one container to another shall be done only when containers are electrically interconnected (bonded). To bond containers, each container is wired together and one container is connected to a good ground point to allow any charge to drain away safely. Bonding will control a static electric charge from releasing a spark that could ignite the liquid.
- Flammable liquids shall be kept in closed containers when not actually in use. Only the minimum amount required shall be kept on hand. Flammable liquids shall be used only where there are no open flames or other sources of ignition within 50 feet of the operation, unless conditions warrant greater clearance.
- Leakage or spillage of flammable or combustible liquids shall be disposed of promptly and safely.
- If oil- and grease-soaked rags or other materials are left on the ground, spontaneous combustion may occur; keep all chemical-soaked rags in approved self-closing metal containers.

TRAINING REQUIREMENT

- Fire Extinguisher use

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

This Standard Safety Procedure is written to be consistent with the requirements of the State of Washington Department of Labor and Industries Division of Occupational Safety and Health standard Title 296, Chapter 155, Section 270 of the Washington Administrative Code. Flammable and Combustible Liquids, and the Occupational Safety and Health Administration standard Title 29, Part 1910, Standard 1910.106 of the Code of Federal Regulations, Flammable and Combustible Liquids.

National Fire Protection Association (NFPA) 30, Flammable and Combustible Liquids Code, and NFPA 321, Standard on Basic Classification of Flammable and Combustible Liquids, in each case the most current edition.

STANDARD SAFETY PROCEDURE 20: DEMOLITION

INTRODUCTION AND SCOPE

Demolition of structures presents both safety hazards related to the demolition itself and the use of cranes, powered industrial trucks, or other mechanical equipment and also chemical hazards related to building materials and coatings/paints. This safety procedure presents requirements to protect workers and to ensure that hazardous materials are appropriately handled in regard to demolition of structures.

KEY HAZARDS

- Structural Instability
- Chemical Exposure

PRECAUTIONARY MEASURES

- Prior to permitting employees to start demolition operations, ensure that an engineering survey of the structure has been conducted by a competent person. The survey should determine the condition of the framing, floors, and walls, and possibility of unplanned collapse of any portion of the structure. Any adjacent structure where employees may be exposed should also be similarly checked. Include written evidence that such a survey has been performed in the project file.
- When employees are required to work within a structure to be demolished which has been damaged by fire, flood, explosion, or other cause, the walls or floor should be shored or braced.
- All electric, gas, water, steam, sewer, and other service lines should be shut off, capped, or otherwise controlled, outside the building line before demolition work is started. In each case, any utility company which is involved must be notified in advance. If it is necessary to maintain any power, water, or other utilities during demolition, such lines should be temporarily relocated, as necessary, and protected.
- Where a hazard exists from fragmentation of glass, remove such hazards.
- Where a hazard exists of employees falling through wall openings, protect the opening per the requirements in Standard Safety Procedure 11.

CHEMICAL IDENTIFICATION AND REMOVAL

- Determine if any type of hazardous chemicals, gases, explosives, flammable materials, or similarly dangerous substances have been used in any pipes, tanks, or other equipment on the property. When the presence of any such substances is apparent or suspected, testing and purging must be performed and the hazard eliminated before demolition is started.
- Identify and test any potential asbestos-containing or other hazardous materials related to building materials.
- Abate or remove asbestos-containing or other hazardous materials, as required based on the results of the initial testing. Refer to the Occupational Safety and Health Administration (OSHA) Interpretation Regarding the Application of the Asbestos Standard to Demolition of Buildings with ACM in Place (August 26, 2002) and/or Department of Labor and Industries WISHA

Regional Directive (WRD) 23.35 for more detail as to the requirements for abatement and/or removal.

SAFETY PROCEDURES DURING DEMOLITION

It is not expected that SoundEarth Strategies, Inc. (SoundEarth) personnel would conduct the demolition. If this work will be done by a subcontractor working for SoundEarth, the requirements for multi-employer worksites would apply and SoundEarth would incur the responsibilities of a higher-tiered (controlling) employer.

- Refer to the OSHA Interpretation Regarding the Application of the Asbestos Standard to Demolition of Buildings with ACM in Place (August 26, 2002) and/or WRD 23.35 for more detail as to the requirements for demolition of structures with asbestos-containing or other hazardous materials in place.
- Only those stairways, passageways, and ladders, designated as means of access to the structure of the building, shall be used. All other access will be entirely closed at all times.
- Any openings cut in a floor for the disposal of materials shall be no larger in size than 25 percent of the aggregate of the total floor area, unless the lateral supports of the removed flooring remain in place. Floors weakened or otherwise made unsafe by demolition operations shall be shored to carry safely the intended imposed load from demolition operations.
- Masonry walls, or other sections of masonry, shall not be permitted to fall upon the floors of the building in such masses as to exceed the safe carrying capacities of the floors. No wall section, which is more than one story in height, shall be permitted to stand alone without lateral bracing, unless such wall was originally designed and constructed to stand without such lateral support, and is in a condition safe enough to be self-supporting.
- Structural or load-supporting members on any floor shall not be cut or removed until all stories above such a floor have been demolished and removed.

APPLICABLE PPE AND CONTROLS

Standard personal protective equipment is required during demolition activities.

REGULATORY REFERENCES AND ADDITIONAL INFORMATION

- **Standard 29, Part 1926, Subpart T of the Code of Federal Regulations—Demolition.** This chapter defines requirements for the planning and preparation prior to demolition, as well as for the conduct of the demolition itself.

ATTACHMENT B

ACKNOWLEDGEMENT AND AGREEMENT FORM

ACKNOWLEDGMENT AND AGREEMENT FORM

Project Name:_____

Project Number:_____

I acknowledge that I have reviewed a copy of the Health and Safety Plan for this project, that I understand it, and that I agree to comply with all of its provisions. I also understand that I could be prohibited by the Site Manager/Health and Safety Officer or other SoundEarth personnel from working on this project if I fail to comply with any aspect of this Health and Safety Plan:

Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*
Name	*Signature*	*Company*	*Date*

ATTACHMENT C

DAILY HEALTH AND SAFETY BRIEFING LOG

SoundEarth Strategies

DAILY HEALTH AND SAFETY BRIEFING LOG

Date: _____ **Start Time:** _____

Sites Discussed: _____

_____

_____

_____

Subjects Discussed: _____

_____

_____

_____

_____

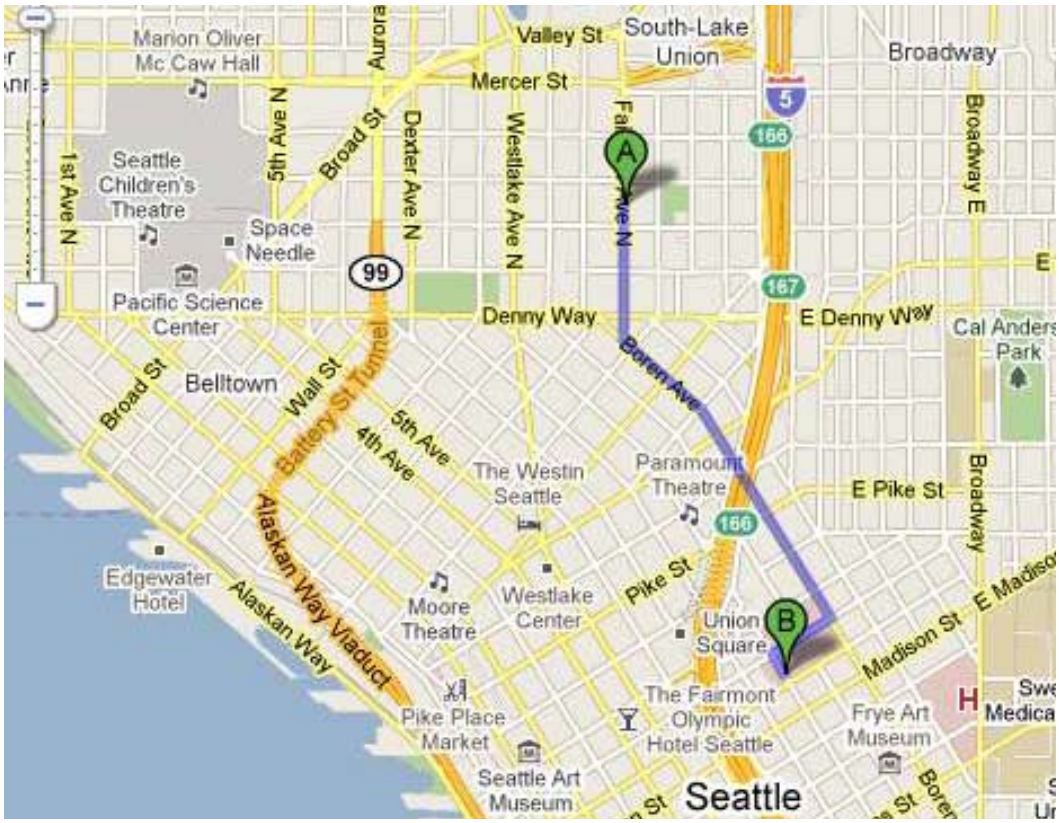
ATTENDEES

Print Name	Signature

Meeting Conducted by _____ **Date Signed**_____

ATTACHMENT D
HOSPITAL ROUTES

Hospital Route



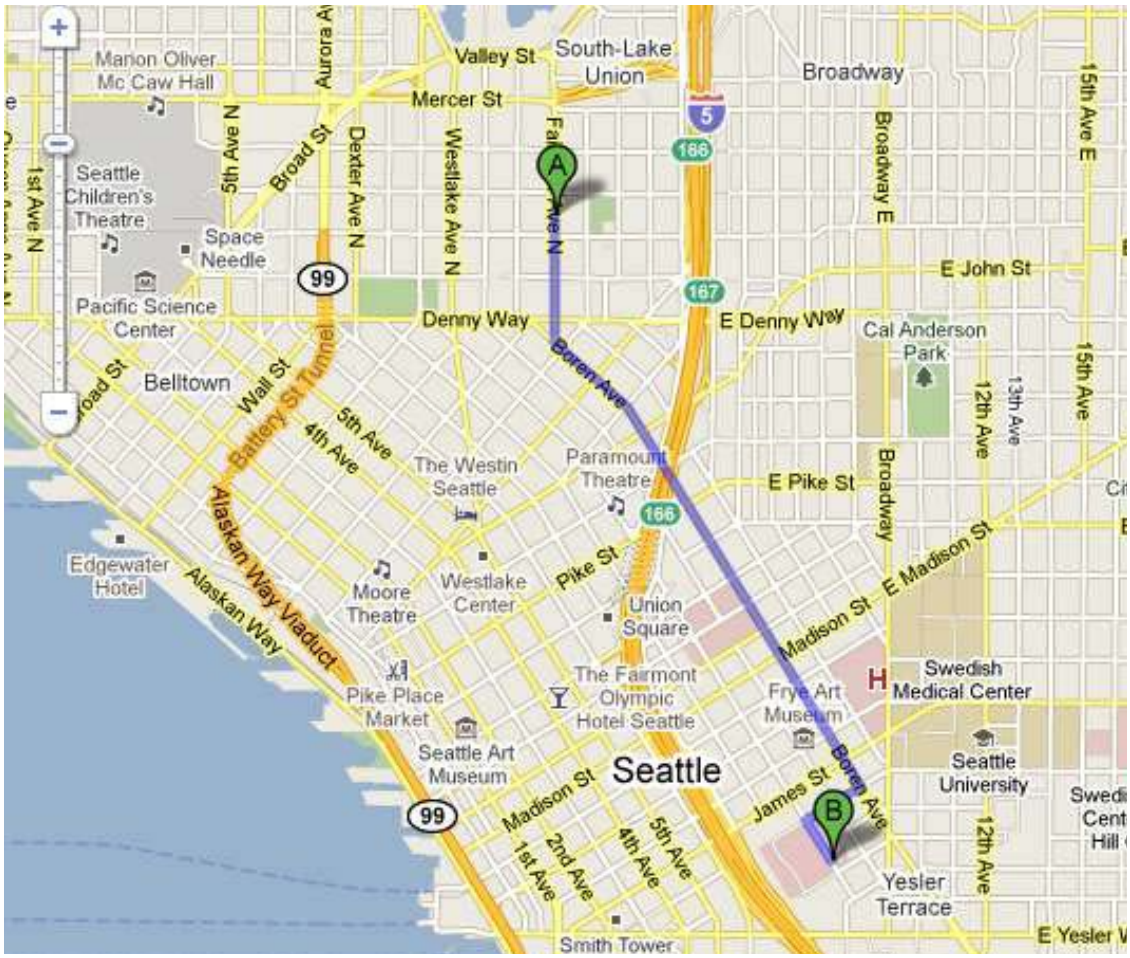
A 307 Fairview Ave N, Seattle, WA 98109

1.	Head **south** on **Fairview Ave N** toward **Thomas St** About 1 min	go 0.2 mi total 0.2 mi
2.	Slight **left** at **Boren Ave** About 3 mins	go 0.6 mi total 0.9 mi
3.	Turn **right** at **Seneca St**	go 0.1 mi total 1.0 mi
4.	Take the 1st **left** onto **9th Ave** Destination will be on the left	go 213 ft total 1.0 mi

Show: **Text only** | Map | Street View

B Virginia Mason Medical Center & Hospital: Seattle, WA
1100 Ninth Ave., Seattle, WA 98101 - (206) 223-6600

Alternate Hospital Route



A 307 Fairview Ave N, Seattle, WA 98109

1.	Head **south** on **Fairview Ave N** toward **Thomas St** About 1 min	go 0.2 mi total 0.2 mi
2.	Slight **left** at **Boren Ave** About 5 mins	go 1.0 mi total 1.3 mi
3.	Turn **right** at **Jefferson St**	go 0.1 mi total 1.4 mi
4.	Take the 2nd **left** onto **9th Ave** Destination will be on the right	go 479 ft total 1.5 mi

B Harborview Medical Center
325 9th Ave, Seattle, WA 98104 - (206) 731-3000

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

ATTACHMENT D TO EXHIBIT A – PROSPECTIVE PURCHASER CONSENT DECREE

January 10, 2019

Mr. Frank Jakus
Ponte Gadea Seattle, LLC
270 Biscayne Boulevard Way, Suite 201
Miami, Florida 33131-2123

Mr. Paul Klansnic
TB TS/RELP LLC
1425 4th Avenue, Suite 200
Seattle, Washington 98101

SUBJECT: CONTINGENCY FOR ADDITIONAL GROUNDWATER TREATMENT
Troy Laundry Property
300 Boren Avenue North and 399 Fairview Avenue North
Seattle, Washington
Project Number: 0731-004-05

Dear Mr. Jakus and Mr. Klansnic:

Since 2015, three groundwater treatment events have occurred at the Troy Laundry Property located at 300 Boren Avenue North (South Tower) and 399 Fairview Avenue North (North Tower) in Seattle, Washington (collectively, the Property), and the adjacent rights-of-way located to the west (Boren Avenue) and the south (Thomas Street). The location of the Property and these adjacent rights-of-way is shown on Figure 1. The purpose of groundwater treatment was to degrade concentrations of chlorinated volatile organic compounds (CVOCs) in the groundwater. The groundwater treatment events to date have included injecting carbon substrate and microbes into the groundwater beneath the Property and beneath the adjacent Boren Avenue and Thomas Street rights-of-way in order to facilitate the degradation of CVOCs through a process known as "enhanced" reductive dechlorination (ERD).

As more fully described below, after the groundwater treatment events in 2015, 2016, and 2017, concentrations of some CVOCs have decreased below Washington State Model Toxics Control Act (MTCA) cleanup levels (CULs) because of ERD, while other CVOCs, as expected and consistent with anticipated time frames, have increased. Because the ERD-influenced degradation of CVOCs in groundwater is ongoing, the restoration time frame for CVOCs, based on observable trends in the groundwater analytical results, cannot yet be determined.

SoundEarth Strategies Inc. has prepared this proposed plan for a contingency groundwater treatment event that may be implemented in the future if groundwater monitoring results demonstrate that concentrations

of CVOCs in groundwater beneath and adjacent to the Property remain static or increase, or if groundwater monitoring results demonstrate that cleanup standards may not be achieved in a reasonable time frame.

Presented below is a brief summary of the groundwater treatment system installed at and adjacent to the Property, a description of groundwater treatment events performed to date, the current concentrations of CVOCs in groundwater, trends in the concentrations of CVOCs in groundwater beneath the Property and the adjacent rights-of-way, and a discussion of the process for determining whether a contingency groundwater treatment event will be implemented.

GROUNDWATER TREATMENT SYSTEM

The groundwater treatment program was implemented as part of the Interim Action Plan (IAP; SoundEarth 2013) for the Property, which was approved by the Washington State Department of Ecology (Ecology) on October 10, 2013. The groundwater treatment system is composed of 103 injections wells, including 38 vertical wells located within the interior of the Property and 53 vertical wells located at the north, west, and south boundaries of the Property. Twelve angled injection wells were also installed on the Property and extend into the adjacent Boren Avenue North (to the west) and Thomas Street (to the south) rights-of-way. There are no angled injection wells extending into the adjacent Harrison Street right-of-way (to the north). The location of the injection well network is shown on Figures 2 and 3.

The groundwater treatment program is designed to enhance the natural biodegradation of CVOCs dissolved in the groundwater beneath and directly adjacent to the Property through ERD. ERD is facilitated by the injection of a carbon substrate and *Dehalococcoides* bacteria (DHC) into the groundwater. ERD is a biological process whereby chlorine (Cl^-) atoms are sequentially removed from the tetrachloroethene (PCE) molecule, resulting in successive dechlorination from the original dry-cleaning solvent PCE, to trichloroethene (TCE), then to trans-1,2-dichloroethene/cis-1,2-dichloroethene (DCE), and then to vinyl chloride (VC), and finally to ethene. The Engineering Design Report (EDR; SoundEarth 2014) for the IAP (SoundEarth 2013) sets forth more specific details of the groundwater treatment program beneath and adjacent to the Property. Ecology approved the EDR on March 4, 2014.

GROUNDWATER TREATMENT EVENTS AT THE TROY PROPERTY

A groundwater monitoring event was completed in May 2015 to establish groundwater quality. As shown in Figure 4, at the time groundwater treatment was initially implemented in May 2015, the baseline concentrations of PCE and TCE were substantially above the MTCA CUL (5 micrograms per liter [µg/L]) in many of the monitoring wells, which are colored red on Figure 4.

The first groundwater treatment event occurred between May 12 and June 5, 2015. SoundEarth injected approximately 400 to 530 gallons of EOS PRO solution into each injection well. A total of 49,500 gallons of 10 percent-by-volume EOS was injected during this initial treatment event.

The second groundwater treatment event at the Property occurred between April 25 and May 11, 2016. SoundEarth injected 100 to 1,100 gallons of EOS PRO solution into each injection well. A total of 63,895 gallons of 10 percent-by-volume EOS was used for this injection event.

Once significant anaerobic conditions were achieved, the third groundwater treatment event occurred in June 2017, whereby a total of 273 kilograms of an engineered strain of DHC was injected into 90 of the 103 injection wells. The 12 angled injection wells in the Boren Avenue and Thomas Street rights-of-way did not receive DHC in the third groundwater treatment event. The targeted vertical wells received an injection

consisting of a 50-gallon flush of conditioned water to assure strong anaerobic conditions to receive the bacteria, followed by 3.0 to 3.2 kilograms of DHC injected into each targeted well.

CURRENT GROUNDWATER CONDITIONS

For the existing groundwater monitoring wells located on the Property and in the adjacent rights-of-way, the trends in the groundwater analytical results from ERD treatment of groundwater indicate the following conditions.

On-Property Monitoring Wells

- Concentrations of both PCE and TCE in the groundwater beneath the Property have decreased to values less than the MTCA Method A CULs of 5 µg/L (see data in boxes on Figures 4 and 5; Table 1) with the exception of PCE and TCE concentrations at groundwater monitoring well IW61. Many of the monitoring wells exhibit PCE and TCE values below the laboratory reporting limits (not detected) at concentrations less than 1 µg/L. These values confirm that progressive degradation of PCE and TCE is occurring in the groundwater beneath the Property as the result of groundwater treatment.
- As expected, the concentrations of DCE in groundwater increased initially after treatment began due to PCE and TCE degrading to DCE. However, groundwater analytical results from 2017 and 2018 in the groundwater beneath the Property are now showing slightly increasing and/or relatively stable DCE concentrations, as a result of ERD of PCE and TCE (see data boxes on Figure 5; Table 1). The current concentrations of DCE in the groundwater beneath the Property were anticipated as a result of groundwater treatment using ERD.
- As anticipated, and as a direct result of groundwater treatment, the concentrations of VC in the groundwater beneath the Property have increased with time since groundwater treatment began, and currently exceed the MTCA Method A CUL of 0.2 µg/L in most on-Property wells (Figure 5; Table 1). The increased concentrations of VC are expected at this stage of the treatment process.

Rights-of-Way Monitoring Wells

- Boren Avenue and Thomas Street: No specific trend has been observed in groundwater from monitoring wells installed beneath the adjacent Boren Avenue and Thomas Street rights-of-way, although conditions related to confirmed CVOC releases to groundwater from the Property have stabilized and generally declined since initiation of groundwater treatment.
- Harrison Street: Because there are no angled injection wells extending into the Harrison Street right-of-way, it is not anticipated that concentrations of CVOCs in MW01 and MW26 will decrease in response to the groundwater treatment events performed by the Seller. The data collected from groundwater beneath the Harrison Street right-of-way will be used to determine whether the performance monitoring schedule will be extended past 2023 and whether an additional groundwater treatment injection event (using all or a portion of the existing injection well network) is necessary to prevent or address recontamination of the Property from upgradient contamination.

Based on the current trends for groundwater analytical results, SoundEarth projects that concentrations of CVOCs in groundwater beneath the Property will fall below applicable MTCA CULs in approximately 6 years (year 2023) from the time of the last injection event in June 2017. However, it is not anticipated that cleanup levels will be achieved in the rights-of-way monitoring wells located in the rights-of-way within the same time frame.

CONTINGENCY FOR ADDITIONAL INJECTION

Whether the ERD treatment process achieves continued reduction of CVOCs is dependent upon three conditions:

- Available EOS needs to be present in the groundwater treatment area.
- Anaerobic conditions need to be maintained.
- Biologically active DHC bacterial population mass needs to be present.

The current groundwater monitoring program measures key parameters, such as fatty acids, dissolved oxygen, total organic carbon, oxidation-reduction potential, and other parameters to check that these three conditions continue to be present. If monitoring results show that EOS is being depleted, that anaerobic conditions are being weakened, or that biological activity by DHC is being curtailed, then an additional injection event with additional EOS and active DHC populations may be necessary. However, due to the significant total mass of EOS injected in the 2015 and 2016 treatment events, SoundEarth does not anticipate that the additional injection of EOS or DHC will be required to achieve the anticipated restoration time frame for groundwater beneath the Property. Groundwater conditions both beneath and adjacent to the Property will continue to be monitored throughout the treatment process.

Based on our professional experience with ERD, SoundEarth anticipates that concentrations of DCE and VC in the groundwater beneath the Property will eventually begin to decline. The decline in the concentrations of DCE and VC should be evident in the next 3 to 6 years.

SoundEarth will monitor concentrations of CVOCs in the on-Property groundwater monitoring wells and the groundwater monitoring wells located in Harrison Street, Boren Avenue, and Thomas Street (and on adjacent properties, if available) to evaluate whether there is a consistent and continuing pattern of decline. A decline in the concentration of CVOCs will be determined based on statistical trend analyses performed from the start of the groundwater treatment program until the end of 2023, which will be summarized in a Statistical Trend Analysis Report and submitted to Ecology in the first quarter of 2024. The Statistical Trend Analysis Report will evaluate wells both on the Property and adjacent to the Property.

Once statistical trend analysis for a CVOC shows a negative trend over four consecutive quarters, a decay rate and restoration time for the CVOC will be calculated and will be reviewed in consultation with Ecology. The restoration time frame means the period of time needed for the concentration of a CVOC to achieve the required CUL based on the estimated decay rate.

If a statistical trend analysis for any CVOC shows that concentrations will continue to exceed CULs after the year 2024, this will trigger an extension of the performance groundwater monitoring schedule as described in Exhibit A, and consultation with Ecology regarding groundwater treatment options. To account for any uncertainty in the calculated decay rate, and subsequently the estimated restoration time, a confidence level of 85 percent will be established for the decay rate. This means that 85 percent of the time the true rate of decay will be equal to or greater than the calculated decay rate and there is a high level of certainty in the estimated restoration time. The uncertainty analysis based on guidance present in the *Ecology Natural Attenuation Analysis Tool Package for Petroleum-Contaminated Groundwater Package A Module 2* (Ecology 2005).

If Ecology determines that an additional groundwater treatment injection event is necessary, such treatment may include the injection of carbon substrate and/or DHC into the groundwater, and may utilize all or a

portion of the existing injection well network beneath the Property and extending beneath the Boren Avenue and Thomas Street rights-of-way. If so required, the Parties will consult on the scope of work and schedule for the treatment event, and a Work Plan will be submitted for Ecology's review and approval. Following additional treatment, groundwater monitoring will continue until trend analyses indicate that the concentrations of CVOCs in groundwater beneath the Property and the adjacent rights-of-way are declining such that a restoration time for the CVOCs in the groundwater can be estimated.

Respectfully,

SoundEarth Strategies, Inc.

Thomas Cammarata, LHG, LG
Principal Environmental Geochemist

Attachments: Figure 1, Property Location Map
Figure 2, ERD Treatment System Well Layout and Monitoring Well Network
Figure 3, ERD Treatment System
Figure 4, 2015 Baseline Data
Figure 5, 2017 and 2018 Groundwater Analytical Results—Chlorinated Volatile Organic Compounds
Table 1, Groundwater Analytical Results for CVOCs

REFERENCES

SoundEarth Strategies, Inc. (SoundEarth). 2013. *Interim Action Plan, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington.* August 21.

_____. 2014. *Engineering Design Report, Troy Laundry Property, 307 Fairview Avenue North, Seattle, Washington.* February 13.

Washington State Department of Ecology. Guidance on Remediation of Petroleum-Contaminated Ground Water by Natural Attenuation. July 2005.

FIGURES

6/9/2015

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\FIGURE 1\0731-004-04_FIG 1_F.DWG

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FIGURE 1
PROPERTY LOCATION MAP

9/4/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\CONTINGENCY LETTER\0731-004_2018_SP.DWG

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- PERIMETER BOUNDARY WALL INJECTION WELL
- ON-PROPERTY INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS
- GROUNDWATER FLOW DIRECTION

PCE TETRACHLOROETHENE

TCE TRICHLOROETHENE

N

0 25 50

APPROXIMATE SCALE IN FEET

HARRISON STREET

TERRY AVENUE NORTH

FAIRVIEW AVENUE NORTH

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

UPGRADIENT TCE SOURCE

ORIGINAL PCE RELEASE

AMAZON BUILDING

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

B08/ MW01

MW26

B09/ MW02

B10/ MW03

B11/ MW04

B15/ MW07

B49/ MW15

MW27

B12/ MW05

B37/ MW13

B31/ MW12

B13/ MW06

B28/ MW10

B30/ MW11

B26/ MW08

B27/ MW09

B50/ MW16

MW28

B38/ MW14

MW17

MW18

MW19

MW20

MW21

MW22

MW23

MW24

MW25

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 IW91

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FIGURE 2

ERD TREATMENT SYSTEM WELL LAYOUT AND MONITORING WELL NETWORK

7/9/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\CONTINGENCY LETTER\0731-004_2017-3D-MODEL.DWG

BOREN AVENUE

FEET ABOVE MEAN SEA LEVEL

75'

50'

25'

0'

FAIRVIEW AVENUE NORTH

100'

75'

50'

25'

0'

FEET ABOVE MEAN SEA LEVEL

N

P5 PARKING LEVEL APPROXIMATELY 55' BELOW GROUND SURFACE

UPGRADIENT TCE SOURCE

ORIGINAL PCE RELEASE

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

MW17 MW19 MW20 MW21 MW22 MW23 MW24 MW25 MW16

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 IW91

THOMAS STREET

BOREN AVENUE

30' 15' 0' 15' 30'

APPROXIMATE SCALE IN FEET

LEGEND

INJECTION WELL

SCREEN INTERVAL

RADIUS OF INFLUENCE FOR CARBON SUBSTRATE INJECTATE ☐10☐

BARRIER WALL AT PROPERTY BOUNDARY ON BOREN AVENUE

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FIGURE 3
ERD TREATMENT SYSTEM

11/5/2018

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\CONTINGENCY LETTER\0731-004_2015Q4_VOC.DWG

CONCENTRATIONS IN SAMPLES (ON PROPERTY)

- PCE GREATER THAN CLEANUP LEVEL
- TCE GREATER THAN CLEANUP LEVEL
- CIS-1-2-DCE/VINYL CHLORIDE GREATER THAN CLEANUP LEVEL
- ALL BELOW CLEANUP LEVEL
- APPROXIMATE EXTENT OF PCE/TCE

N

0 25 50

APPROXIMATE SCALE IN FEET

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW06	05/07/15	6.3	13	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW04	05/08/15	<1	15	1.9	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW17	05/06/15	<1	2.2	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW04	05/08/15	1.4	13	4.2	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW18	05/06/15	<1	46	5.2	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW07	05/08/15	2.5	15	4.8	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW20	05/06/15	<1	<1	1.5	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW19	05/07/15	<1	69	15	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW24	05/06/15	2.5	31	72	<1	0.26

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW15	05/08/15	<1	6.5	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW21	05/06/15	5.1	1.6	7.2	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW25	05/07/15	<1	68	5.2	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW22	05/06/15	11	2.2	27	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW91	05/06/15	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW13	05/11/15	4.6	1.7	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW61	12/08/15	10	2.8	120	<1	0.86

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW23	05/07/15	6.1	18	13	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW16	05/08/15	7.5	7.6	640	<1	2.8

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

DCE	DICHLOROETHENE
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
<	NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
RED	DENOTES CONCENTRATIONS EXCEEDING THE MTCA METHOD CLEANUP LEVEL FOR GROUNDWATER

	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MTCA Method A	5	5	16	160	0.2

HARRISON STREET

THOMAS STREET

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

HISTORICAL BUILDING FACADE

HISTORICAL BUILDING

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01 · MW26 · B09/ MW02 · B10/ MW03 · B11/ MW04 · B15/ MW07 · B49/ MW15 · MW27 · B12/ MW05 · B13/ MW06 · B31/ MW12 · B28/ MW10 · B30/ MW11 · B26/ MW08 · B37/ MW13 · B27/ MW09 · B50/ MW16 · MW28 · B38/ MW14

AIW01 · AIW02 · AIW03 · AIW04 · AIW05 · AIW06 · AIW07 · AIW08 · AIW10 · AIW11

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW10 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW80 IW81 IW82 IW89 IW90 IW91

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FIGURE 4
2015 BASELINE DATA

10/29/2018

CONCENTRATIONS IN SAMPLES (ON PROPERTY)

- PCE GREATER THAN CLEANUP LEVEL
- TCE GREATER THAN CLEANUP LEVEL
- CIS-1-2-DCE/VINYL CHLORIDE GREATER THAN CLEANUP LEVEL
- ALL BELOW CLEANUP LEVEL
- APPROXIMATE EXTENT OF PCE/TCE

N

0 25 50

APPROXIMATE SCALE IN FEET

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW26	12/14/17	<1	15	1.4	<1	<0.2
	03/09/18	<1	6.0	<1	<1	<0.2
	06/28/18	<1	18	<1	<1	<0.2
	09/20/18	<1	18	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW01	12/14/17	<1	<1	<1	<1	<0.2
	03/09/18	<1	<1	<1	<1	<0.2
	06/28/18	<1	1.1	<1	<1	<0.2
	09/20/18	<1	<1	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW04	09/23/17	<1	<1	14	<1	0.22
	12/16/17	<1	<1	19	<1	0.54
	03/10/18	<1	<1	9.0	<1	0.65
	06/30/18	<1	<1	5.3	<1	0.68

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW17	09/23/17	<1	2.1	1.2	<1	<0.2
	03/10/18	<1	2.6	1.5	<1	<0.2
	06/30/18	<1	2.8	2.2	<1	<0.2
	09/22/18	<1	2.7	2.0	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW04	12/14/17	<1	8.0	2.4	<1	<0.2
	03/09/18	<1	8.6	<1	<1	<0.2
	06/29/18	<1	9.4	<1	<1	<0.2
	09/20/18	<1	9.4	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW18	12/16/17	<1	<1	22	<1	0.24
	03/10/18	<1	<1	27	<1	0.40
	06/30/18	<1	<1	27	<1	0.43
	09/22/18	<1	<1	21	<1	0.42

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW07	12/12/17	Inaccessible				
	03/08/18	2.6	11	1.1	<1	<0.2
	06/29/18	3.3	7.3	<1	<1	<0.2
	09/20/18	2.8	6.0	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW20	12/16/17	<1	1.3	15	<1	0.35
	03/10/18	<1	<1	11	<1	<0.2
	06/30/18	<1	<1	7.0	<1	<0.2
	09/22/18	<1	<1	5.3	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW19	12/16/17	<1	1.1	13	<1	0.97
	03/10/18	<1	<1	12	<1	0.78
	06/30/18	<1	<1	12	<1	0.96
	09/22/18	<1	<1	16	<1	0.86

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW24	12/16/17	<1	1.3	30	<1	0.38
	03/10/18	<1	<1	25	<1	0.36
	06/30/18	1.5	1.9	41	<1	2.1
	09/22/18	<1	<1	35	<1	0.37

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW15	12/15/17	<1	3.0	<1	<1	<0.2
	03/09/18	<1	3.3	<1	<1	<0.2
	06/29/18	<1	5.1	<1	<1	<0.2
	09/20/18	<1	6.9	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW50	12/16/17	<1	<1	15	<1	2.20
	03/10/18	<1	<1	8.0	<1	3.6
	06/30/18	<1	<1	4.5	<1	2.5
	09/22/18	<1	<1	5.1	<1	2.9

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW27	12/29/17	<1	60	3.5	<1	<0.2
	03/08/18	<1	13	<1	<1	<0.2
	06/28/18	<1	37	3.4	<1	<0.2
	09/20/18	<1	21	3.7	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW21	12/16/17	<1	<1	14	<1	0.49
	03/10/18	<1	<1	14	<1	0.43
	06/30/18	<1	<1	6.0	<1	0.29
	09/22/18	<1	<1	6.9	<1	0.30

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW25	12/16/17	<1	<1	23	<1	0.41
	03/10/18	<1	<1	25	<1	0.32
	06/30/18	<1	<1	31	<1	0.52
	09/22/18	<1	<1	37	<1	0.46

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW22	12/16/17	<1	<1	22	<1	1.2
	03/10/18	<1	<1	22	<1	1.3
	06/30/18	<1	<1	28	<1	1.2
	09/22/18	<1	<1	33	<1	0.90

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW13	12/14/17	5.2	1.4	<1	<1	<0.2
	03/08/18	8.0	1.4	<1	<1	<0.2
	06/29/18	4.4	<1	<1	<1	<0.2
	09/20/18	6.5	1.3	<1	<1	<0.2

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW61	12/16/17	15	3.2	65	<1	1.2
	03/10/18	15	2.7	71	<1	1.1
	06/30/18	16	2.5	67	<1	1.7
	09/22/18	13	2.1	63	<1	1.8

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW23	12/16/17	<1	1.3	14	<1	0.51
	03/10/18	<1	<1	20	<1	0.52
	06/30/18	<1	<1	14	<1	0.53
	09/22/18	<1	<1	16	<1	0.53

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MW16	09/22/17	5.4	5.2	78	<1	0.40
	12/29/17	7.2	6.4	150	<1	0.89
	03/09/18	7.3	5.5	80	<1	0.35
	WELL DAMAGED 2018					

Sample Location	Sample Date	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
IW91	12/16/17	<1	<1	<1	<1	<0.2
	03/10/18	<1	<1	<1	<1	<0.2
	06/30/18	<1	<1	<1	<1	<0.2
	09/22/18	<1	<1	<1	<1	<0.2

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

SOUTH LAKE UNION HOTEL LLC

TERRY AVENUE NORTH

BOREN AVENUE NORTH

FAIRVIEW AVENUE

THOMAS STREET

B08/ MW01 · MW26 · B09/ MW02 · B10/ MW03 · B11/ MW04 · B15/ MW07 · B31/ MW12 · B13/ MW06 · B30/ MW11 · B49/ MW15 · B12/ MW05 · B37/ MW13 · B27/ MW09 · B50/ MW16 · B38/ MW14

AIW01 · AIW02 · AIW03 · AIW04 · AIW05 · AIW06 · AIW07 · AIW09 · AIW11

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW80 IW81 IW82 IW89 IW90 IW91

MW17 · MW18 · MW19 · MW20 · MW21 · MW22 · MW23 · MW24 · MW25 · MW27 · MW28

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

DCE	DICHLOROETHENE
PCE	TETRACHLOROETHENE
TCE	TRICHLOROETHENE
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
<	NOT DETECTED AT A CONCENTRATION EXCEEDING LABORATORY REPORTING LIMIT
RED	DENOTES CONCENTRATIONS EXCEEDING THE MTCA METHOD CLEANUP LEVEL FOR GROUNDWATER

	Analytical Results (micrograms per liter) PCE	TCE	cis-1-2-DCE	trans-1-2-DCE	Vinyl Chloride
MTCA Method A	5	5	16	160	0.2

SoundEarth Strategies

WWW.SOUNDEARTHINC.COM

TROY LAUNDRY PROPERTY
307 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT # 0731-004

FIGURE 5

2017 AND 2018 GROUNDWATER ANALYTICAL RESULTS - CHLORINATED VOLATILE ORGANIC COMPOUNDS

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2018\GW\0731-004_2018Q3_VOC_DOTS.DWG

TABLE

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
Troy Laundry Property								
MW06	MW06-20110531	05/31/11	SoundEarth	3.1	**8.2**	**150**[ve]	<1	**0.76**
	MW06-20111012	10/12/11	SoundEarth	3.6	**11**	**120**	<1	**0.76**
	MW06-20130909	09/09/13	SoundEarth	3.8	4.5	**150**	<1	**0.93**
	DECOMMISSIONED 2013							
MW08	MW08-20111013	10/13/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW08-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW09	MW09-20111013	10/13/11	SoundEarth	<1	**16**	**22**	<1	<0.2
	MW09-20130910	09/10/13	SoundEarth	1.6	**15**	2.0	<1	<0.2
	DECOMMISSIONED 2013							
MW10	MW10-20111012	10/12/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW10-20130909	09/09/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW11	MW11-20111013	10/13/11	SoundEarth	**21**	2.6	5.6	<1	<0.2
	MW11-20130909	09/09/13	SoundEarth	**39**	3.8	3.6	<1	<0.2
	DECOMMISSIONED 2013							
MW12	MW12-20111017	10/17/11	SoundEarth	<1	**19**	1.3	<1	<0.2
	MW12-20130909	09/09/13	SoundEarth	<1	**20**	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW17	MW17-20150506	05/06/15	SoundEarth	<1	2.2	<1	<1	<0.2
	MW17-20150804	08/07/15	SoundEarth	<1	1.5	<1	<1	<0.2
	MW17-20151207	12/07/15	SoundEarth	<1	1.5	<1	<1	<0.2
	MW17-20160308	03/08/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW17-20160714	07/14/16	SoundEarth	<1	1.2	<1	<1	<0.2
	MW17-20161020	10/20/16	SoundEarth	<1	2.1	<1	<1	<0.2
	MW17-20170126	01/26/17	SoundEarth	<1	1.9	<1	<1	<0.2
	MW17-20170601	06/01/17	SoundEarth	<1	2.5	<1	<1	<0.2
	MW17-20170923	09/23/17	SoundEarth	<1	2.1	1.2	<1	<0.2
	MW17-20171216	12/16/17	SoundEarth	<1	2.5	1.7	<1	<0.2
	MW17-20180310	03/10/18	SoundEarth	<1	2.6	1.5	<1	<0.2
	MW17-20180630	06/30/18	SoundEarth	<1	2.8	2.2	<1	<0.2
	MW17-20180922	09/22/18	SoundEarth	<1	2.7	2.0	<1	<0.2
MW18	MW18-20150506	05/06/15	SoundEarth	<1	**46**	5.2	<1	<0.2
	MW18-20150803	08/03/15	SoundEarth	<1	**51**	4.6	<1	<0.2
	MW18-20151208	12/08/15	SoundEarth	<1	**51**	9.9	<1	<0.2
	MW18-20160308	03/08/16	SoundEarth	<1	**44**	8.1	<1	<0.2
	MW18-20160714	07/14/16	SoundEarth	<1	3.3	1.7	<1	<0.2
	MW18-20161020	10/20/16	SoundEarth	<1	**6.5**	4.0	<1	<0.2
	MW18-20170126	01/26/17	SoundEarth	<1	**7.7**	14	<1	**0.25**
	MW18-20170601	06/01/17	SoundEarth	<1	3.3	14	<1	**0.31**
	MW18-20170923	09/23/17	SoundEarth	<1	<1	**22**	<1	**0.38**
	MW18-20171216	12/16/17	SoundEarth	<1	<1	**22**	<1	**0.24**
	MW18-20180310	03/10/18	SoundEarth	<1	<1	**27**	<1	**0.40**
	MW18-20180630	06/30/18	SoundEarth	<1	<1	**27**	<1	**0.43**
	MW18-20180922	09/22/18	SoundEarth	<1	<1	**21**	<1	**0.42**
MW19	MW19-20150507	05/07/15	SoundEarth	<1	**69**	15	<1	<0.2
	MW19-20150803	08/03/15	SoundEarth	<1	**61**	**20**	<1	<0.2
	MW19-20151207	12/07/15	SoundEarth	<1	**65**	**23**	<1	<0.2
	MW19-20160308	03/08/16	SoundEarth	<1	**52**	**26**	<1	<0.2
	MW19-20160713	07/13/16	SoundEarth	<1	4.6	10	<1	<0.2
	MW19-20161021	10/21/16	SoundEarth	<1	**10**	4.4	<1	**0.40**
	MW19-20170125	01/25/17	SoundEarth	<1	**5.5**	3.9	<1	**0.30**
	MW19-20170601	06/01/17	SoundEarth	<1	**5.7**	3.5	<1	**0.44**
	MW19-20170923	09/23/17	SoundEarth	<1	1.7	3.4	<1	**0.97**
	MW19-20171216	12/16/17	SoundEarth	<1	1.1	13	<1	**0.97**
	MW19-20180310	03/10/18	SoundEarth	<1	<1	12	<1	**0.78**
	MW19-20180630	06/30/18	SoundEarth	<1	<1	12	<1	**0.96**
	MW19-20180922	09/22/18	SoundEarth	<1	<1	**16**	<1	**0.86**
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW20	MW20-20150506	05/06/15	SoundEarth	<1	<1	1.5	<1	<0.2
	MW20-20150803	08/03/15	SoundEarth	<1	<1	1.2	<1	<0.2
	MW20-20151207	12/07/15	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20160309	03/09/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20160715	07/15/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20161020	10/20/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW20-20170125	01/25/17	SoundEarth	<1	<1	4.1	<1	<0.2
	MW20-20170601	06/01/17	SoundEarth	<1	<1	1.2	<1	<0.2
	MW20-20170924	09/24/17	SoundEarth	<1	<1	9.5	<1	<0.2
	MW20-20171216	12/16/17	SoundEarth	<1	1.3	15	<1	**0.35**
	MW20-20180310	03/10/18	SoundEarth	<1	<1	11	<1	<0.2
	MW20-20180630	06/30/18	SoundEarth	<1	<1	7.0	<1	<0.2
	MW20-20180922	09/22/18	SoundEarth	<1	<1	5.3	<1	<0.2
MW21	MW21-20150506	05/06/15	SoundEarth	**5.1**	1.6	7.2	<1	<0.2
	MW21-20150804	08/04/15	SoundEarth	4.9	1.4	4.5	<1	<0.2
	MW21-20151208	12/08/15	SoundEarth	**7.3**	2.0	6.7	<1	<0.2
	MW21-20160309	03/09/16	SoundEarth	**5.3**	1.4	7.9	<1	<0.2
	MW21-20160713	07/13/16	SoundEarth	<1	<1	1.2	<1	<0.2
	MW21-20161020	10/20/16	SoundEarth	<1	<1	1.7	<1	<0.2
	MW21-20170126	01/26/17	SoundEarth	<1	<1	2.4	<1	<0.2
	MW21-20170601	06/01/17	SoundEarth	<1	<1	2.4	<1	<0.2
	MW21-20170923	09/23/17	SoundEarth	<1	<1	3.7	<1	<0.2
	MW21-20171216	12/16/17	SoundEarth	<1	<1	14	<1	**0.49**
	MW21-20180310	03/10/18	SoundEarth	<1	<1	14	<1	**0.43**
	MW21-20180630	06/30/18	SoundEarth	<1	<1	6.0	<1	**0.29**
	MW21-20180922	09/22/18	SoundEarth	<1	<1	6.9	<1	**0.30**
MW22	MW22-20150506	05/06/15	SoundEarth	**11**	2.2	**27**	<1	<0.2
	MW22-20150804	08/04/15	SoundEarth	**17**	3.0	**34**	<1	<0.2
	MW22-20151208	12/08/15	SoundEarth	**19**	3.7	**42**	<1	<0.2
	MW22-20160308	03/08/16	SoundEarth	**28**	4.5	**52**	<1	**0.35**
	MW22-20160713	07/13/16	SoundEarth	<1	<1	5.5	<1	<0.2
	MW22-20161020	10/20/16	SoundEarth	<1	<1	6.7	<1	**0.65**
	MW22-20170126	01/26/17	SoundEarth	<1	<1	8.5	<1	**0.51**
	MW22-20170601	06/01/17	SoundEarth	<1	<1	10	<1	**1.5**
	MW22-20170923	09/23/17	SoundEarth	<1	<1	**18**	<1	**1.4**
	MW22-20171216	12/16/17	SoundEarth	<1	<1	**22**	<1	**1.2**
	MW22-20180310	03/10/18	SoundEarth	<1	<1	**22**	<1	**1.3**
	MW22-20180630	06/30/18	SoundEarth	<1	<1	**28**	<1	**1.2**
	MW22-20180922	09/22/18	SoundEarth	<1	<1	**33**	<1	**0.90**
MW23	MW23-20150507	05/07/15	SoundEarth	**6.1**	**18**	13	<1	<0.2
	MW23-20150804	08/04/15	SoundEarth	**6.1**	**24**	**20**	<1	0.20
	MW23-20151208	12/08/15	SoundEarth	3.8	**16**	**120**	<1	**0.57**
	MW23-20160308	03/08/16	SoundEarth	4.1	**14**	**95**	<1	**0.64**
	MW23-20160714	07/14/16	SoundEarth	<1	1.6	14	<1	**2.2**
	MW23-20161020	10/20/16	SoundEarth	<1	2.1	9.9	<1	**0.48**
	MW23-20170126	01/26/17	SoundEarth	<1	2.9	**41**	<1	**1.4**
	MW23-20170601	06/01/17	SoundEarth	<1	2.7	**23**	<1	**0.74**
	MW23-20170923	09/23/17	SoundEarth	<1	1.7	**16**	<1	**0.50**
	MW23-20171216	12/16/17	SoundEarth	<1	1.3	14	<1	**0.51**
	MW23-20180310	03/10/18	SoundEarth	<1	<1	**20**	<1	**0.52**
	MW23-20180630	06/30/18	SoundEarth	<1	<1	14	<1	**0.53**
	MW23-20180922	09/22/18	SoundEarth	<1	<1	**16**	<1	**0.53**
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
MW24	MW24-20150506	05/06/15	SoundEarth	2.5	**31**	**72**	<1	**0.26**
	MW24-20150804	08/04/15	SoundEarth	**5.5**	**28**	**75**	<1	<0.2
	MW24-20151208	12/08/15	SoundEarth	**11**	**28**	**54**	<1	<0.2
	MW24-20160309	03/09/16	SoundEarth	**11**	**23**	**45**	<1	<0.2
	MW24-20160715	07/15/16	SoundEarth	<1	1.7	12	<1	<0.2
	MW98-20160715 (DUP)			<1	1.8	12	<1	<0.2
	MW24-20161020	10/20/16	SoundEarth	<1	2.7	12	<1	**0.26**
	MW24-20170125	01/25/17	SoundEarth	<1	3.5	**20**	<1	**0.81**
	MW24-20170601	06/01/17	SoundEarth	1.1	4.8	**35**	<1	**1.0**
	MW24-20170924	09/24/17	SoundEarth	<1	1.8	**33**	<1	**0.36**
	MW24-20171216	12/16/17	SoundEarth	<1	1.3	**30**	<1	**0.38**
	MW24-20180310	03/10/18	SoundEarth	<1	<1	**25**	<1	**0.36**
	MW24-20180630	06/30/18	SoundEarth	1.5	1.9	**41**	<1	**2.1**
	MW24-20180922	09/22/18	SoundEarth	<1	<1	**35**	<1	**0.37**
MW25	MW25-20150507	05/07/15	SoundEarth	<1	**68**	5.2	<1	<0.2
	MW99-20150507 (DUP)			<1	**69**	5.3	<1	<0.2
	MW25-20150805	08/05/15	SoundEarth	3.0	**75**	7.9	<1	<0.2
	MW99-20150805 (DUP)			2.9	**73**	7.8	<1	<0.2
	MW25-20151209	12/09/15	SoundEarth	**11**	**71**	8.4	<1	<0.2
	MW99-20151209 (DUP)			**11**	**72**	8.3	<1	<0.2
	MW25-20160308	03/08/16	SoundEarth	**24**	**50**	12	<1	<0.2
	MW99-20160308(DUP)			**25**	**50**	12	<1	<0.2
	MW25-20160713	07/13/16	SoundEarth	**6.1**	4.8	**23**	<1	**0.70**
	MW25-20161019	10/19/16	SoundEarth	1.8	**5.1**	15	<1	**0.96**
	MW99-20161019 (DUP)			1.7	5.0	16	<1	**1.0**
	MW25-20170125	01/25/17	SoundEarth	1.0	3.6	**44**	<1	**0.89**
	MW99-20170125 (DUP)			1.1	3.7	**44**	<1	**0.92**
	MW25-20170601	06/01/17	SoundEarth	<1	1.2	15	<1	**0.31**
	MW99-20170601 (DUP)			<1	1.3	15	<1	**0.41**
	MW25-20170923	09/23/17	SoundEarth	<1	<1	15	<1	**0.40**
	MW99-20170923 (DUP)			<1	<1	15	<1	**0.34**
	MW25-20171216	12/16/17	SoundEarth	<1	<1	**23**	<1	**0.41**
	MW99-20171216 (DUP)			<1	<1	**23**	<1	**0.40**
	MW25-20180310	03/10/18	SoundEarth	<1	<1	**25**	<1	**0.32**
	MW99-20180310 (DUP)			<1	<1	**25**	<1	**0.30**
	MW25-20180630	06/30/18	SoundEarth	<1	<1	**31**	<1	**0.52**
	MW99-20180630 (DUP)			<1	<1	**32**	<1	**0.49**
	MW25-20180922	09/22/18	SoundEarth	<1	<1	**37**	<1	**0.46**
	MW99-20180922 (DUP)			<1	<1	**36**	<1	**0.51**
IW04	IW04-20150508	05/08/15	SoundEarth	<1	**15**	1.9	<1	<0.2
	IW04-20160309	03/09/16	SoundEarth	<1	2.5	11	<1	<0.2
	IW04-20160714	07/14/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW04-20161021	10/21/16	SoundEarth	<1	<1	1.8	<1	<0.2
	IW04-20170126	01/26/17	SoundEarth	<1	1.1	4.8	<1	<0.2
	IW04-20170601	06/01/17	SoundEarth	<1	1.2	12	<1	**0.21**
	IW04-20170923	09/23/17	SoundEarth	<1	<1	14	<1	**0.22**
	IW04-20171216	12/16/17	SoundEarth	<1	<1	**19**	<1	**0.54**
	IW04-20180310	03/10/18	SoundEarth	<1	<1	9.0	<1	**0.65**
	IW04-20180630	06/30/18	SoundEarth	<1	<1	5.3	<1	**0.68**
	IW04-20180922	09/22/18	SoundEarth	<1	<1	<1	<1	**<0.2**
IW06	IW06-20150507	05/07/15	SoundEarth	**6.3**	**13**	<1	<1	<0.2
	IW06-20180310	03/10/18	SoundEarth	<1	<1	1.6	<1	<0.2
	IW06-20180630	06/30/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW06-20180922	09/22/18	SoundEarth	<1	<1	4.7	<1	**1.1**
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L)				
				PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
IW50	IW50-20150803	08/03/15	SoundEarth	4.1	8.1	**44**	<1	<0.2
	IW50-20151208	12/08/15	SoundEarth	<1	<1	**140**	<1	**1.8**
	IW50-20160309	03/09/16	SoundEarth	<1	<1	**110**	<1	**1.9**
	IW50-20160715	07/15/16	SoundEarth	3.7	<1	**38**	<1	**2.5**
	IW50-20161021	10/21/16	SoundEarth	3.7	<1	**23**	<1	**1.0**
	IW50-20170126	01/26/17	SoundEarth	**13**	2.1	**34**	<1	**0.74**
	IW50-20170602	06/02/17	SoundEarth	<1	<1	**81**	<1	**0.95**
	IW50-20170924	09/24/17	SoundEarth	<1	<1	**26**	<1	**2.6**
	IW50-20171216	12/16/17	SoundEarth	<1	<1	15	<1	**2.2**
	IW50-20180310	03/10/18	SoundEarth	<1	<1	8.0	<1	**3.6**
	IW50-20180630	06/30/18	SoundEarth	<1	<1	4.5	<1	**2.5**
	IW50-20180922	09/22/18	SoundEarth	<1	<1	5.1	<1	**2.9**
IW61	IW61-20151208	12/08/15	SoundEarth	**10**	2.8	**120**	<1	**0.86**
	IW61-20160309	03/09/16	SoundEarth	**23**	4.2	**140**	<1	**1.7**
	IW61-20160714	07/14/16	SoundEarth	**8.3**	1.6	**24**	<1	**1.6**
	IW61-20161021	10/21/16	SoundEarth	**9.5**	2.8	**34**	<1	**0.96**
	IW61-20170126	01/26/17	SoundEarth	**8.3**	2.9	**32**	<1	**0.96**
	IW61-20170602	06/02/17	SoundEarth	**9.9**	3.4	**41**	<1	**1.3**
	IW61-20170923	09/23/17	SoundEarth	**12**	3.2	**45**	<1	**1.2**
	IW61-20171216	12/16/17	SoundEarth	**15**	3.2	**65**	<1	**1.2**
	IW61-20180310	03/10/18	SoundEarth	**15**	2.7	**71**	<1	**1.1**
	IW61-20180323*	03/23/18	SoundEarth	**15**	2.9	**82**	<1	**1.3**
	IW61-20180630	06/30/18	SoundEarth	**16**	2.5	**67**	<1	**1.7**
	IW61-20180922	09/22/18	SoundEarth	**13**	2.1	**63**	<1	**1.8**
IW91	IW91-20150506	05/06/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20150804	08/04/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20151208	12/08/15	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20160309	03/09/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20160714	07/14/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20161020	10/20/16	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170126	01/26/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170601	06/01/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20170923	09/23/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20171216	12/16/17	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180310	03/10/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180630	06/30/18	SoundEarth	<1	<1	<1	<1	<0.2
	IW91-20180922	09/22/18	SoundEarth	<1	<1	<1	<1	<0.2
Boren Avenue North								
MW04	MW04-20110527	05/27/11	SoundEarth	<1	**15**	<1	<1	<0.2
	MW04-20111012	10/12/11	SoundEarth	<1	**15**	<1	<1	<0.2
	MW04-20130909	09/09/13	SoundEarth	<1	**22**	15	<1	<0.2
	MW04-20150508	05/08/15	SoundEarth	1.4	**13**	4.2	<1	<0.2
	MW04-20150806	08/06/15	SoundEarth	<1	**6.9**	1.0	<1	<0.2
	MW04-20151209	12/09/15	SoundEarth	<1	**9.2**	<1	<1	<0.2
	MW04-20160308	03/08/16	SoundEarth	<1	**9.6**	1.1	<1	<0.2
	MW04-20160713	07/13/16	SoundEarth	1.0	**8.9**	1.3	<1	<0.2
	MW04-20161019	10/19/16	SoundEarth	<1	**5.5**	<1	<1	<0.2
	MW04-20170124	01/24/17	SoundEarth	<1	**9.4**	<1	<1	<0.2
	MW04-20170531	05/31/17	SoundEarth	<1	**9.3**	<1	<1	<0.2
	MW04-20170921	09/21/17	SoundEarth	<1	**5.7**	3.2	<1	<0.2
	MW04-20171214	12/14/17	SoundEarth	<1	**8.0**	2.4	<1	<0.2
	MW04-20180309	03/09/18	SoundEarth	<1	**8.6**	<1	<1	<0.2
	MW04-20180629	06/29/18	SoundEarth	<1	**9.4**	<1	<1	<0.2
	MW04-20180920	09/20/18	SoundEarth	<1	**9.4**	<1	<1	<0.2
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[(1)]	TCE[(1)]	cis-1-2-DCE[(1)]	trans-1-2-DCE[(1)]	Vinyl Chloride[(1)]
MW05	MW05-20110527	05/27/11	SoundEarth	**39**	**16**	1.8	<1	<0.2
	MW05-20111012	10/12/11	SoundEarth	**29**	**14**	1.5	<1	<0.2
	MW05-20130910	09/10/13	SoundEarth	**21**	**13**	1.9	<1	<0.2
	DECOMMISSIONED 2015							
MW07	MW07-20110531	05/31/11	SoundEarth	1.4	**12**	2.3	<1	<0.2
	MW07-20111012	10/12/11	SoundEarth	2.2	**11**	1.8	<1	<0.2
	MW07-20130909	09/09/13	SoundEarth	1.5	**33**	5.4	<1	<0.2
	MW07-20150508	05/08/15	SoundEarth	2.5	**15**	4.8	<1	<0.2
	MW07-20150805	08/05/15	SoundEarth	1.8	**12**	3.2	<1	<0.2
	MW07-20151209	12/09/15	SoundEarth	2.3	**14**	4.1	<1	<0.2
	MW07-20160308	03/08/16	SoundEarth	2.6	**13**	3.8	<1	<0.2
	MW07-20160713	07/13/16	SoundEarth	3.0	**18**	5.7	<1	<0.2
	MW07-20161019	10/19/16	SoundEarth	3.5	**13**	2.3	<1	<0.2
	MW07-20170124	01/24/17	SoundEarth	4.8	**8.1**	<1	<1	<0.2
	MW07-20170531	05/31/17	SoundEarth	4.7	**8.6**	<1	<1	<0.2
	MW07-20180308	03/08/18	SoundEarth	2.6	**11**	1.1	<1	<0.2
	MW07-20180629	06/29/18	SoundEarth	3.3	**7.3**	<1	<1	<0.2
	MW07-20180920	09/20/18	SoundEarth	2.8	**6.0**	<1	<1	<0.2
MW13	MW13-20111020	10/20/11	SoundEarth	**5.1**	1.2	<1	<1	<0.2
	MW13-20130910	09/10/13	SoundEarth	**11**	1.4	<1	<1	<0.2
	MW13-20150511	05/11/15	SoundEarth	4.6[cf]	1.7[cf]	<1[cf]	<1[cf]	<0.2[cf]
	MW13-20150805	08/05/15	SoundEarth	**5.4**	2.3	<1	<1	<0.2
	MW13-20151215	12/15/15	SoundEarth	**5.6**	1.6	<1	<1	<0.2
	MW13-20160307	03/07/16	SoundEarth	**6.6**	1.6	<1	<1	<0.2
	MW13-20160712	07/12/16	SoundEarth	**6.5**	1.6	<1	<1	<0.2
	MW13-20161019	10/19/16	SoundEarth	**10**	2.2	<1	<1	<0.2
	MW13-20170124	01/24/17	SoundEarth	**6.4**	1.0	<1	<1	<0.2
	MW13-20170531	05/31/17	SoundEarth	**10**	1.5	<1	<1	<0.2
	MW13-20170921	09/21/17	SoundEarth	**8.4**	1.8	<1	<1	<0.2
	MW13-20171214	12/14/17	SoundEarth	**5.2**	1.4	<1	<1	<0.2
	MW13-20180308	03/08/18	SoundEarth	**8.0**	1.4	<1	<1	<0.2
	MW13-20180629	06/29/18	SoundEarth	4.4	<1	<1	<1	<0.2
	MW13-20180920	09/20/18	SoundEarth	**6.5**	1.3	<1	<1	<0.2
MW27	MW27-20151210	12/10/15	SoundEarth	<1	**21**	2.5	<1	<0.2
	MW27-20160307	03/07/16	SoundEarth	<1	**21**	3.8	<1	<0.2
	MW27-20160713	07/13/16	SoundEarth	<1	**18**	4.5	<1	<0.2
	MW27-20161019	10/19/16	SoundEarth	<1	**23**	4.8	<1	<0.2
	MW27-20170124	01/24/17	SoundEarth	<1	**33**	13	<1	<0.2
	MW27-20170531	05/31/17	SoundEarth	<1	**18**	5.5	<1	<0.2
	MW27-20170921	09/21/17	SoundEarth	<1	**16**	4.0	<1	<0.2
	MW27-20171214	12/14/17	SoundEarth	<1	**81**	4.4	<1	<0.2
	MW27-20171229	12/29/17	SoundEarth	<1	**60**	3.5	<1	<0.2
	MW27-20180308	03/08/18	SoundEarth	<1	**13**	<1	<1	<0.2
	MW27-20180628	06/28/18	SoundEarth	<1	**37**	3.4	<1	<0.2
	MW27-20180920	09/20/18	SoundEarth	<1	**21**	3.7	<1	<0.2
Terry Avenue North								
MW15	MW15-20121211	12/11/12	SoundEarth	<1	**8.2**	<1	<1	<0.2
	MW15-20121221	12/21/12	SoundEarth	<1	**7.2**	<1	<1	<0.2
	MW15-20130910	09/10/13	SoundEarth	<1	**8.6**	<1	<1	<0.2
	MW15-20150508	05/08/15	SoundEarth	<1	**6.5**	<1	<1	<0.2
	MW15-20150805	08/05/15	SoundEarth	<1	**5.3**	<1	<1	<0.2
	MW15-20151209	12/09/15	SoundEarth	<1	**6.8**	<1	<1	<0.2
	MW15-20160308	03/08/16	SoundEarth	<1	**6.7**	<1	<1	<0.2
	MW15-20160713	07/13/16	SoundEarth	<1	**5.8**	<1	<1	<0.2
	MW15-20161018	10/18/16	SoundEarth	<1	**5.3**	<1	<1	<0.2
	MW15-20170125	01/25/17	SoundEarth	<1	**7.4**	<1	<1	<0.2
	MW15-20170531	05/31/17	SoundEarth	<1	**7.9**	<1	<1	<0.2
	MW15-20170922	09/22/17	SoundEarth	<1	3.9	<1	<1	<0.2
	MW15-20171215	12/15/17	SoundEarth	<1	3.0	<1	<1	<0.2
	MW15-20180309	03/09/18	SoundEarth	<1	3.3	<1	<1	<0.2
	MW15-20180629	06/29/18	SoundEarth	<1	**5.1**	<1	<1	<0.2
	MW15-20180920	09/20/18	SoundEarth	<1	**6.9**	<1	<1	<0.2
MTCA Cleanup Level				**5**[(2)]	**5**[(2)]	**16**[(3)]	**160**[(3)]	**0.2**[(2)]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
Thomas Street								
MW14	MW14-20111020	10/20/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW14-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MW16	MW16-20121211	12/11/12	SoundEarth	**16**	**12**	**220**	<1	**0.69**
	MW16-20130911	09/11/13	SoundEarth	**6.4**	**5.0**	**610**	<1	**1.9**
	MW16-20150508	05/08/15	SoundEarth	**7.5**	**7.6**	**640**	<1	**2.8**
	MW16-20150805	08/05/15	SoundEarth	**7.8**	**7.3**	**550**	<1	**2.4**
	MW16-20151210	12/10/15	SoundEarth	**5.3**	4.5	**510**	<1	**3.2**
	MW16-20160308	03/08/16	SoundEarth	3.7	2.0	**190**	<1	**1.3**
	MW16-20160712	07/12/16	SoundEarth	<1	<1	**160**	<1	**2.0**
	MW16-20161019	10/19/16	SoundEarth	5.0	**5.4**	**170**	<1	**1.2**
	MW16-20170125	01/25/17	SoundEarth	**6.4**	**6.8**	**220**	<1	**0.98**
	MW16-20170531	05/31/17	SoundEarth	**5.7**	4.4	**100**	<1	**0.49**
	MW16-20170922	09/22/17	SoundEarth	**5.4**	**5.2**	**78**	<1	**0.40**
	MW16-20171229	12/29/17	SoundEarth	**7.2**	**6.4**	**150**	<1	**0.89**
	MW16-20180309	03/09/18	SoundEarth	**7.3**	**5.5**	**80**	<1	**0.35**
	WELL DAMAGED 2018							
Fairview Avenue North								
MW-C	MW-C-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
Harrison Street								
MW01	MW01-20110525	05/25/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20111011	10/11/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20130910	09/10/13	SoundEarth	<1	1.4	<1	<1	<0.2
	MW01-20150806	08/06/15	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20160308	03/08/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20160712	07/12/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20161018	10/18/16	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20170124	01/24/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20170531	05/31/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20171214	12/14/17	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20180309	03/09/18	SoundEarth	<1	<1	<1	<1	<0.2
	MW01-20180628	06/28/18	SoundEarth	<1	1.1	<1	<1	<0.2
	MW01-20180920	09/20/18	SoundEarth	<1	<1	<1	<1	<0.2
MW02	MW02-20110525	05/25/11	SoundEarth	<1	**5.2**	<1	<1	<0.2
	MW02-20111011	10/11/11	SoundEarth	<1	3.0	<1	<1	<0.2
	MW02-20130911	09/11/13	SoundEarth	<1	3.6	<1	<1	<0.2
	DECOMMISSIONED 2015							
MW03	MW03-20110527	05/27/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW03-20111011	10/11/11	SoundEarth	<1	<1	<1	<1	<0.2
	MW03-20130911	09/11/13	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2015							
MW26	MW26-20151210	12/10/15	SoundEarth	<1	**11**	<1	<1	<0.2
	MW26-20160307	03/07/16	SoundEarth	<1	**10**	<1	<1	<0.2
	MW26-20160712	07/12/16	SoundEarth	<1	**12**	<1	<1	<0.2
	MW26-20161018	10/18/16	SoundEarth	<1	**12**	<1	<1	<0.2
	MW26-20170124	01/24/17	SoundEarth	<1	**13**	<1	<1	<0.2
	MW26-20170531	05/31/17	SoundEarth	<1	**7.9**	<1	<1	<0.2
	MW26-20170921	09/21/17	SoundEarth	<1	**7.1**	<1	<1	<0.2
	MW26-20171214	12/14/17	SoundEarth	<1	**15**	1.4	<1	<0.2
	MW26-20180309	03/09/18	SoundEarth	<1	**6.0**	<1	<1	<0.2
	MW26-20180628	06/28/18	SoundEarth	<1	**18**	<1	<1	<0.2
	MW26-20180920	09/20/18	SoundEarth	<1	**18**	<1	<1	<0.2
SMW06	SMW06-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

Table 1
Groundwater Analytical Results for CVOCs
Troy Laundry Property
307 Fairview Avenue North
Seattle, Washington

Sample Location	Sample Identification	Sample Date	Sampled By	Analytical Results (µg/L) PCE[1]	TCE[1]	cis-1-2-DCE[1]	trans-1-2-DCE[1]	Vinyl Chloride[1]
Westlake Avenue North								
SMW09	SMW09-20130910	09/10/13	SoundEarth	<1	<1	<1	<1	<0.2
North-Adjoining Property								
SLU-MW01	MW01-20120229	02/29/12[4]	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
SLU-MW02	MW02-20120229	02/29/12[4]	SoundEarth	<1	<1	<1	<1	<0.2
	DECOMMISSIONED 2013							
MTCA Cleanup Level				**5**[2]	**5**[2]	**16**[3]	**160**[3]	**0.2**[2]

NOTES:

Red denotes concentrations exceeding the MTCA Method cleanup level for groundwater.

[1]Analyzed by U.S. Environmental Protection Agency Method 8260C, 8021B, or 8240.

[2]MTCA Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of WAC, revised November 2007.

[3]MTCA Cleanup Regulation, Chapter 173-340 of WAC, CLARC, Groundwater, Method B, Non-Carcinogen, Standard Formula Value, CLARC Website <https://fortress.wa.gov/ecy/clarc/CLARCHome.aspx>.

[4]Sample data compiled from reports on file at the Washington State Department of Ecology.

The sample was collected with a passive diffusion bag.

Laboratory Notes:

[cf]The sample was centrifuged prior to analysis.

[ve]Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

< = not detected at a concentration exceeding laboratory reporting limit

µg/L = micrograms per liter

CLARC = Cleanup Levels and Risk Calculations

CVOC = chlorinated volatile organic compound

DCE = dichloroethene

DUP = duplicate

MTCA = Washington State Model Toxics Control Act

PCE = tetrachloroethene

SoundEarth = SoundEarth Strategies, Inc.

TCE = trichloroethene

WAC = Washington Administrative Code

1/9/2019

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TERRY AVENUE NORTH

HARRISON STREET

FAIRVIEW AVENUE

BOREN AVENUE NORTH

THOMAS STREET

HISTORICAL BUILDING FACADE

BRAVEHORSE TAVERN

AMAZON BUILDING

SOUTH LAKE UNION HOTEL LLC

B08/ MW01

MW26

B09/ MW02

B10/ MW03

B11/ MW04

B15/ MW07

B31/ MW12

B13/ MW06

B28/ MW10

B30/ MW11

B26/ MW08

B49/ MW15

MW27

B12/ MW05

B37/ MW13

B27/ MW09

B50/ MW16

MW28

B38/ MW14

AIW01 AIW02 AIW03 AIW04 AIW05 AIW06 AIW07 AIW08 AIW09 AIW10 AIW11 AIW12

MW17 MW18 MW19 MW20 MW21 MW22 MW23 MW24 MW25

IW01 IW02 IW03 IW04 IW05 IW06 IW07 IW08 IW09 IW10 IW11 IW12 IW13 IW14 IW15 IW16 IW17 IW18 IW19 IW20 IW21 IW22 IW23 IW24 IW25 IW26 IW27 IW28 IW29 IW30 IW31 IW32 IW33 IW34 IW35 IW36 IW37 IW38 IW39 IW40 IW41 IW42 IW43 IW44 IW45 IW46 IW47 IW48 IW49 IW50 IW51 IW52 IW53 IW54 IW55 IW56 IW57 IW58 IW59 IW60 IW61 IW62 IW63 IW64 IW65 IW66 IW67 IW68 IW69 IW70 IW71 IW72 IW73 IW74 IW75 IW76 IW77 IW78 IW79 IW80 IW81 IW82 IW83 IW84 IW85 IW86 IW87 IW88 IW89 IW90 IW91

N

0 25 50

APPROXIMATE SCALE IN FEET

LEGEND

- PROPERTY BOUNDARY
- REDEVELOPMENT EXCAVATION AREA
- MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- DECOMMISSIONED DEEP MONITORING WELL
- INJECTION WELL
- ANGLED INJECTION WELL
- MONUMENT AND HORIZONTAL PIPING FOR INJECTION WELL SCREEN ACCESS

SoundEarth Strategies

WWW.SOUNDEARTHINC.COM

TROY LAUNDRY PROPERTY
307 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON
SOUNDEARTH PROJECT # 0731-004

EXHIBIT B
PROPERTY DIAGRAM

EXHIBIT C

LEGAL DESCRIPTION

TROY BLOCK

KING COUNTY PROPERTY TAX ACCOUNT NUMBERS:

Troy Block Parcel No. 869200-0000 (formerly Parcel No. 198620-0480-01 and Parcel No. 198620-0515-00)

- North Unit–Parcel No. 869200-0010
- South Unit–Parcel No. 869200-0020

TROY BLOCK LEGAL DESCRIPTION

The North Tower Unit of The Troy Block, a condominium, per Condominium Declaration recorded under King County Recording No. 20150313001160 and Survey Map and Plans recorded in Vol. 282 of Condominiums, pages 50 thru 65, under King County Recording No. 20150313001159.

The South Tower Unit of The Troy Block, a condominium, per Condominium Declaration recorded under King County Recording No. 20150313001160 and Survey Map and Plans recorded in Vol. 282 of Condominiums, pages 50 thru 65, under King County Recording No. 20150313001159.

EXHIBIT D
Environmental Covenant

After Recording Return
Original Signed Covenant to:

Sunny Becker
Toxics Cleanup Program
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, Washington 98008

Environmental Covenant

Grantor: Ponte Gadea Seattle LLC

Grantee: State of Washington, Department of Ecology

Brief Legal Description:

The North Tower Unit of The Troy Block, a condominium, per Condominium Declaration recorded under King County Recording No. 20150313001160 and Survey Map and Plans recorded in Vol. 282 of Condominiums, pages 50 thru 65, under King County Recording No. 20150313001159.

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Tax Parcel No.: King County Parcel No. 869200-0000
(formerly Parcel No. 198620-0480-01 and Parcel No. 198620-0515-00)
North Unit–Parcel No. 869200-0010
South Unit–Parcel No. 869200-0020

Cross Reference: King County Superior Court No. _____
(Prospective Purchaser Consent Decree)

RECITALS

a. This document is an environmental (restrictive) covenant (hereafter "Covenant") executed pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D, and Uniform Environmental Covenants Act (UECA), RCW 64.70.

b. The Property that is the subject of this Covenant is part of a site commonly known as the Troy Laundry Seattle Site, Cleanup Site ID No. 11690. The Property is legally described in Exhibit A, and illustrated in Exhibit B, both of which are attached (hereafter "Property"). If there are differences between these two Exhibits, the legal description in Exhibit A shall prevail.

c. The Property is the subject of remedial action conducted under MTCA. This Covenant is required because residual contamination remains on the Property after completion of remedial actions. Specifically, the following principal contaminants remain on the Property:

Medium	Principal Contaminants Present
Groundwater	Tetrachloroethene (PCE), trichloroethylene (TCE), cis-1-2-dichloroethene (DCE), and vinyl chloride (VC)

d. It is the purpose of this Covenant to restrict certain activities and uses of the Property to protect human health and the environment and the integrity of remedial actions conducted at the Property. Records describing the extent of residual contamination and remedial actions conducted are available through Ecology.

e. This Covenant grants Ecology certain rights under UECA and as specified in this Covenant. As a "Holder" of this Covenant as that term is defined under UECA, Ecology has an interest in real property, however, this is not an ownership interest which equates to liability under MTCA or the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 et seq. The rights of Ecology as an "agency" under UECA, other than its right as a Holder, are not an interest in real property.

COVENANT

Ponte Gadea Seattle LLC, as the Grantor and fee simple owner of the Property, hereby grants to the Washington State Department of Ecology, and its successors and assignees, the following covenants. Furthermore, it is the intent of the Grantor that such covenants shall supersede any prior interests the Grantor has granted to any third party in the Property and run with the land and be binding on all current and future owners of any portion of, or interest in, the Property.

Section 1. General Restrictions and Requirements.

The following general restrictions and requirements shall apply to the Property:

a. Interference with Remedial Action. The Grantor shall not engage in any activity on the Property that may impact or interfere with the remedial action and any operation, maintenance, inspection, or monitoring of that remedial action without prior written approval from Ecology except in the event of an emergency.

b. Protection of Human Health and the Environment. The Grantor shall not engage in any activity on the Property that may threaten continued protection of human health or the environment as the same relate to the residual contamination without prior written approval from Ecology. This includes, but is not limited to, any activity that results in the release of residual contamination that was contained as a part of the remedial action or that exacerbates or creates a new exposure to residual contamination remaining on the Property.

c. Continued Compliance Required. The Grantor shall not convey any interest in any portion of the Property without providing for the continued adequate and complete operation, maintenance, and monitoring of the remedial actions and continued compliance with this Covenant.

d. Leases. The Grantor shall restrict any future lease for any portion of the Property to uses and activities consistent with this Covenant, and notify all current and future lessees of the restrictions on the use of the Property.

e. Preservation of Reference Monuments. The Grantor shall make a good faith effort to preserve reference monuments and boundary markers, if any, used to define the areal extent of coverage of this Covenant. Should a monument or marker be damaged or destroyed, the Grantor shall have it replaced by a licensed professional surveyor within 30 days of discovery of the damage or destruction.

Section 2. Specific Prohibitions and Requirements.

In addition to the general restrictions in Section 1 of this Covenant, the following additional specific restrictions and requirements shall apply to the Property:

a. Containment of Soil. The Grantor shall not alter or remove the existing structures on the Property in any manner that would expose contaminated soil, result in a release to the environment of contaminants, or create a new exposure pathway, without prior written approval of Ecology. Should the the Grantor propose to remove all or a portion of the existing structures on the Property so that access to the underlying contamination is feasible, Ecology may require treatment or removal of the underlying contaminated soil.

b. Groundwater Use. The groundwater beneath the Property remains contaminated and shall not be extracted for any purpose other than temporary construction dewatering, investigation, monitoring or remediation. Drilling of a well for any water supply purpose is strictly prohibited. Groundwater extracted from the Property for any purpose shall be considered potentially contaminated and any discharge of this water shall be done in accordance with state and federal law.

c. Monitoring. Several groundwater monitoring wells and injection wells are located on the Property to monitor the performance of the remedial action. The Grantor shall maintain clear access to these devices and protect them from damage. The Grantor shall report to Ecology within two business days of the discovery of any damage to any monitoring device. Unless Ecology approves of an alternative plan in writing, the Grantor shall promptly repair the damage and submit a report documenting this work to Ecology within 30 days of completing the repairs.

Section 3. Access.

a. The Grantor shall maintain clear access to all remedial action components necessary to construct, operate, inspect, monitor, and maintain the remedial action.

b. The Grantor freely and voluntarily grants Ecology and its authorized representatives, upon reasonable notice, and subject to the rights of tenants, the right to enter the Property at reasonable times to evaluate the effectiveness of this Covenant and associated remedial actions, and enforce compliance with this Covenant and those actions, including the right to take samples, inspect any remedial actions conducted on the Property, and to inspect related records. The grant of access to Ecology under this Section is subject to:

i. Grantor's reasonable health and safety requirements;

ii. Grantor's option to accompany Ecology while Ecology is present on the Property; and

iii. Ecology's reasonable efforts to minimize any disturbance to Grantor's or Grantor's tenants' occupation and operations at the Property.

c. No right of access or use by a third party to any portion of the Property is conveyed by this instrument.

Section 4. Notice Requirements.

a. Conveyance of Any Interest. The Grantor, when conveying any interest in any part of the Property, including but not limited to title, easement, leases, and security or other interests, must:

i. Provide written notice to Ecology of the intended conveyance at least 30 days in advance of the conveyance. This notice requirement does not apply to the lease of space for commercial uses within the Property or the buildings located on the Property. Waiver of this advance notice to Ecology for lease transactions does not constitute waiver of this notice for the sale of all or a portion of the Property, nor a waiver of the requirement in Section 4.a.ii. to include this notice in any document conveying ownership or leasehold interest in the Property.

ii. Include in the conveying document a notice in substantially the following form, as well as a complete copy of this Covenant:

NOTICE: THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL COVENANT GRANTED TO THE WASHINGTON STATE DEPARTMENT OF ECOLOGY ON _____, 2019 AND RECORDED WITH THE KING COUNTY AUDITOR UNDER RECORDING NUMBER _____. USES AND ACTIVITIES ON THIS PROPERTY MUST COMPLY WITH THAT COVENANT, A COMPLETE COPY OF WHICH IS ATTACHED TO THIS DOCUMENT.

iii. Excluding commercial leases, and unless otherwise agreed to in writing by Ecology, provide Ecology with a complete copy of the executed document within 30 days of the date of execution of such document.

b. Reporting Violations. Should the Grantor become aware of any violation of this Covenant, the Grantor shall promptly report such violation in writing to Ecology.

c. Emergencies. For any emergency or significant change in site conditions due to Acts of Nature (for example, flood or fire) resulting in a violation of this Covenant, the Grantor is authorized to respond to such an event in accordance with state and federal law. The Grantor must notify Ecology in writing of the event and response actions planned or taken as soon as practical but no later than within one business day of the discovery of the event.

d. Notification Procedure. Any required written notice, approval, reporting, or other communication shall be personally delivered or sent by first class mail, or delivered via e-mail (with copy to follow via first class mail) to the following persons. Any change in this contact

information shall be submitted in writing to all parties to this Covenant. Upon mutual agreement of the parties to this Covenant, an alternative to personal delivery, first class mail, or e-mail, such as other electronic means, may be used for these communications.

Ponte Gadea Seattle LLC Attn: Frank Jakus 270 Biscayne Boulevard Way, Suite 201 Miami, FL 33131–2123 305-373-9559 frankj@pontegadea.com	Washington State Department of Ecology Attn: Environmental Covenants Coordinator Toxics Cleanup Program P.O. Box 47600 Olympia, WA 98504–7600 360-407-6000 ToxicsCleanupProgramHQ@ecy.wa.gov

Section 5. Modification or Termination.

a. The Grantor must provide written notice and obtain approval from Ecology at least 60 days in advance of any proposed activity or use of the Property in a manner that is inconsistent with this Covenant. For any proposal that is inconsistent with this Covenant and permanently modifies an activity or use restriction at the Property:

i. Ecology must issue a public notice and provide an opportunity for the public to comment on the proposal; and

ii. If Ecology approves the proposal, the Covenant must be amended to reflect the change before the activity or use can proceed.

b. If the conditions at the Property requiring a Covenant have changed or no longer exist, then the Grantor may submit a request to Ecology that this Covenant be amended or terminated. Any amendment or termination of this Covenant must follow the procedures in MTCA and UECA and any rules promulgated under these chapters.

c. By signing this Covenant, per RCW 64.70.100, the original signatories to this Covenant, other than Ecology, agree to waive all rights to sign amendments to and termination of this Covenant. Notwithstanding the foregoing, any amendment to or termination of this Covenant must be signed by the current fee simple owner of the Property and Ecology.

Section 6. Enforcement and Construction.

a. This Covenant is being freely and voluntarily granted by the Grantor.

b. Within 10 days of execution of this Covenant, the Grantor shall provide Ecology with an original signed Covenant and proof of recording and a copy of the Covenant and proof of recording to others required by RCW 64.70.070.

c. Ecology shall be entitled to enforce the terms of this Covenant by resort to specific performance or legal process. All remedies available in this Covenant shall be in addition to any and all remedies at law or in equity, including MTCA and UECA. Enforcement of the terms of this Covenant shall be at the discretion of Ecology, and any forbearance, delay, or omission to exercise its rights under this Covenant in the event of a breach of any term of this Covenant is not a waiver by Ecology of that term or of any subsequent breach of that term, or any other term in this Covenant, or of any rights of Ecology under this Covenant.

d. The Grantor shall be responsible for all costs associated with implementation of this Covenant. Furthermore, the Grantor, upon request by Ecology, shall be obligated to pay for Ecology's costs to process a request by Grantor for any modification or termination of this Covenant and any approval required by this Covenant.

e. This Covenant shall be liberally construed to meet the intent of MTCA and UECA.

f. The provisions of this Covenant shall be severable. If any provision in this Covenant or its application to any person or circumstance is held invalid, the remainder of this Covenant or its application to any person or circumstance is not affected and shall continue in full force and effect as though such void provision had not been contained herein.

g. A heading used at the beginning of any section or paragraph or exhibit of this Covenant may be used to aid in the interpretation of that section or paragraph or exhibit but does not override the specific requirements in that section or paragraph.

The undersigned Grantor warrants that it holds the title to the Property and has authority to execute this Covenant.

EXECUTED this _____ day of _____, 2019.

PONTE GADEA SEATTLE LLC

by: _____ (printed name)

Title: _____

CORPORATE ACKNOWLEDGMENT

STATE OF FLORIDA)
) ss.
COUNTY OF MIAMI-DADE)

This record was acknowledged before me on _____, 2019, by

_____ as_____ of Ponte Gadea Seattle LLC.

_____
(Signature)

_____
(Please print name legibly)

NOTARY PUBLIC for the State of Washington
My commission expires _____

The Department of Ecology**,** hereby accepts the status as GRANTEE and HOLDER of the above Environmental Covenant.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

by: _____ (printed name)

Title: _____

Dated: _____

STATE ACKNOWLEDGMENT

STATE OF WASHINGTON)
) ss.
COUNTY OF KING)

This record was acknowledged before me on _____, 2019, by _____ as _____ of the Washington State Department of Ecology.

_____
(Signature)

_____
(Please print name legibly)

NOTARY PUBLIC for the State of Washington
My commission expires _____

Exhibit A

LEGAL DESCRIPTION

TROY BLOCK

KING COUNTY PROPERTY TAX ACCOUNT NUMBERS

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Exhibit B

PROPERTY MAP