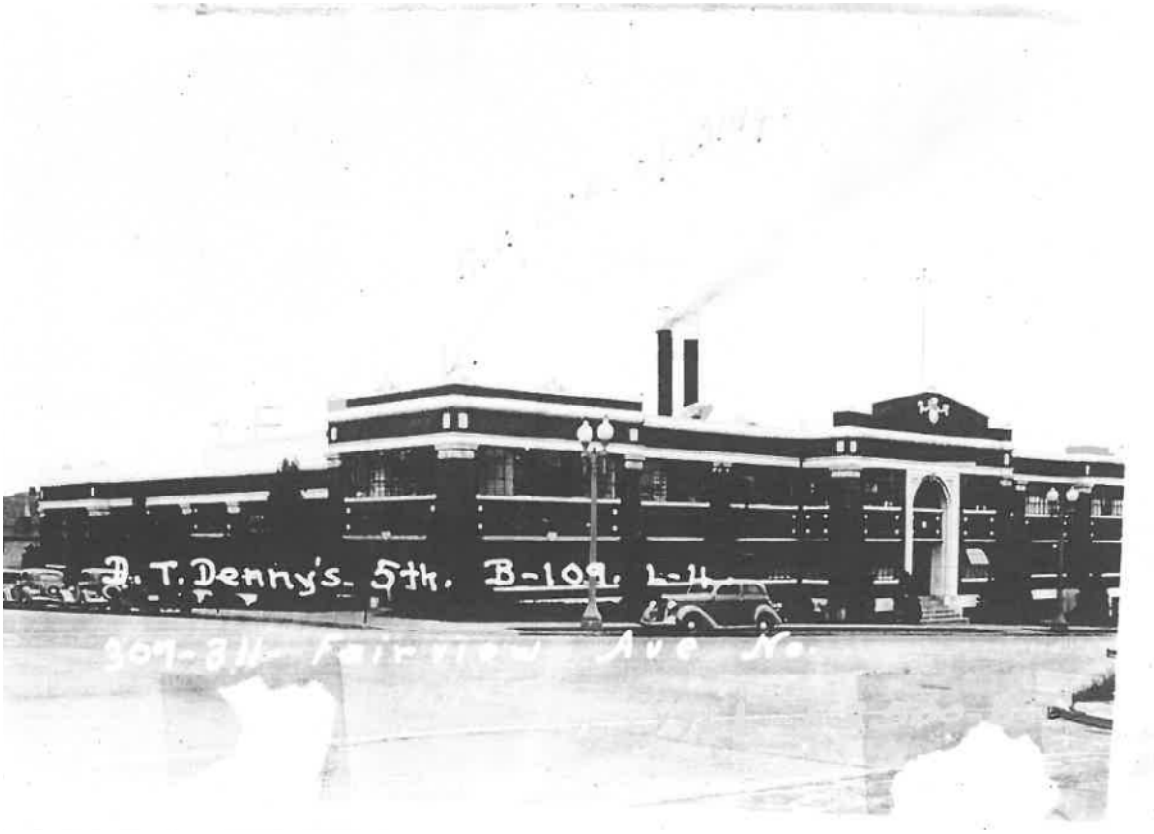
SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

SITE-SPECIFIC HEALTH AND SAFETY 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:
September 23, 2011

Site-Specific 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:

Audrey Hackett
Project Scientist

Reviewed by:

Erin K. Rothman, MS
Principal Scientist

Berthin Q. Hyde, LG, LHG
Principal Hydrogeologist

Initiation Date: September 23, 2011
Expiration Date: September 23, 2012

SoundEarth Strategies

HAZARD SUMMARY

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

SITE DESCRIPTION

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 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.

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.

SITE HAZARDS

Hazards present at the Site include the following:

Chemical

- Gasoline-range petroleum hydrocarbons (GRPH) as Stoddard solvents, diesel-range petroleum hydrocarbons (DRPH), and oil-range petroleum hydrocarbons (ORPH) in soil, groundwater, and vapor
- Vinyl chloride in groundwater
- cis-1-2-dichloroethylene (cis-1,2-DCE) in groundwater
- Trichloroethylene (TCE) in soil, groundwater, and vapor
- Tetrachloroethylene (PCE) in soil, groundwater, and vapor
- Asbestos and/or lead are suspected to be present within the building materials

Physical

- Traffic/mobile equipment
- Power tools and equipment
- Noise exposure
- Heavy equipment/machine safety
- Overhead utilities
- Ladders or heights
- Unsecure/uncontrolled areas

HAZARD SUMMARY (CONTINUED)

- Underground utilities and features
- Slips/trips/falls/cuts
- Temperature extremes
- Electrical
- Compressed air
- Potential flammable and explosive environment

FIELD ACTIVITIES

- Concrete-coring, electrical disconnection, and ceiling and wall cutting oversight
- Asbestos- and lead-containing material sampling
- Drilling oversight
- Subsurface soil sampling
- Monitoring well development
- Groundwater sampling

HAZARD CONTROLS

The following hazard controls, based on the tasks identified in the Fieldwork Activities above, are required for employees of SoundEarth Strategies, Inc. 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
- Exhaust fans when drilling interior borings
- Lockout/tag-out procedures when disconnecting and cutting electrical lines
- Proper abatement of ACM prior to cutting impacted materials
- 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 plan. A complete description of the project, site conditions, investigation methods, and investigation results can be found in the previous reports referenced in Section 5.1.1, Reports that Provide Chemical Data.

TABLE OF CONTENTS

FIGURES

ATTACHMENTS

1.0 INTRODUCTION

This Site-Specific 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 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 (OSHA) standards for hazardous waste operations and emergency response. Within the State of Washington, 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 (MTCA).

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:

- **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 1 year from the date of the HASP or until SoundEarth implements a scope of work change not covered by this HASP, whichever comes first, after which time it must be reviewed and extended.

NOTE: Reference identifications (08-01, Project Responsibilities through 08-23, Work Near Water) incorporated into this Site-Specific HASP refer to the *HASP Reference Manual*, prepared by SoundEarth and dated January 2011, which is a stand-alone document that compiles detailed information and instructions for protecting SoundEarth employees from chemical and physical hazards applicable to this Site-Specific HASP. The *HASP Reference Manual* and this Site-Specific HASP **MUST** be present at the Site during field activities.

2.0 SITE INFORMATION

Site Name: Troy Laundry Property
Site Address: 307 Fairview Avenue North, Seattle, Washington
Site Owner: Touchstone SLU LLC
Site Tenant: David Smith Antiques (Retail), Mokas Coffee Company (Café)
Nature of Activities at this Site: Current: retail furniture sales and storage, café. Past: Commercial and industrial-scale laundry and dry cleaning services, vehicle refueling, and residential single-family residences.
Figures 1 and 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 A.

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, found in Attachment B.

(Reference 08-01, Project Responsibilities, provides more information.)

4.0 EMERGENCY INFORMATION

For a critical emergency, 911 should be called. (The definition of critical emergency can be found in Reference 08-02, Emergency Response Plan.)

Note: A SoundEarth employee MAY NOT transport a non-SoundEarth employee off of 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
Alternative Hospital	Harborview Medical Center 325 Ninth Avenue Seattle, Washington	911 or (206) 731-3000
Ambulance	Medic One	911 or (206) 386-1493

Local Emergency Numbers		
Institution/Department	**Name/Address**	**Phone Number**
	325 Ninth Avenue Seattle, Washington	
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 or (206) 386-1400

Project Emergency Numbers		
Title	**Name**	**Phone Number**
Project Manager	Erin K. Rothman	O: (206) 306-1900 C: (206) 795-0978
Site Manager/Health and Safety Officer	Chris Cass	O: (206) 306-1900 C: 425-765-4490
Principal-in-Charge	Berthin Q. Hyde	O: (206) 306-1900 C: (206) 790-9574
Corporate Health and Safety Representative	Chris Carter	O: (206) 436-5901 C: (206) 618-0306
Certified Industrial Hygienist working for SoundEarth	Michelle Copeland	O: (206) 612-6355
Geotechnical Consultant	Tim Peter, Associated Earth Sciences, Inc.	O: (425) 766-6692
General Contractor	Dane Buechler Gly Construction	O: (425) 451-8877
Driller (Subcontractor)	John Murnane Cascade Drilling, L.P.	O: (425) 485-8908
Concrete Cutter	Shoreline Concrete Sawing and Drilling	O: (206) 417-0533
Private Utility Locate	Kemp Garcia, Underground Detection Services	O: (206) 282-1866
Public Utility Locate	Utility Notification Center	O: 811

Attachment C, Hospital Route, provides the location and driving directions. The route must be posted at the Site.

5.0 GENERAL 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 GENERAL 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). Reference 08-03, Chemical Hazards Analysis, provides more information.

5.1.1 Reports that Provide Chemical Data

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

5.1.2 Summary of Potential Chemical Hazards

- Gasoline-range petroleum hydrocarbons (GRPH) as Stoddard solvents, diesel-range petroleum hydrocarbons (DRPH), and oil-range petroleum hydrocarbons (ORPH) in soil, groundwater, and vapor
- Vinyl chloride in groundwater
- cis-1-2-dichloroethylene (cis-1,2-DCE) in groundwater
- Trichloroethylene (TCE) in soil, groundwater, and vapor
- Tetrachloroethylene (PCE) in soil, groundwater, and vapor
- Asbestos and/or lead are suspected to be present within the building materials

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 results of the limited Phase II Environmental Site Assessment conducted in October 2010 indicated that PCE concentrations exceeding the applicable MTCA Method A cleanup level were detected in soil samples collected from borings P03 and P05 through P11 at depths ranging from 2.5 feet below ground surface (bgs) to the maximum depth explored of 23 feet bgs. The PCE concentrations detected in the soil sample collected from P05 at 5 feet bgs also exceeded Washington State's Dangerous Waste criteria (WAC-173-303). The PCE concentrations detected in soil samples collected from boring P08 at depths between 0 and 10 feet bgs exceeded ten times the Universal Treatment Standard (UTS) for PCE (60 milligrams per kilogram [mg/kg]), defined in Title 40, Chapter 1, Part 268, Subpart D of the Code of Federal Regulations. Soil that contains concentrations of PCE exceeding ten times the UTS is banned from land disposal without first being treated (land ban). Soil samples collected from P08 also contained concentrations of TCE exceeding the cleanup level at depths of 3, 7.5, and 10 feet bgs and DRPH and ORPH concentrations exceeding their respective cleanup levels at a depth of 10 feet bgs. GRPH was detected at concentrations exceeding the cleanup level in soil collected from borings P07 and P08 at depths ranging from 3 to 11 feet bgs.

A reconnaissance groundwater sample collected at a depth of 19 to 21 feet below ground surface from boring P10 during the limited Phase II Environmental Site Assessment contained DRPH, TCE, and PCE at concentrations exceeding applicable MTCA Method A cleanup levels.

Soil samples collected from boring B01 through B07 during AECOM's December 2010 Subsurface Investigation (SI) contained concentrations of PCE exceeding the cleanup level at every interval sampled to the maximum depth of 40 feet bgs. Concentrations of PCE detected in soil samples collected from boring B02 at depths between 7 and 11 feet and from boring B04 at depths

between 8 and 10 feet bgs also exceeded Washington State's Dangerous Waste criteria. Concentrations of TCE, cis-1-2-DCE, and/or benzene were detected in borings B01 through B05 and B07, but were below the applicable cleanup levels.

The reconnaissance groundwater collected from B07, which was advanced near the loading dock, contained concentrations of GRPH, DRPH, TCE, cis-1,2-DCE, and PCE exceeding applicable MTCA Method A cleanup levels..

The analytical results from the May 2011 Supplemental SI indicated that concentrations of PCE detected in borings B12, B13, and B14 at depths between 24 and 60 feet bgs exceeded the MTCA Method A cleanup level. Soil collected from borings B13 and B14 contained concentrations of GRPH in excess of the cleanup level at a depth between 40 and 58 feet bgs.

Groundwater samples collected from monitoring wells MW02, MW04, MW05, and MW06 during the May 2011 Supplemental SI contained concentrations of TCE ranging from 5 to 16 micrograms per liter (µg/L). PCE was detected at concentrations exceeding the MTCA Method A cleanup level in the reconnaissance sample collected from B14 (35 µg/L) and the groundwater sample collected from MW05 (39 µg/L). Vinyl chloride and cis-1,2-DCE also were detected above the cleanup level in the groundwater sample collected from MW06. Samples did not contain any additional chlorinated solvents or semi-volatile organic compounds.

The results of the Gore Soil Vapor Survey conducted in August 2011 indicated that soil vapor containing elevated concentrations of PCE, TCE, and 1,2-dichlroethylene extended across much of the western half of the Property. Concentrations of total petroleum hydrocarbons (TPH) and associated carbon chains in soil vapor were also highest in the vicinity of the former loading dock, and a second potential source area for TPH was identified to the northeast of the Mokas Building.

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
Asbestos	DOSH PEL: 0.1 fiber/cm^3 TWA 1.0 fiber/cm^3 over 30 minute Sampling period	NISOH REL: None Carcinogen	Inhalation, ingestion, skin and eye contact White or greenish (chrysotile), blue (crocidolite), or gray-green (amosite) fibrous, odorless solids	Eye irritation, Asbestiosis (chronic): dysp, interstitial fib, restricted pulm function, finger clubbing, (Carcinogen)	Eyes, Respiratory system	▪ Impermeable, disposable clothing ▪ Nitrile or Neoprene gloves ▪ Full Face SA respirator in with positive pressure/pressure demand mode If PEL is exceeded, min Full Face AP/HEPA	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

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
Lead, Inorganic	DOSH PEL: 50 µg/m^3 TWA DOSH AL: 30 µg/m^3 TWA	NIOSH REL: 50 µg/m^3 TWA IDLH: 100 mg/m^3	Inhalation, ingestion, skin and eye contact Odorless dust – poor warning properties	Eye irritation, weakness, exhaustion, insomnia, facial paleness; weight loss, constipation, abdominal pain, colic, anemia, gingival lead line;, tremor; paralysis of wrist and ankles, brain damage, kidney disease; hypotension (Carcinogen)	Eyes, gastro-intestinal tract, central nervous system, kidneys, blood, gingival tissue	▪ Impermeable, disposable clothing ▪ Nitrile or Neoprene gloves ▪ Min ½ Mask AP/HEPA ▪ Higher APF if Personal Air monitoring	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
Stoddard Solvent	DOSH PEL 100 ppm TWA 150 ppm STEL OSHA PEL 500 ppm TWA	IDLH: 20,000 mg/m^3 FP: 102-110^oF	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
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
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
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

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
ACGIH = American Conference of Governmental Industrial Hygienists
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
IP = ionization potential
LEL = lower explosive limit
mg/m^3 = 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
PAPR = powered air purifying respirator
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
TLV = threshold limit value
TPH = total petroleum hydrocarbon
TWA = time-weighted average

5.2 GENERAL SITE HAZARD ANALYSIS—PHYSICAL

This section addresses known and potential physical hazards specific to the Site. Reference 08-04, 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, Operation and Maintenance (O&M) Plans, and others documents.

5.2.1 General Site Specific Physical Hazards

Described below are physical hazards that may be encountered while on the Site.

- Traffic/mobile equipment
- Power tools and equipment
- Noise exposure
- Heavy equipment/machine safety
- Overhead utilities
- Ladders or heights
- Unsecure/uncontrolled areas
- Underground utilities and features
- Slips/trips/falls/cuts
- Temperature extremes
- Electrical
- Compressed air
- Potential flammable and explosive environment

5.2.2 Utility Hazards

Described below are utility hazards that may be present at the Site. In order to locate utilities, the Northwest Utility Notification 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 (Reference 08-19, 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 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 underground storage tanks (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 GPR 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 2.

5.2.2.2 Overhead Utilities (Reference 08-10, 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. References noted in Table 2 for the controls and any personal protective equipment (PPE) required should be reviewed. Reference identifications (08-01, Project Responsibilities through 08-23, Work Near Water) incorporated into Table 2 refer to the *HASP Reference Manual,* dated January 2011, which is a stand-alone document that compiles detailed information and instructions for protecting SoundEarth employees from chemical and physical hazards applicable to this Site-Specific HASP. A summary of the controls specific to the Site is presented in Section 7.0, Task-Related Site Hazard Controls Summary.

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
- Exhaust fans when drilling interior borings
- Lockout/tag-out procedures when disconnecting and cutting electrical lines
- Proper abatement of ACM prior to cutting impacted materials
- Caution tape and traffic control in all parking areas and on streets

TABLE 2 SITE-SPECIFIC TASK-RELATED HAZARDS

Tasks	Role	Hazard	References
Sampling – Environmental	Task performed by SoundEarth	Chemicals	Table 1, Chemical Hazards 08-17, Sample Collection
		Confined space	08-09, Confined Space Awareness
		Emergency	08-02, Emergency Response Plan
		Heat stress/hypothermia	08-13, Temperature Extremes
		Ladders or heights	08-22, Work at Heights
		PPE, meetings, inspections	08-07, General Site Safety Requirements
		Process hazards	08-21, Work Around Hazardous Processes
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Unstable ground	08-20, Unstable Ground
Drilling and Subsurface Investigation	Subcontractor Oversight	Chemicals	Table 1, Chemical Hazards 08-06, Site-Specific Chemical Hazard Controls
		Emergency	08-02, Emergency Response Plan
		General site safety	08-07, General Site Safety Requirements
		Heat stress/hypothermia	08-13, Temperature Extremes
		Noise	08-15, Noise and Hearing Protection
		Overhead electric utilities	08-10, Electrical Safety
		Powered tools and equipment	08-10, Electrical Safety
		PPE, meetings, inspections	08-07, General Site Safety Requirements
		Unsecure/uncontrolled Site	08-08, Site Security and Overall Site Control
		Traffic/mobile equipment	08-18, Traffic and Moving Equipment Hazards
		Underground utilities and features	08-19, Underground Services Location and Protection
		Unstable ground	08-20, Unstable Ground

FIGURES

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\FIGURE 1\0731-004-01_FIG 1_F.DWG

SoundEarth Strategies
WWW.SOUNDEARTHINC.COM

DATE:	06/06/2011
DRAWN BY:	JQC
CHECKED BY:	RMT
CAD FILE:	0731-004-01_FIG1

PROJECT NAME:	TROY LAUNDRY PROPERTY
SES PROJECT NUMBER:	0731-004-01
STREET ADDRESS:	307 FAIRVIEW AVENUE NORTH
CITY, STATE:	SEATTLE, WASHINGTON

FIGURE 1
PROPERTY
LOCATION MAP

4/4/2012

P:\0731 TOUCHSTONE\0731-004 TROY LAUNDRY\TECHNICAL\CAD\2011 SAP\0731-004_2011SAP_EL_PROPOSED_F.DWG

B08/ MW01

B09/ MW02

HARRISON STREET

B10/ MW03

1100s (ODDS)

B33

P14

APPROXIMATE LOCATION OF FORMER 10,000-GALLON PROPANE TANK

P13

B32

GPR ANOMALY

FORMER 8,000-GALLON GASOLINE UST

DAVID SMITH BUILDING (1925)

B11/ MW04

B34

B35

P01

MOKAS BUILDING (1960)

POSSIBLE VENT LINE

300-GALLON UST

B29

B15/ MW07

GPR ANOMALY

P02

APPROXIMATE LOCATION OF TWO 12,000-GALLON USTs AND ONE 1,000-GALLON UST

FORMER OIL TANK

FORMER PUMP ISLAND

P11

2,000-GALLON GASOLINE USTs

P12

TRENCH02

B31/ MW12

B13/ MW06

SHED

B14

VENT LINES

FORMER TANK

SUMP

B28/ MW10

VAULT01

BRINE PIT

BOILER ROOM

FORMER ASTs

VAULT04

FORMER OIL TANK

VENT/FILL LINES

TRENCH

VENT

FORMER TRANSFORMER

FORMER BOILERS

P10

P03

B01

FORMER CLEANING

FORMER SALON

B36

FORMER VAULT ROOM

INDUSTRIAL LAUNDRY (1946)

B30/ MW11

8,000-GALLON SOLVENT UST

FORMER PRESSURIZED WATER TANK

FUR VAULT (1948)

TRANSFORMER VAULT

ASTs

B26/ MW08

2" FLOOR DRAIN

CLEAN OUT

FORMER BOILER

DECOMMISSIONED WATER SUPPLY WELL

PIT01

B07

FORMER REPAIRING

P09

WATER SUPPLY WELL

FORMER AIR COMPRESSOR

B06

P08

LOADING DOCK

3,000-GALLON (DUMP TANK)

VAULTS

VAULT03

VAULT

VAULT

HOT WATER BOILER

B25

B17

B02

B04

B03

B05

VIC. SOLVENT SAVER

TRENCH

PUMP

1,000-GALLON (CIRCULATING)

350-GALLON (STA DRI TANK)

FORMER FINISHING AREA

FORMER TUMBLING AREA

FORMER DRY CLEAN AREA

FORMER 1,000-GALLON SOLVENT STORAGE TANKS

B12/ MW05

B16

TRENCH04-B

(EXPLOSION PROOF AREAS)

B24

P06

B18

P07

SUMP01

B19

P05

B20

EXISTING 3' X 3' VAULT

TROY BUILDING (1926)

~6'-DEEP SUMP

FLOOR DRAIN

B23

GARAGE ADDITION (1964)

FLOOR DRAIN

EXISTING 3' X 3' VAULT

RAMP

B37/ MW13

2,000-GALLON UST AND FORMER FUEL-DISPENSING PUMP ISLAND

B22

PIPE01 (SECOND FLOOR)

P04

B27/ MW09

B21

B38/ MW14

THOMAS STREET

BOREN AVENUE NORTH

300s (EVENS)

300s (ODDS)

FAIRVIEW AVENUE NORTH

N

LEGEND

- PROPOSED MONITORING WELL
- PROPOSED DEEP MONITORING WELL
- PROPOSED SOIL BORING
- PROPOSED PROCESS WATER SAMPLE LOCATION
- MONITORING WELL
- SOIL BORING
- VAULT ACCESS
- PROCESS WATER SAMPLE LOCATION
- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SITE FEATURES
- SOUTH LAKE UNION STREETCAR LINE

AST	ABOVEGROUND STORAGE TANK
GPR	GROUND PENETRATING RADAR
SVE	SOIL VAPOR EXTRACTION
UST	UNDERGROUND STORAGE TANK

LOCATIONS OF FORMER SITE FEATURES ARE APPROXIMATE

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 2
PROPOSED EXPLORATION LOCATION PLAN

ATTACHMENT A

ACKNOWLEDGEMENT AND AGREEMENT FORM

ACKNOWLEDGEMENT AND AGREEMENT FORM

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*
Name	*Signature*	*Company*	*Date*

ATTACHMENT B

DAILY HEALTH AND SAFETY BRIEFING LOG

DAILY HEALTH AND SAFETY BRIEFING LOG

Date: _____ **Start Time:** _____

Sites Discussed: _____

_____

_____

_____

Subjects Discussed: _____

_____

_____

_____

_____

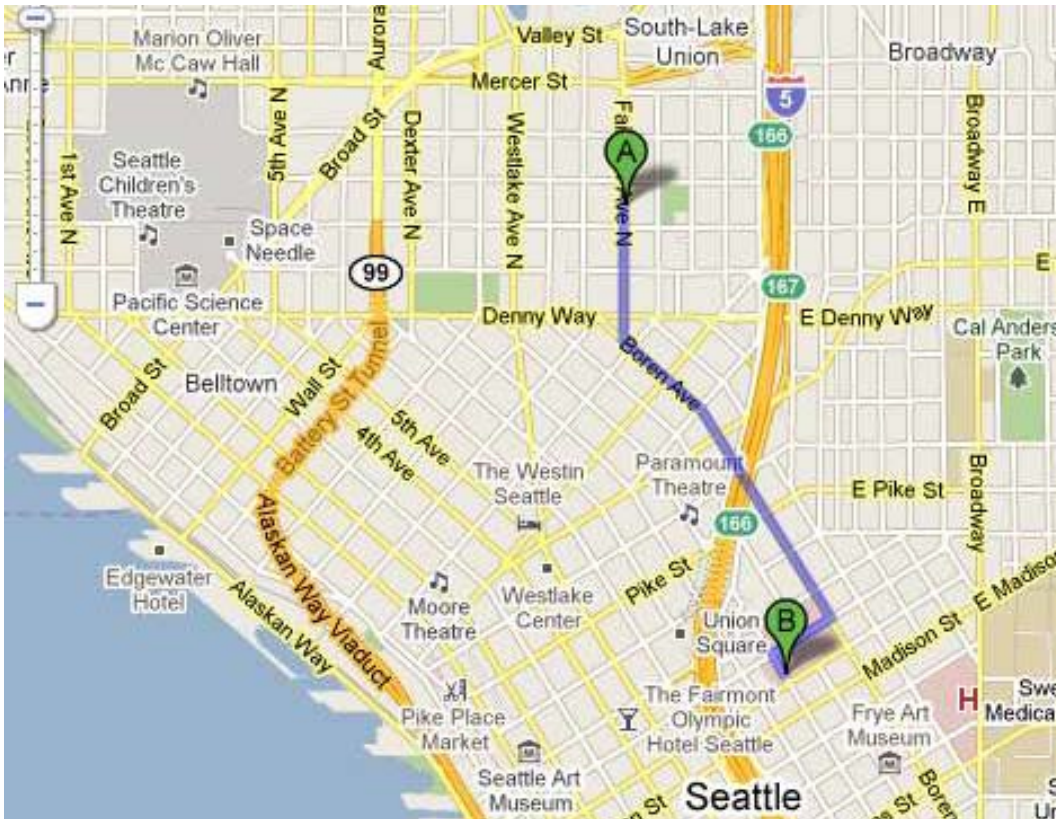
ATTENDEES

Print Name	Signature

Meeting Conducted by _____ **Date Signed**_____

ATTACHMENT C
HOSPITAL ROUTES

Hospital Route



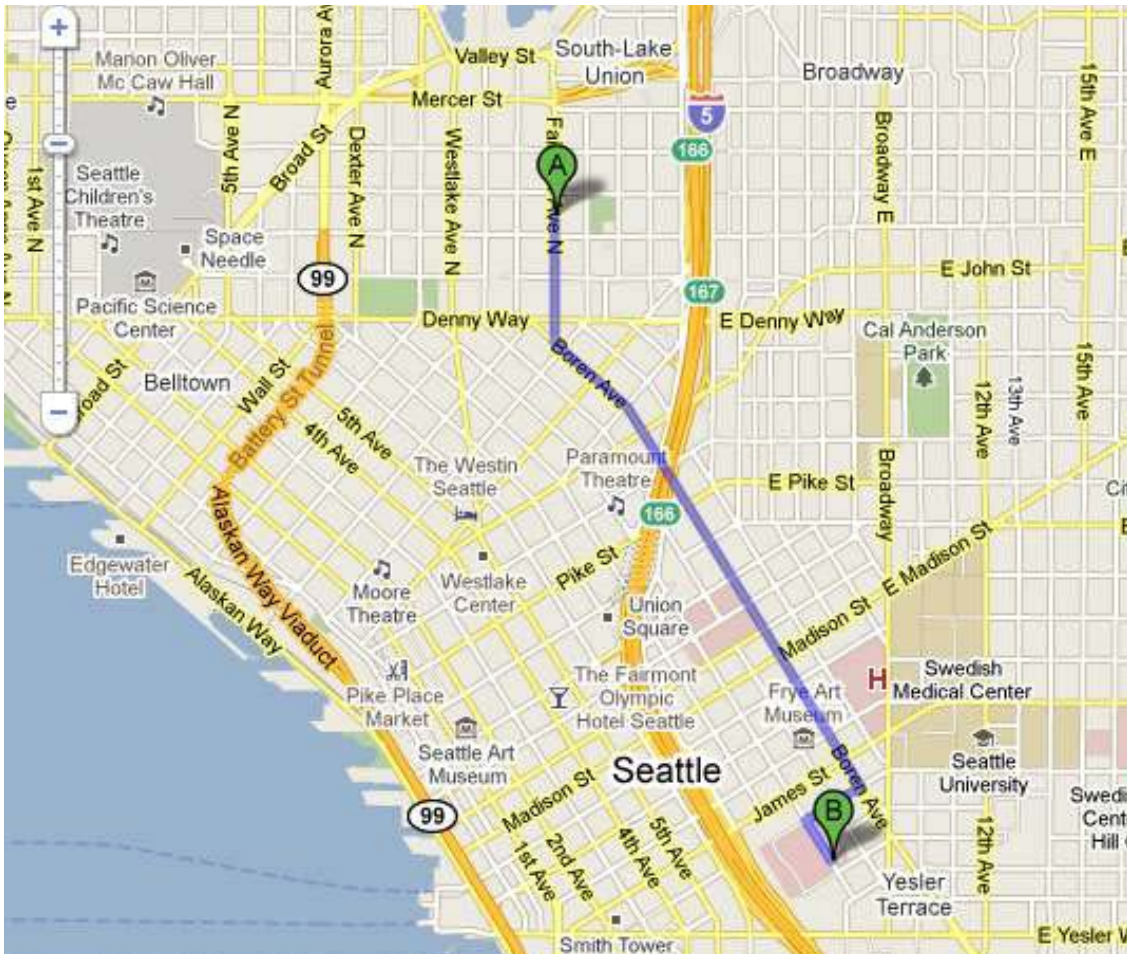
A 307 Fairview Ave N, Seattle, WA 98109

	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