INTERIM ACTION WORK PLAN

SOLIDARITY HOUSE AFFORDABLE HOUSING DEVELOPMENT

2901 17th Avenue South
Seattle, Washington

Prepared for

Estelita's Library

Project Number

25009-02

Date

May 7, 2026 | PUBLIC REVIEW DRAFT

Black River Environmental, LLC
26311 NE Valley St. #141
Duvall, Washington
425-725-3832
www.blackriverenvironmental.com

INTERIM ACTION WORK PLAN
SOLIDARITY HOUSE AFFORDABLE HOUSING DEVELOPMENT

2901 17th Avenue South
Seattle, Washington

Prepared for

Estelita's Library

Project Number
25009-02

Date
May 7, 2026 | PUBLIC REVIEW DRAFT

Ali Cochrane, LG
Associate Geologist
ali@blackriverenv.com

Jessica Smith, LG
Principal Geologist
jessica@blackriverenv.com

Z:\25009 - Beacon Hill AH Development\Deliverables\2026-05_IAWP\PUBLIC REVIEW DRAFT\EstLib_IAWP_Public Review Draft_v2.docx

Contents

List of Tables

List of Figures

List of Appendices

Acronyms & Abbreviations

ASTM	ASTM International, Inc.
bgs	below ground surface
Black River	Black River Environmental, LLC
BTEX	benzene, toluene, ethylbenzene, and xylenes
CSM	Conceptual Site Model
COPC	Contaminant of Potential Concern
Ecology	Washington State Department of Ecology
EIM	Environmental Information Management
FS	Feasibility Study
IA	Interim Action
IAWP	Interim Action Work Plan
IDP	Inadvertent Discovery Plan
ISCO	in-situ chemical oxidation
HASP	Health and Safety Plan
LNAPL	light non-aqueous phase liquid
MTCA	Model Toxics Control Act
PAHs	polycyclic aromatic hydrocarbons
PPCD	Prospective Purchaser Consent Decree
PQL	Practical Quantitation Limit
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RCW	Revised Code of Washington
RI	Remedial Investigation
ROW	right-of-way
SAP	Sampling and Analysis Plan
SVE	soil vapor extraction
TEE	Terrestrial Ecological Evaluation
TPH	petroleum hydrocarbons

UST	underground storage tank
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WSFC	Washington State Fire Commission

1 Introduction

Black River Environmental, LLC (Black River), on behalf of Estelita's Library, prepared this Interim Action Work Plan (IAWP) for the Solidarity House Affordable Housing Development Project located at 2901 17th Avenue South in Seattle, Washington in Seattle's Beacon Hill neighborhood (Subject Property; Figure 1). The Subject Property comprises two parcels totaling 120,000 square feet in size, according to tax assessor records (King County parcel nos. 308600-3356 and 308600-3355), as follows:

- Parcel 308600-3356 with address 2901 17th Avenue South is referred to herein as the C L Auto Parcel. This parcel was historically used as two generations of gasoline services stations between 1939 and 1990, and then as an auto body service and repair shop from 1990 to 2022. Those businesses are now closed, and the existing former auto repair building is in use by Estelita's Library as a community gathering space.
- Parcel 308600-3355 with address 1615 South Forest Street is referred to as the 1615 Residence Parcel. This parcel is residential with the existing residence and detached garage constructed in 1909. The existing residence is a multi-unit rental and is currently unoccupied.

The Subject Property layout and existing features are shown on Figure 2. Estelita's Library purchased the C L Auto Parcel under Prospective Purchaser Consent Decree (PPCD) no. 25-2-17319-4 dated June 11, 2025, and is in the process of modifying the PPCD to include the 1615 Residence Parcel. Estelita's Library's planned development, Solidarity House, spans the full Subject Property and will consist of an affordable housing development with community center. Construction will require mass excavation extending roughly lot-line to lot-line and to approximately 15 feet below ground surface (bgs), with localized excavations to as deep as 20 to 25 feet bgs for elevator pits, footings, and other structural building components.

Remedial investigation activities began at the Site in 2022, summarized in the *Remedial Investigation and Data Gaps Report (Part 1)* dated March 15, 2025 (RI Part 1; Aspect, 2025) and are continuing in 2026 as outlined in the *Remedial Investigation Work Plan* dated January 16, 2026 (2026 RIWP; Black River, 2026). Based on Remedial Investigation (RI) data collected to date, the prior operations at the C L Auto Parcel have resulted in areas of petroleum contamination to soil and groundwater including the presence of light non-aqueous phase liquid (LNAPL), which extend beyond the Subject Property boundaries to below Forest Street to the north, 17th Avenue South to the east, Beacon Avenue South to the northeast, and may extend beyond these rights-of-way (ROWs) to adjoining properties in these directions. These areas are included within the Site, as generally defined by the Model Toxics Control Act (MTCA) as anywhere hazardous substances or contamination has come to be located. Section 2 presents a summary of the Site conditions and preliminary conceptual site model (CSM).

The Interim Action (IA) was developed to reduce the threat to human health and the environment by reducing groundwater and vapor intrusion exposure pathways at the Site, to reduce and/or

eliminate the sources of ongoing contamination to soil, groundwater, and soil gas at the Site, to provide necessary data for completion of the future Feasibility Study (FS), and to facilitate completion of the Solidarity House redevelopment on the Subject Property portion of the Site. The basis and goal for the IA is discussed in Section 3. The IA scope includes the following components:

- Recovery of LNAPL at the Site for off-Site treatment and disposal.
- Decommissioning, removal, and appropriate disposal of former chemical products and infrastructure remaining at the Site from the prior owner auto repair operation.
- Completing on-Property components of cleanup construction concurrently with Subject Property development, including excavation of petroleum-contaminated soil, capping of residual contaminated areas, and construction of the petroleum vapor intrusion mitigation system for the new building.

Section 4 presents the scope of work for each of the IA components above, and Section 5 describes the reporting activities and schedule for implementation.

The IAWP presented in the following sections has been prepared to meet the requirements of the MTCA Regulation, Washington Administrative Code (WAC) Chapter 173-340 and Revised Code of Washington (RCW) 70.105D.010(1), the PPCD, and Grant Agreement no. TCPAHC-2527-EstLib-00010 effective June 11, 2025.

1.1 Future Site Use and Redevelopment

Estelita's Library plans to redevelop the Subject Property with Solidarity House, a cultural hub and community-informed affordable housing development with community gathering spaces. The new development will consist of a new mixed-use building with street-level commercial space to be occupied by Estelita's Library, and four to eight stories of multi-family housing which could allow for up to 40 affordable housing units. One level of below-grade basement is planned, which will be used for parking, building facilities (mechanical and engineering rooms), and an archival space for Estelita's Library collections.

To facilitate Subject Property development, mass excavation will occur extending roughly lot-line to lot-line and to approximately 15 feet below ground surface (bgs), with localized excavations to as deep as 20 to 25 feet bgs for elevator pits, footings, and other structural building components. Mass excavation will likely require installation of temporary shoring near the Subject Property boundaries. Additional details regarding the mass excavation extent, shoring design, and other redevelopment construction components are still in development.

2 Preliminary Conceptual Site Model

A summary of the preliminary conceptual site model (CSM) for the Site is presented in this section, based on the previous investigations described in the RIWP (Black River, 2026). The CSM will be

refined using the data collected during implementation of the RIWP and will be updated in the forthcoming Remedial Investigation report for the Site.

2.1 Geologic Setting

The Subject Property lies within the Puget Lowland, underlain by heterogeneous glacial sediments. The mapped surficial unit is Quaternary Vashon till (Qvt), deposited during the Vashon Stade of the Fraser Glaciation (25,000–10,000 years ago) and forming the Beacon Hill drumlin (Troost, 2008). Vashon till consists of very dense silt, sand, and gravel, with the upper ~3 feet typically weathered.

Previous investigations observed shallow fill overlying Vashon till to the maximum explored depth (60 feet bgs). Fill generally consists of brown to gray silty sand with gravel to ~5 feet bgs, and up to ~10 feet bgs in the underground storage tank (UST) refueling area and at AMW-03. Underlying glacial deposits include dense to very dense gray sand with variable silt and gravel to ~35 feet bgs, very hard dark gray silt to ~45 feet bgs, and dense poorly graded sand to 60 feet bgs. At AMW-09, silt was encountered between 50 and 60 feet bgs (Aspect, 2025).

Regional groundwater is expected below 200 feet bgs; however, perched groundwater occurs at shallower depths. Saturated soils were encountered within sandier layers as shallow as 12 feet bgs, with more consistent saturation below ~25 feet bgs. Groundwater between 12 and 25 feet bgs is interpreted as perched, with static elevations of 266–282 feet and flow to the northeast–east-northeast (Table 1; Aspect, 2025). The Property sits atop Beacon Hill at ~295 feet elevation, with steep slopes descending west to the Duwamish Waterway (approximately 1.5 miles) and east to Lake Washington (approximately 1.3 miles).

2.2 Contaminants and Sources

Site contamination originates from historical gasoline station and auto-repair operations (1939–2022). Releases likely occurred from refueling USTs and piping, pump islands, the waste-oil UST, and auto-repair features such as hoists, floor drains, and the oil/water separator.

Contaminants identified in soil, groundwater, and/or soil gas (Tables 2–3) include:

- Gasoline-, diesel-, and oil-range petroleum hydrocarbons (TPH)
- Petroleum-related volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX)
- Polycyclic aromatic hydrocarbons (PAHs)
- Lead
- Chromium
- Other VOCs

Contaminants are attributed to the waste-oil/auto-repair area beneath the former C L Auto building and to refueling infrastructure extending northeast from the former UST area.

2.3 Fate and Transport

Releases from the sources described in Section 2.2 entered soil and/or groundwater and migrated vertically and laterally by advection, diffusion, partitioning (volatilization, sorption), and leaching. Migration pathways include:

- Downward movement through soil (leaching, product migration)
- Transfer of dissolved contaminants or LNAPL into groundwater
- Groundwater/LNAPL transport in saturated zones
- Vapor-phase migration from VOCs

Gasoline-related releases occupy a larger footprint than auto-repair-related releases, affecting soil, groundwater, and soil gas, including off-Property areas. Waste-oil UST–related impacts are confined to the Property and primarily affect soil. Waste oil impacts to groundwater were not confirmed but are possible based on depth of soil impacts.

In the former gasoline station area, shallow soils (as shallow as 2.5 feet bgs at AB-09) and deeper soils near the UST nest (10–15 feet bgs) were impacted. Migration followed sandier stringers within the glacial deposits, including below the perched water table (~25–29 feet bgs). This pattern of migration is consistent with alternating saturated sand layers and lower-permeability silt layers between ~20 and 40 feet bgs. Higher COPC concentrations generally align with these transmissive zones.

Lateral migration occurred primarily near the static water table, forming a smear zone. The farthest impacts extend ~140 feet downgradient (to AMW-10), with additional spread ~60 feet north (AMW-07) and southeast (AMW-11), and limited upgradient spread west of AMW-01. Flow direction may vary seasonally and be influenced by deep storm/sewer utilities along Beacon Avenue South.

In the auto-repair area, waste-oil releases migrated vertically through fill into underlying glacial deposits. Soil impacts extend to ~30 feet bgs (AB-12), but soils at that depth were unsaturated. Limited lateral migration was observed within dense glacial till.

2.4 Potential Receptors and Exposure Pathways

2.4.1 Protection of Human Health

The nature and extent of contaminants in Site media determine the potential exposure pathways and receptors at the Site. The following section provides a description of the potential exposure pathways and receptors for the Site based on the existing Site data.

- **Direct contact pathway.** The direct contact pathway considers both dermal contact and ingestion of soil beneath the Site. The area of contaminated soil is currently capped and covered with pavement and/or asphalt, which effectively prevents exposure as long as these surfaces are maintained. Under future uses, there is potential for workers to be

exposed to soil contamination when development activities for the Solidarity House project commence and the paved surfaces on the Subject Property are removed. Therefore, the direct contact pathway is potentially complete.

- **Soil leaching-to-groundwater pathway.** Contaminated soil and LNAPL in contact with groundwater are a source of COPCs leaching to groundwater. Site data indicates that both contaminated soil and LNAPL are in contact with groundwater, and that groundwater has been impacted by Site COPCs. Therefore, the soil leaching-to-groundwater pathway is complete.
- **Groundwater-ingestion pathway.** This groundwater exposure pathway considers direct contact and ingestion of groundwater at the Site. Under current Site use, human receptors are unlikely to ingest groundwater because groundwater is not used for drinking water. However, MTCA defines the highest beneficial use of groundwater as drinking water and under future use there is potential for workers to be exposed to groundwater contamination during development activities. Therefore, the groundwater ingestion pathway is potentially complete.
- **Soil gas to indoor air pathway.** The vapor intrusion pathway includes exposure to volatile petroleum constituents in soil gas from volatile contaminants dissolved in groundwater, from LNAPL, and from volatile contaminants in soil. Site data indicates that one or more of these sources of volatile petroleum constituents in soil gas are present below or in close lateral distance to the existing residential building on the 1615 Residence Parcel at the Subject Property, the north-adjacent Seattle Public Library, the east-adjacent residential apartments/townhomes, and the south-adjoining residential building. Therefore, there is potential for the soil gas to indoor air pathway to be complete for these structures under current and future uses, as well as the future Subject Property building after redevelopment. Vapor intrusion evaluation, including soil gas sampling, at the existing C L Auto Repair building completed during the RI in 2024 did not show evidence of vapor intrusion that would preclude or limit the current use of the building as gathering space.

2.4.2 Protection of Terrestrial Ecological Receptors

The purpose of a Terrestrial Ecological Evaluation (TEE) is to assess the potential risk to terrestrial plants and/or animals that live entirely or primarily on affected land. This Site qualifies for a TEE exclusion under WAC 173-340-7491(1)(c) because there is less than 1.5 acres of contiguous undeveloped land on or within 500 feet of any area of the Site.

3 Interim Action Summary

An IA is a cleanup action that only partially addresses the cleanup at a Site, implemented with one or more of the following goals (WAC 173-340-430(1)):

- Reduce a threat to human health or the environment by eliminating or substantially reducing one or more exposure pathways.

- Correct a problem that may become substantially worse before full Site cleanup can be accomplished.
- Complete activities needed for feasibility study and/or cleanup design.

The IA will provide a partial cleanup of the Site (WAC 173-340-430(2)) and will be consistent with and not foreclose reasonable alternatives for the overall cleanup action for the Site as a whole (WAC 173-340-430(3)). The following table presents a summary of the IA components for the Site.

Table 5. Summary of Interim Action Components

Component	Description	Outcome	Compatibility with Overall Site Cleanup
LNAPL Recovery	Reoccurring LNAPL gauging and removal from Site wells	Reduce ongoing source of contamination and reduce risk for groundwater and vapor intrusion exposure pathways at the Site	LNAPL removal will contribute to controlling ongoing source(s) of contamination to Site soil and groundwater
Former Auto Repair Infrastructure & Products Removal	Decommissioning and/or removal of oil/water separator, waste oil AST, and containers of unknown products left behind by former owner's auto repair operation	Remove or reduce possible ongoing sources of contamination and mitigate possible exposure risk to current Subject Property occupants	Will remove or reduce possible additional or ongoing source(s) of contamination to Site soil and groundwater
On-Property Cleanup Construction	Concurrently with redevelopment construction, excavation of petroleum-contaminated soil, capping residual contamination, and installation of a vapor intrusion mitigation system	Facilitate Subject Property redevelopment as Solidarity House and mitigate exposure pathways for post-redevelopment conditions	New structures and cleanup components will be designed to allow for modifications if warranted by future Site conditions, and/or to facilitate access for future overall Site cleanup activities[1]

Notes: 1) Design detail will be presented in the forthcoming IAWP Addendum, after building design plans have been developed.

3.1 Basis and Goal

The IA scope presented in Section 4 was developed to achieve the following objectives:

- Reduce and/or remove sources of ongoing contamination to Site soil, groundwater, and soil gas. The sources to be reduced/removed by the IA are LNAPL, on-Property contaminated soil, and remaining auto repair infrastructure (waste oil UST, oil/water separator, etc.)

- Reduce and/or mitigate groundwater and vapor intrusion exposure pathways that may be complete under current Site conditions by removing or reducing the contamination sources and completing cleanup construction for the Subject Property portion of the Site
- Facilitate the planned Solidarity House redevelopment at the Subject Property

The IA components are summarized on Figure 3 and described further in Section 4.

3.2 Proposed Screening Levels

Screening levels for the Site are presented in the 2026 RIWP, referred to herein as the RI Screening Levels (Black River, 2026). The RI Screening Levels are developed based on the potentially complete exposure pathways (Section 2.4), as follows:

- **Soil.** For vadose zone soil and saturated soil, the proposed RI screening levels are the lowest of the MTCA Method B values for protection of potable groundwater for the soil leaching to groundwater pathway. Soil screening levels are adjusted upward for natural background (in the case of metals) and the practical quantitation limit (PQL), where applicable.
- **Groundwater.** For groundwater, the proposed RI screening levels are the lowest of the MTCA Method B values for protection of potable groundwater and vapor intrusion, adjusted upward for the PQL, where applicable.
- **Soil Gas.** For soil gas, the proposed RI screening levels are the lowest of the MTCA Method B values for soil gas, for either the residential use scenario or the commercial use scenario (assuming a 45-hour workweek), dependent on the current use and anticipated future use(s) of the buildings being evaluated.

Tables 2 to 4 include the proposed RI Screening Levels for the analytes that have been detected at the Site in previous investigations (Section 2.2).

Site screening levels will be updated and Site cleanup levels will be developed in partnership with Ecology following implementation of the RIWP and presented in the forthcoming RI report. During implementation of the IA components (Section 4), the most recent Site screening levels that have been approved by Ecology at the time of implementation of the IA component will be used, unless otherwise approved in writing by Ecology.

4 Interim Action Components

This section describes the scope and activities of each work element of the IA. The IA scope was developed to address possible ongoing or future sources of contamination to Site soil and groundwater and includes LNAPL recovery, decommissioning and removal of former auto repair infrastructure and products/wastes remaining in place at the Subject Property, and on-Property excavation of contaminated soil.

The anticipated schedule for implementation of each work element is discussed in Section 5. Additionally, Appendix A presents the Sampling and Analysis Plan (SAP) and the Quality Assurance Project Plan (QAPP) for the project. A summary of the IA components is shown on Figure 3.

Each of the IA components will be conducted independently, and will require coordination between the consultant, subcontractors, vendors, and the Owner. Each party's role and responsibilities are summarized below.

Owner – Estelita's Library is the owner of the Property and the project.

Environmental Consultant and Engineer (Black River) – Black River is the environmental consulting firm contracted by the Owner, and the engineer-of-record for each of the IA components. Black River will procure or coordinate procurement of materials and equipment and oversee subcontractors conducting the IA components (as needed) and will select and direct subcontractors on the Owner's behalf.

Subcontracted Activities – Other subcontractors are necessary to complete portions of the IA components, including the following activities/roles:

- Analytical laboratory
- Transportation and disposal of remediation- and investigation-derived waste
- Decommissioning, transportation, and disposal of auto repair infrastructure and products
- Soil excavation, transportation, and disposal

Health and Safety - The site-specific Health and Safety Plan (HASP) was updated to cover the IA scope and is provided as Appendix B. The Black River HASP will be followed by Black River employees. Black River subcontractors are expected to develop and operate under their own HASPs, which will address the hazards relevant to their IA implementation scopes.

4.1 Pre-Implementation Activities

Prior to implementation of the IA components described in the following sections, several activities are required to comply with the PPCD and Grant Agreement, including cultural resources assessment and public outreach. Activities described in this section will be coordinated with Ecology.

4.1.1 Cultural Resources and Archaeological Significance Assessment

Ecology has identified that the Site is located within areas that may hold cultural significance to the following Tribal Nations:

- Muckleshoot Indian Tribe
- Tulalip Tribes of Washington
- Stillaguamish Tribe of Indians
- Suquamish Tribe

- Snoqualmie Indian Tribe
- Squaxin Island Tribe

In accordance with Executive Order 21-02, Ecology will facilitate a Cultural Resources Consultation with the Department of Archaeology and Historic Preservations and the Tribal Nations listed above. All work performed at the Site during implementation of the IAWP will be under the project Inadvertent Discovery Plan (IDP), outlining the plan and procedures for the discovery of cultural resources and human skeletal remains. A copy of the Ecology-approved IDP is included as Appendix C.

4.1.2 Public Outreach and Involvement

The IAWP will be made available to the public for review and comment prior to finalizing and implementing the IA components. We will be available to assist with review and drafting of all public notices and public participation plan materials, and we will be present at any public meetings.

Additionally, adjacent property owners that may be affected during implementation of the IA will be notified of the planned work and schedule. Any access agreements necessary to complete the IA components will be obtained in advance of work performed.

4.2 LNAPL Recovery

In accordance with MTCA and Ecology recommendations, LNAPL recovery will occur at the Site, to begin immediately following Ecology's approval of the IAWP. LNAPL recovery will consist of baildown and removal of LNAPL from Site wells.

Following completion of the LNAPL recoverability test as described in the *Feasibility Study Pilot Test Work Plan* (Black River, 2026b), quarterly site visits will occur to gauge LNAPL thickness and to remove LNAPL from Site wells. During each site visit, Site wells containing LNAPL will be opened and allowed to equilibrate with atmospheric pressure for a minimum of 20 minutes. Then, depth to LNAPL and depth to water will be recorded at each well using an electronic interface probe.

For Site wells where LNAPL thickness is equal to or greater than 3 inches (0.25 feet), a peristaltic pump with disposable tubing will be used to bail down and recover the LNAPL inside the well casing. Recovered LNAPL will be placed in a labeled drum temporarily stored on the Subject Property for pickup and disposal in accordance with the requirements set forth in WAC 173-303 for ignitable waste. The volume of LNAPL recovered from each well and the disposal documentation will be summarized in a memorandum and submitted to Ecology annually (see Section 5.1).

The purpose of LNAPL recovery is to reduce the overall LNAPL relative permeability in the formation. Recovery of LNAPL from monitoring wells is not expected to reduce the LNAPL saturation to residual but does reduce the overall mobility of the LNAPL plume. Gauging and recovery will be conducted on a quarterly basis to remove LNAPL to the extent practicable and will be ceased when one of the following conditions are met:

- **LNAPL Transmissivity:** Non-enhanced recovery methods (such as skimming LNAPL from the water table surface) are generally efficient down to transmissivities of 0.1 to 0.8 ft^2/day. LNAPL recovery will be considered to have reached the maximum extent practicable if calculated LNAPL transmissivity is less than 0.1 ft^2/day.
- **LNAPL Thickness:** Gauging and recovery will cease if LNAPL thickness in all Site wells is equal to or less than three inches over four consecutive quarterly events.
- **LNAPL Volume:** LNAPL recovery volumes at each monitoring well are expected to decrease asymptotically over time. Recovered volumes of LNAPL during each quarterly event will be compared to the initial volume recovered at each monitoring well. The LNAPL recovery rate over time will be used to determine when the practicable limits of recovery have been reached. The endpoint for LNAPL recovery based on recovered volume will vary for each monitoring well and will be dependent on the initial volume recovered at that monitoring well. Generally, LNAPL recovery will be considered complete to the extents practicable once recovery volumes at each monitoring well (a) have stabilized over four consecutive quarters and (b) are less than 0.5 gallons during each event.

4.3 Former Auto Repair Infrastructure & Products Removal

Infrastructure and products related to the prior auto repair operation at the Subject Property require decommissioning and/or removal and proper disposal. Black River completed a site visit on November 12, 2025, and inventoried the following:

- **Oil/water separator.** A single-chamber oil/water separator remains in-place in the floor of the western wing of the former auto repair building. The oil/water separator interior dimensions measure approximately 2 feet by 2 feet and 3 feet deep. Piping from interior floor drains in the central wing of the building empty into the oil/water separator, and an outflow pipe with cleanout was observed existing the oil/water separator to the north. Approximately 3 inches of solids and 3 inches of fluid were present in the oil/water separator during the site visit. Solids and fluid are black, have an oily sheen and appearance, and exhibit a strong petroleum-like odor. The oil/water separator has a metal grate lid set flush with the concrete floor.
- **Above-ground storage tank (AST).** An approximately 250-gallon steel AST is present inside a metal shed on the northern edge of the paved parking area at the C L Auto Parcel. The AST contains approximately 6 inches of fluid with an oily sheen and moderate petroleum-like odor. The shed containing the AST measures approximately 12 feet by 4 feet and 10 feet tall, constructed of steel siding welded to a steel frame and situated on concrete pad that is approximately 6 inch thick. The interior of the shed was observed to be heavily stained by an oil-like substance and is corroded/rusted.
- **Containers of Known and Unknown Products and Wastes.** A total of five containers ranging from 1.5 gallons to 55-gallon drums are present at the Subject Property, as follows:

- A 1.5-gallon container labeled with "hydraulic oil" and "solvent" was observed in the existing building and appeared to contain a small amount of fluid. The exact composition of the fluid is unknown.
- A 20-gallon container was observed in the existing building. The container included a manufacturer's label indicating the contents are an engine grease product.
- A 30-gallon steel drum was observed just northwest of the former auto repair building. The drum is not labeled and appears to contain metal engine parts submerged in clear odor-less fluid. The drum lid was partially open, indicating that the fluid is likely mostly rainwater.
- Two 55-gallon steel drums were observed in an exterior enclosure in the southwest corner of the Subject Property. The drums are labeled with "RCRA waste" but appear to be mostly empty with the exception of a small amount of unknown fluid inside each. The composition of the fluid is unknown.

Photographs and supporting documentation for the items listed above are included in Appendix D. Spills, leaks, and/or releases from the materials listed above could result in petroleum product or chemical exposure to people using the Subject Property and/or would contribute to Site contamination if a release occurred. Because of this, the former auto repair infrastructure and products/wastes listed above have been selected for decommissioning and disposal as part of the IA, prior to future building demolition and/or cleanup construction at the Site. Characterization, decommissioning, and disposal procedures are outlined in the following sections.

4.3.1 Oil/Water Separator Decommissioning

The oil/water separator will be decommissioned, to consist of disposal of solids and fluid in the unit, cleaning the unit, capping the outflow, and filling the unit.

Black River will collect one sample of the solids and one sample of the fluid contained within the oil/water separator for facility profiling for disposal purposes and submitted to an Ecology-accredited environmental laboratory for analysis, as follows:

- The solids sample will be analyzed for VOCs via EPA 8260 and Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, and silver) plus copper, nickel, and zinc via EPA 6020.
- The fluid sample will be analyzed for flash point, RCRA 8 metals via EPA 6020, and total halogens via EPA 9076.

A waste disposal contractor, under subcontract to Black River, will utilize the analytical data to profile the solids and fluids for disposal, and then will remove the waste from the oil/water separator using a vacuum truck. The empty oil/water separator unit will be steam cleaned and then the unit will be filled with controlled density fill (CDF) or concrete finished flush with the surrounding floor. Prior to filling the unit, the outflow pipe will be cut and capped to prevent CDF from traveling uncontrolled through the pipe.

Decommissioning activities will be overseen by a Black River field representative, documented in photographs and field notes, and will be summarized in a Decommissioning and Disposal Memorandum for submittal to Ecology.

4.3.2 Above-Ground Storage Tank Removal

The AST will be decommissioned and removed for off-Property disposal under City of Seattle Permit 7908 for commercial flammable or combustible liquid tank decommissioning. Requirements and procedures for AST decommissioning are provided by Washington State Fire Code (WSFC) Chapter 57.

Black River will collect one sample of the AST contents and submit the sample for analysis of flash point, RCRA8 metals via EPA 6020, and total halogens via EPA 9076. This analytical suite was selected based on documentation from the prior owner that indicates the AST was formerly used to store waste oil associated with the auto repair operation.

In accordance with WSFC 5704.2.14.1, a waste disposal contractor will remove the AST contents, containerize it, and transport it to the disposal facility. AST openings will be capped or plugged leaving a 1/8-inch to ¼-inch diameter opening for pressure equalization, and then the AST interior will be inerted by an ICC-certified tank decommissioner. After inertion, the AST interior will be cleaned using water and detergent (such as Alconox). The contractor will remove the AST and transport it to the disposal facility. There is no piping associated with the AST that would require disconnecting, capping, or removal.

AST removal activities will be documented in photographs and field notes and summarized in a Decommissioning and Disposal Memorandum for submittal to Ecology.

4.3.3 Containers of Known and Unknown Products & Wastes Disposal

The containers of known and unknown products and waste remaining from the prior auto repair operation will be removed from the Site for disposal. Black River will collect samples of the contents in the four containers with unknown fluids, as follows:

- **1.5-gallon unknown solvent container:** one sample of fluid in the container will be analyzed for VOCs by EPA 8260
- **55-gallon drums:** one composite sample of the fluid inside both drums will be analyzed for VOCs via EPA 8260, RCRA8 metals via EPA 6020, flash point, and total halogens via EPA 9076
- **30-gallon drum:** one sample of fluid in the container will be analyzed for VOCs via EPA 8260 and RCRA 8 metals via EPA 6020

The 20-gallon container of engine grease is properly labeled and does not require sampling prior to disposal profiling.

A waste disposal contractor, under subcontract to Black River, will utilize the sample results to profile the containers for disposal, and then transport each container to the appropriate disposal facility. After removal, if soil beneath the drums or containers is present, the soil will be field

screened using a PID and water sheen methods for indications of leaks or spills from the drums/containers. If field screening evidence of impacts is observed, then soil samples will be collected beneath the storage areas to support Site characterization and cleanup planning.

Container disposal activities (and sampling activities, if warranted) will be documented in photographs and field notes and summarized in a Decommissioning and Disposal Memorandum for submittal to Ecology (see Section 5).

4.4 On-Property Cleanup Construction

As discussed in Section 1.1, the Subject Property will be redeveloped in the near future, which will include construction of a mixed-use commercial and residential building with basement situated across most of the Subject Property. On-Property cleanup activities will occur concurrently with redevelopment and are a component of the IA, as discussed in this section. The IA activities to be completed concurrently with Subject Property redevelopment include:

- On-Property excavation and removal of petroleum-contaminated soil
- Capping residual petroleum-contaminated soil and groundwater with concrete foundation slab(s)
- Incorporation of a petroleum vapor intrusion mitigation system into building design/construction

These activities are shown conceptually on Figure 3. The information presented in this section is based on preliminary conceptual construction design details and will be refined as construction plans and specifications are developed in early to mid-2026, and documented in an IAWP Addendum, as described below.

4.4.1 Site Preparation

Details will be presented in the forthcoming addendum to this IAWP, but pre-construction site preparation activities may include demolition of on-property structures, decommissioning of groundwater monitoring wells within the redevelopment footprint, and securing appropriate construction-related permits. Replacement groundwater monitoring wells may be re-installed after cleanup construction is complete.

4.4.2 On-Property Excavation

The planned development includes one basement level, which will require mass excavation nearly lot-line to lot-line to approximately 15 feet bgs, with localized excavations to approximately 20-25 feet bgs for structural foundation components, utilities, elevator vaults, and other building features. Temporary shoring may be required, particularly where the Property boundary is near structures on adjoining properties or adjoins City-owned ROWs.

The development excavation footprint encompasses petroleum contaminated soil, estimated at approximately 6,000 cubic yards. Over excavation to deeper depths solely for remedial excavation purposes, such as to excavate the smear zone contaminated soil, may occur in areas of the

Subject Property if determined practicable based on practicability, depth, soil stability, development structural design, and shoring implications. Any over excavation beyond the planned development depth would require placement and compaction of structural backfill to restore the excavation to the planned development depth.

The excavation plan, including depth, shoring and backfill needs, anticipated volume of contaminated soil and disposal facilities, and stormwater management details will be presented in an IAWP Addendum when construction plans and specifications are available.

Performance and confirmation monitoring will occur during excavation, consisting of collection of soil samples from the sidewalls and base of the excavation for laboratory analysis. Sample frequency, the contaminant suite for laboratory analysis, and the cleanup levels for IA excavation will be documented in the IAWP Addendum.

4.4.3 Capping Residual Petroleum Contaminated Soil and Groundwater

Following on-property excavation (see Section 4.4.1), petroleum contaminated soil and groundwater will be present at deeper depths than the maximum practicable excavation depth. Residual petroleum contaminated soil and groundwater will be capped by construction of the concrete building foundation and ground surface pavement, preventing direct contact with petroleum contaminated soil and groundwater under future use of the Subject Property.

Preliminary conceptual details regarding the concrete building foundation indicate that the foundation will consist of cast in place concrete, including reinforced concrete perimeter spread footings, spot footings, foundation slab, vertical walls, and columns. The foundation slab will measure approximately 4-inches thick overlying at least 4-inches of crushed rock.

The long-term integrity of the cap would be verified by periodic visual inspections, which will be described in the future Inspection, Monitoring, and Maintenance Plan for the project. Institutional controls in the form of environmental covenant will be prepared to manage cap integrity and prevent activities that may interfere with the cleanup action.

4.4.4 Petroleum Vapor Intrusion Mitigation System

The residual petroleum contaminated soil and groundwater remaining in-place beyond the extent of excavation may pose a vapor intrusion risk to the new building indoor air. Therefore, a petroleum vapor intrusion mitigation system will be incorporated into the building design and constructed concurrently with the building foundation (after excavation is completed). The petroleum vapor intrusion mitigation system may consist of chemical resistant vapor barrier and/or subslab depressurization system, as follows:

- A chemical resistant vapor barrier rated for the petroleum constituents at the Site would be installed on below-grade foundation walls and slabs. Installation would occur by the general contractor or their subcontractor, in accordance with all of the manufacturer's specifications and warranty requirements.

- A subslab depressurization system would consist of piping installed beneath the foundation slab to collect and vent subslab vapors. The system may be active or passive or designed to allow for conversion from active to passive with addition of a blower.

The specific components of the petroleum vapor intrusion mitigation system, including the products/materials selected, will be integrated into the foundation and building design plans in partnership with the development design team and included with City permitting submittals.

The effectiveness of the petroleum vapor intrusion mitigation system would be verified by periodic monitoring and inspections and will be described in the future Inspection, Monitoring, and Maintenance Plan for the project. The system will be designed such that it can be modified if Site conditions change (such as, the addition of a blower, as described above).

5 Reporting and Schedule

5.1 Reporting Activities

The IA components described in this IAWP will be summarized in IA Data Memorandums, submitted to Ecology after completion of each IA component, and in the future FS report, as follows:

- LNAPL Recovery Memoranda will be submitted to Ecology to summarize the LNAPL recovery activities described in Section 4.2. The memoranda will document the quarterly LNAPL gauging and recovery activities, provide an evaluation of LNAPL recovery effectiveness, and recommend additional actions (if warranted), will be submitted to Ecology annually.
- The Decommissioning and Disposal Memorandum will document the decommissioning, removal, and disposal of the oil/water separator, the AST, and the containers of known and known products/wastes described in Section 4.3.
- The on-Property cleanup construction activities described in Section 4.4 are anticipated to be the final IA component and therefore will be documented in the IA Completion Report described below.
- Validated data collected during implementation of the IA (such as groundwater monitoring data) will be uploaded to Ecology's Environmental Information Management (EIM) system following completion of each IA component.

After completion of all IA components, the IA will be summarized in an IA Completion Report, in accordance with grant agreement and PPCD requirements. The IA Completion Report will be submitted as an Agency Review Draft for Ecology's review and comment, and a Final IA Completion Report will be prepared after approval from Ecology.

5.2 Schedule for Implementation

The IA components outlined in Section 4 will begin within 30 days of receiving both Ecology's approval of this IAWP and confirmation that the Cultural Resources Consultation is complete (Section 4.1.1), beginning with the LNAPL recovery at the Site (Section 4.2). The anticipated duration of each IA component is as follows:

- Quarterly LNAPL Gauging & Recovery (Section 4.2): 2-day events occurring quarterly, beginning after Ecology approval of the IAWP
- Former Auto Repair Infrastructure & Products Removal (Section 4.3): 6 to 8 weeks, beginning after Ecology approval of the IAWP
- On-Property Cleanup Construction (Section 4.4): schedule is to be determined based on construction permitting and development design and will be outlined in a subsequent IAWP Addendum.

The IA Data Memorandums documenting the IA components described in Section 4 will be submitted to Ecology within 60 days of completion of each IA component.

Validated data will be submitted to Ecology's EIM system within 60 days of completion of each IA component.

The IA Completion Report Agency Review Draft will be submitted to Ecology within 90 days of completion of all IA components.

References

American Petroleum Institute (API), 2016, API LNAPL Transmissivity Workbook: A Tool for Baildown Test Analysis, User Guide, API Publication 4762, April 2016.

Aspect Consulting (Aspect), 2025, Remedial Investigation and Data Gaps Report (Part 1), Estelita's Library Beacon Hill Affordable Housing Development Project, 2901 17th Avenue South, Seattle, Washington, March 14, 2025.

Black River Environmental, LLC (Black River), 2026a, Remedial Investigation Work Plan, Estelita's Library Solidarity House Affordable Housing Development Project, 2901 17th Avenue South, Seattle, Washington, January 16, 2026.

Black River Environmental, LLC (Black River), 2026b, Pilot Test Work Plan, Estelita's Library Solidarity House Affordable Housing Development Project, 2901 17th Avenue South, Seattle, Washington, April 6, 2026 (Draft).

Troost, K.G., and Booth, D.B., 2008, Geology of Seattle and the Seattle area, Washington, in Baum, R.L., Godt, J.W., and Highland, L.M., eds., Landslides and Engineering Geology of the Seattle, Washington Area: Geological Society of America Reviews in Engineering Geology, November 1, 2008.

Report Limitations and Use Guidelines

This report was prepared exclusively for Estelita's Library (Client) under the terms of our Agreement. No other party may rely on it without the prior written consent of Black River Environmental LLC (Black River). This limitation protects Black River from liability to third parties with whom no contractual relationship exists.

Our services were performed within the agreed scope, schedule, and budget, and in accordance with generally accepted professional standards for similar work in the same locality. The report is project-specific and applies only to the Client, the described property or site, and the purpose stated in the Agreement. It should not be used for other projects, properties, sites, or purposes.

This report is not a warranty or guarantee regarding site conditions, ownership, or the presence or absence of hazardous substances or petroleum products. Findings and conclusions are based on information available at the time of the study; changes in property use, regulatory standards, or natural events may affect their applicability. Reports more than six months old should be reviewed by Black River to determine continued reliability.

Geoscience interpretations involve inherent uncertainties, and environmental, hydrogeologic, and geologic reports are discipline-specific and not interchangeable. This report should not be applied to issues outside its stated scope. Black River may have relied on information provided by others in preparation of this report; we do not warrant the accuracy or completeness of information provided by others.

If project conditions or property use change, or if you are unclear how these limitations apply, please contact Black River for clarification. Contact information is found on page 2 of this report, and at www.blackriverenvironmental.com.

TABLES

Table 1 - Water Levels and LNAPL Thicknesses

Interim Action Work Plan | Estelita's Library Solidarity House Project

Well ID	Latitude	Longitude	Total Depth (ft bgs)	Filter Pack Interval		Screen Interval		TOC Elevation (ft NAVD88)	Date	Time	Depth to Groundwater (ft bTOC)	LNAPL/Groundwater Interface Elevation (ft NAVD88)	LNAPL			Potentiometric Surface Elevation of Groundwater (ft NAVD88)
				Top (ft bgs)	Bottom (ft bgs)	Top (ft bgs)	Bottom (ft bgs)						Depth to LNAPL (ft bTOC)	Thickness (ft)	Elevation (ft NAVD88)	
AMW-01	47.57757	122.3111	43	26	43	28	43	294.77	3/22/2023	9:17	25.26	269.51	19.48	5.78	275.29	273.90
									4/12/2023	11:02	25.40	269.37	19.63	5.77	275.14	273.75
									4/29/2024	9:08	21.52	273.25	21.30	0.22	273.47	273.41
AMW-02	47.577614	122.31097	40	23	40	25	40	294.69	3/22/2023	9:12	27.34	267.35	27.31	0.03	266.61	267.37
									4/12/2023	10:56	27.40	267.29	27.36	0.04	266.56	267.32
									4/29/2024	9:12	26.22	268.47	26.15	0.07	267.77	268.52
AMW-03	47.57738	122.31112	30	18	30	20	30	295.36	3/22/2023	9:01	15.26	--	--	0.00	--	280.10
									4/12/2023	10:37	15.58	--	--	0.00	--	279.78
									4/29/2024	9:40	16.49	--	--	0.00	--	278.87
AMW-04	47.577571	122.31144	35	13	35	15	35	294.87	3/22/2023	8:58	12.64	--	--	0.00	--	282.23
									4/12/2023	10:30	12.45	--	--	0.00	--	282.42
									4/29/2024	9:30	13.55	--	--	0.00	--	281.32
AMW-05	47.577694	122.31101	40	18	40	20	40	294.01	3/22/2023	9:05	25.44	268.57	25.43	0.01	268.76	268.58
									4/12/2023	10:44	25.70	268.31	25.69	0.01	268.50	268.32
									4/29/2024	9:24	24.81	269.20	--	0.00	--	269.20
AMW-06	47.577552	122.31088	40	18	40	20	40	294.70	3/22/2023	9:09	28.32	266.38	27.90	0.42	267.17	266.70
									4/12/2023	10:48	28.59	266.11	27.87	0.72	267.20	266.66
									4/29/2024	9:19	27.05	267.65	26.50	0.55	268.57	268.07
AMW-07	47.577804	-122.3111	35	17	35	20	35	293.92	4/29/2024	9:24	28.08	265.84	18.51	9.57	275.41	273.11
AMW-08	47.577885	-122.3106	33	15	33	18	33	293.11	4/29/2024	9:17	26.49	--	--	0.00	--	266.62
AMW-09	47.577578	-122.3105	32	14	32	17	32	294.36	4/29/2024	9:19	27.54	--	--	0.00	--	266.82
AMW-10	47.577971	-122.3108	32	14	32	17	32	294.19	4/29/2024	9:14	26.55	--	--	0.00	--	267.64
AMW-11	47.577424	-122.3109	35	17	35	20	35	295.07	4/29/2024	9:16	27.63	267.44	26.21	1.42	268.86	268.52

Notes:

ft = feet

bgs = below ground surface

NAVD88 = North American Vertical Datum of 1988

bTOC = below top of casing, north side

LNAPL = light non-aqueous phase liquid

-- = not applicable

An assumed relative density of 0.76 grams per cubic centimeter (g/cm^3) was used as an LNAPL correction to calculate potentiometric surface elevations.

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

PUBLIC REVIEW DRAFT

					Total Petroleum Hydrocarbons (TPH)				Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)				Volatile Organic Compounds (VOCs)										
Location	Date	Sample ID	Matrix Description	Depth (ft bgs)	Gasoline Range Organics	Diesel Range Organics	Oil Range Organics	Sum of Diesel and Oil Range Organics	Benzene	Toluene	Ethylbenzene	Xylenes, Total	1,2-Dichlorobenzene	1,2-Dichloropropane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chlorobenzene	Chloroform	Hexane	Isopropylbenzene (Cumene)	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	Tetrachloroethene (PCE)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					30	2,000	2,000	2,000	0.027	4.5	5.9	14	7	0.05	1.3	1.3	0.86	0.074	72	15	16	0.86	25	0.05
Saturated Zone Soil Screening Level					30	2,000	2,000	2,000	0.02	0.27	0.34	0.83	0.4	0.05	0.072	0.071	0.051	0.05	1.8	0.79	0.88	0.05	1.3	0.025
AB-01	03/16/23	AB-01-1.0	Vadose	1	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	**0.012**
	03/16/23	AB-01-5.0	Vadose	5	**700**	**380 X**	**1,700**	**2,080 X**	<0.001 U	**0.0011**	**0.014**	**0.5049**	<0.05 U	<0.05 U	**5.2**	<0.05 U	**0.091**	<0.05 U	<0.25 U	**0.12**	**0.58**	**0.34**	**0.37**	<0.001 U
AB-02	03/16/23	AB-02-0.5	Vadose	0.5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-02-7.5	Vadose	7.5	**120 J**	**350 X**	**3,000**	**3,350 X**	**0.034**	<0.001 U	**0.077**	**0.05**	**0.063**	<0.05 U	**1.3**	**1.3**	<0.05 U	<0.05 U	<0.25 U	**0.22**	**0.71**	**0.12**	**0.2**	<0.001 U
AB-03	03/16/23	AB-03-0.5	Vadose	0.5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-03-6.0	Vadose	6	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AB-04	03/16/23	AB-04-5.0	Vadose	5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-04-9.0	Vadose	9	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AB-05	03/16/23	AB-05-5.0	Vadose	5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-05-8.5	Vadose	8.5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AB-06	03/16/23	AB-06-1	Vadose	1	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-06-5	Vadose	5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-06-12	Vadose	12	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AB-07	03/16/23	AB-07-5.0	Vadose	5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-07-9.5	Vadose	9.5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AB-08	03/16/23	AB-08-1.0	Vadose	1	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/16/23	AB-08-10.5	Vadose	10.5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AB-09	03/18/24	AB-09-2.5	Vadose	2.5	**460**	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	**0.2**	**0.0512**	<0.05 U	<0.05 U	**0.69**	**0.27**	<0.05 U	<0.05 U	<0.25 U	**0.18**	**0.62**	**0.3**	**0.22**	<0.002 U
	03/25/24	AB-09-8	Vadose	8	**30**	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	**0.12**	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	**0.59**	**0.06**	**0.13**	**0.094**	**0.052**	<0.002 U
	03/25/24	AB-09-11	Vadose	11	**52**	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	**0.1**	**0.0224**	<0.05 U	<0.05 U	**0.055**	<0.05 U	<0.05 U	<0.05 U	**0.71**	<0.05 U	**0.084**	**0.053**	<0.05 U	<0.002 U
	03/25/24	AB-09-18	Saturated	18	**380**	<50 U	<250 U	<250 U	**0.03**	**0.26**	**3.8**	**14.4**	<0.05 U	<0.05 U	**12**	**2.5**	<0.05 U	<0.05 U	**4.4**	**0.48**	**1.6**	**0.19**	**0.21**	<0.002 U
	03/25/24	AB-09-34	Saturated	34	<5 U	<50 U	<250 U	<250 U	**0.0089**	**0.0076**	**0.044**	**0.162**	<0.05 U	<0.05 U	**0.077**	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/25/24	AB-09-42	Saturated	42	**8.4**	<50 U	<250 U	<250 U	**0.43**	**0.18**	**0.29**	**1.08**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/25/24	AB-09-55	Saturated	55	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

PUBLIC REVIEW DRAFT

					Total Petroleum Hydrocarbons (TPH)				Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)				Volatile Organic Compounds (VOCs)										
Location	Date	Sample ID	Matrix Description	Depth (ft bgs)	Gasoline Range Organics	Diesel Range Organics	Oil Range Organics	Sum of Diesel and Oil Range Organics	Benzene	Toluene	Ethylbenzene	Xylenes, Total	1,2-Dichlorobenzene	1,2-Dichloropropane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Chlorobenzene	Chloroform	Hexane	Isopropylbenzene (Cumene)	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	Tetrachloroethene (PCE)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					30	2,000	2,000	2,000	0.027	4.5	5.9	14	7	0.05	1.3	1.3	0.86	0.074	72	15	16	0.86	25	0.05
Saturated Zone Soil Screening Level					30	2,000	2,000	2,000	0.02	0.27	0.34	0.83	0.4	0.05	0.072	0.071	0.051	0.05	1.8	0.79	0.88	0.05	1.3	0.025
AB-10	03/20/24	AB-10-5	Vadose	5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/20/24	AB-10-13	Vadose	13	**110**	<50 U	<250 U	<250 U	**0.091**	**1.3**	**0.54**	**3.11**	<0.05 U	<0.05 U	**2**	**0.6**	<0.05 U	<0.05 U	**0.53**	**0.075**	**0.33**	<0.05 U	**0.059**	<0.002 U
	03/20/24	AB-10-22	Saturated	22	<5 U	<50 U	<250 U	<250 U	**0.16**	**0.3**	**0.1**	**0.55**	<0.05 U	<0.05 U	**0.21**	**0.071**	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/20/24	AB-10-45	Saturated	45	**45**	<50 U	<250 U	<250 U	**0.099**	**0.54**	**0.32**	**1.48**	<0.05 U	<0.05 U	**0.71**	**0.23**	<0.05 U	<0.05 U	**0.45**	<0.05 U	**0.15**	<0.05 U	<0.05 U	<0.002 U
	03/20/24	AB-10-55	Saturated	55	<5 U	<50 U	<250 U	<250 U	<0.001 U	**0.0015**	<0.001 U	**0.0024**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
AB-11	03/26/24	AB-11-14	Vadose	14	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	**0.0016**	**0.0068**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/26/24	AB-11-21	Saturated	21	**410**	<50 U	<250 U	<250 U	**0.0045**	**0.37**	**1.9**	**10.3**	<0.05 U	<0.05 U	**6.6**	**2.1**	<0.05 U	<0.05 U	**2.1**	**0.31**	**1.3**	**0.099**	**0.18**	<0.002 U
	03/26/24	AB-11-32	Saturated	32	**650**	<50 U	<250 U	<250 U	**0.25**	**16**	**62**	**300**	<0.05 U	<0.05 U	**170**	**53**	<0.05 U	<0.05 U	**33**	**8.7**	**34**	**2.2**	**4**	<0.002 U
	03/26/24	AB-11-44	Saturated	44	<5 U	<50 U	<250 U	<250 U	**0.028**	**0.0018**	**0.0048**	**0.0113**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/26/24	AB-11-55	Saturated	55	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
AB-12	03/27/24	AB-12-05.5	Vadose	5.5	**300**	**720 X**	**3,100**	**3,820 X**	**0.097**	**0.4**	**0.78**	**5**	**0.11**	<0.05 U	**5**	**1.4**	<0.05 U	<0.05 U	<0.25 U	**0.13**	**0.59**	**0.13**	**0.17**	<0.002 U
	03/27/24	AB-12-10	Vadose	10	**180**	**140 X**	**560**	**700 X**	**0.021**	**0.021**	**0.21**	**0.71**	<0.05 U	<0.05 U	**1.8**	**0.54**	<0.05 U	<0.05 U	<0.25 U	**0.051**	**0.22**	**0.075**	**0.096**	<0.002 U
	03/27/24	AB-12-15	Vadose	15	**16**	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/27/24	AB-12-20	Vadose	20	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/24/24	AB-201	Saturated	25	**52**	<50 U	<250 U	<250 U	**0.0018**	**0.0084**	**0.018**	**0.101**	<0.05 U	<0.05 U	**0.16**	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	**0.052**	<0.05 U	**0.06**	<0.002 U
	03/27/24	AB-12-25	Saturated	25	**33 J**	<50 U	<250 U	<250 U	**0.0013**	**0.0088**	**0.019**	**0.104**	<0.05 U	<0.05 U	**0.16**	**0.05**	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/27/24	AB-12-30	Saturated	30	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
AMW-01	06/06/22	AMW-01-10	Vadose	10	<5 U	<50 U	<250 U	--	<0.03 U	<0.05 U	<0.05 U	<0.1 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.025 U
	06/06/22	AMW-01-20	Saturated	20	**320**	**160 X**	<250 U	--	<0.03 U	**0.56**	**0.65**	**4.9**	<0.05 U	<0.05 U	**17**	**4.8**	<0.05 U	<0.05 U	<0.25 U	**0.26**	**1.6**	**0.36**	**0.55**	<0.025 U
	06/06/22	AMW-01-40	Saturated	40	<5 U	<50 U	<250 U	--	**0.066**	<0.05 U	<0.05 U	**0.37**	<0.05 U	<0.05 U	**0.27**	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	**0.094**	<0.05 U	<0.05 U	<0.025 U
AMW-02	06/07/22	AMW-02-21	Vadose	21	**570**	**69 X**	<250 U	--	<0.03 U	**0.085**	**8.9**	**7.23**	<0.05 U	<0.05 U	**11**	**1.4**	<0.05 U	**0.2**	**14 E**	**1.6**	**4.9**	**1.4**	**1.1**	<0.025 U
	06/07/22	AMW-02-41.5	Saturated	41.5	**13**	<50 U	<250 U	--	**1.2**	**0.18**	**0.36**	**1.16**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.025 U
AMW-03	06/08/22	AMW-03-05	Vadose	5	<5 U	<50 U	<250 U	--	<0.03 U	<0.05 U	<0.05 U	<0.1 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.025 U
	06/08/22	AMW-03-20	Saturated	20	<5 U	<50 U	<250 U	--	<0.03 U	<0.05 U	<0.05 U	<0.1 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.025 U
	06/08/22	AMW-03-35	Saturated	35	<5 U	<50 U	<250 U	--	<0.03 U	<0.05 U	<0.05 U	<0.1 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.025 U

					Total Petroleum Hydrocarbons (TPH)				Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)				Volatile Organic Compounds (VOCs)										
Location	**Date**	**Sample ID**	**Matrix Description**	**Depth (ft bgs)**	**Gasoline Range Organics**	**Diesel Range Organics**	**Oil Range Organics**	**Sum of Diesel and Oil Range Organics**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes, Total**	**1,2-Dichlorobenzene**	**1,2-Dichloropropane**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Chlorobenzene**	**Chloroform**	**Hexane**	**Isopropylbenzene (Cumene)**	**n-Propylbenzene**	**p-Isopropyltoluene**	**sec-Butylbenzene**	**Tetrachloroethene (PCE)**
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					30	2,000	2,000	2,000	0.027	4.5	5.9	14	7	0.05	1.3	1.3	0.86	0.074	72	15	16	0.86	25	0.05
Saturated Zone Soil Screening Level					30	2,000	2,000	2,000	0.02	0.27	0.34	0.83	0.4	0.05	0.072	0.071	0.051	0.05	1.8	0.79	0.88	0.05	1.3	0.025
AMW-04	03/15/23	AMW-04-22.5	Saturated	22.5	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
	03/15/23	AMW-04-40	Saturated	40	<5 U	<50 U	<250 U	<250 U	<0.001 U	**0.0014**	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AMW-05	03/13/23	AMW-05-22.5	Vadose	22.5	**100**	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	**0.0085**	**0.0072**	<0.05 U	<0.05 U	**2.4**	**1**	<0.05 U	<0.05 U	**1.3**	**0.12**	**0.87**	**0.12**	**0.23**	<0.001 U
	03/13/23	AMW-05-50	Saturated	50	**6.5**	<50 U	<250 U	<250 U	**0.0049**	**0.0031**	**0.055**	**0.257**	<0.05 U	<0.05 U	**0.21**	**0.066**	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AMW-06	03/14/23	AMW-06-27.5	Vadose	27.5	**24,000**	**3,400 X**	<250 U	**3,400 X**	<30 U	**470**	**310**	**1,610**	<50 U	<50 U	**430**	**130**	<50 U	<50 U	<250 U	<50 U	**92**	<50 U	<50 U	<25 U
	03/14/23	AMW-06-55	Saturated	55	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.001 U
AMW-07	03/19/24	AMW-07-19	Vadose	19	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/19/24	AMW-07-22	Saturated	22	**390**	**72 X**	<250 U	**72 X**	**0.014**	**1.2**	**2.4**	**12.6**	<0.05 U	<0.05 U	**8.4**	**2.6**	<0.05 U	<0.05 U	**3.6**	**0.37**	**1.5**	**0.11**	**0.19**	<0.002 U
	03/19/24	AMW-07-31	Saturated	31	<5 U	<50 U	<250 U	<250 U	**0.016**	<0.001 U	**0.011**	**0.004**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	**0.058**	<0.05 U	<0.05 U	<0.002 U
	03/19/24	AMW-07-41	Saturated	41	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/19/24	AMW-07-46	Saturated	46	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
AMW-08	03/22/24	AMW-08-18	Vadose	18	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/22/24	AMW-08-26	Vadose	26	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/22/24	AMW-08-35	Saturated	35	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/22/24	AMW-08-55	Saturated	55	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
AMW-09	03/21/24	AMW-09-19	Vadose	19	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/21/24	AMW-09-23	Vadose	23	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/21/24	AMW-09-28	Saturated	28	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/21/24	AMW-09-39.5	Saturated	39.5	<5 U	<50 U	<250 U	<250 U	**0.0073**	<0.001 U	**0.013**	**0.031**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/21/24	AMW-09-50	Saturated	50	<5 U	<50 U	<250 U	<250 U	**0.33**	**0.019**	**0.1**	**0.0399**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/21/24	AMW-09-60	Saturated	60	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	03/21/24	AMW-101-60	Saturated	60	<5 U	<50 U	<250 U	<250 U	<0.001 U	<0.001 U	<0.001 U	<0.002 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U

					Total Petroleum Hydrocarbons (TPH)				Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)				Volatile Organic Compounds (VOCs)										
Location	**Date**	**Sample ID**	**Matrix Description**	**Depth (ft bgs)**	**Gasoline Range Organics**	**Diesel Range Organics**	**Oil Range Organics**	**Sum of Diesel and Oil Range Organics**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes, Total**	**1,2-Dichlorobenzene**	**1,2-Dichloropropane**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Chlorobenzene**	**Chloroform**	**Hexane**	**Isopropylbenzene (Cumene)**	**n-Propylbenzene**	**p-Isopropyltoluene**	**sec-Butylbenzene**	**Tetrachloroethene (PCE)**
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					30	2,000	2,000	2,000	0.027	4.5	5.9	14	7	0.05	1.3	1.3	0.86	0.074	72	15	16	0.86	25	0.05
Saturated Zone Soil Screening Level					30	2,000	2,000	2,000	0.02	0.27	0.34	0.83	0.4	0.05	0.072	0.071	0.051	0.05	1.8	0.79	0.88	0.05	1.3	0.025
AMW-10	04/23/24	AMW-10-14.5	Vadose	14.5	<5 U	<50 U	<250 U	<250 U	<0.002 U	<0.002 U	<0.002 U	<0.004 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	04/23/24	AMW-10-19	Vadose	19	<5 U	<50 U	<250 U	<250 U	<0.002 U	<0.002 U	<0.002 U	<0.004 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	04/23/24	AMW-10-35	Saturated	35	<5 U	<50 U	<250 U	<250 U	**0.031**	<0.002 U	**0.067**	**0.0602**	<0.05 U	<0.05 U	**0.054**	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	04/23/24	AMW-10-39	Saturated	39	<5 U	<50 U	<250 U	<250 U	**0.46**	**0.014**	**0.19**	**0.66**	<0.05 U	<0.05 U	**0.069**	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	04/23/24	AMW-10-52	Saturated	52	<5 U	<50 U	<250 U	<250 U	**0.1**	<0.002 U	**0.041**	**0.031**	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	04/23/24	AMW-10-60	Saturated	60	<5 U	<50 U	<250 U	<250 U	<0.002 U	<0.002 U	<0.002 U	<0.004 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
AMW-11	04/24/24	AMW-11-10	Vadose	10	<5 U	<50 U	<250 U	<250 U	<0.002 U	<0.002 U	<0.002 U	<0.004 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	04/24/24	AMW-11-18	Vadose	18	<5 U	<50 U	<250 U	<250 U	<0.002 U	<0.002 U	<0.002 U	<0.004 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
	04/24/24	AMW-11-23	Vadose	23	**160**	<50 U	<250 U	<250 U	<0.004 U	**0.33**	**2.1**	**8.8**	<0.1 U	<0.1 U	**12**	**3.8**	<0.1 U	<0.1 U	**2.6**	**0.72**	**2.7**	**0.21**	**0.37**	<0.004 U
	04/24/24	AMW-11-30	Saturated	30	**430**	**770 X**	<250 U	**770 X**	<0.02 U	**0.12**	**2.1**	**9.5**	<0.5 U	<0.5 U	**16**	**6.2**	<0.5 U	<0.5 U	**19**	**0.99**	**4.3**	<0.5 U	**0.75**	<0.02 U
	04/24/24	AMW-11-40	Saturated	40	**29**	<50 U	<250 U	<250 U	<0.002 U	**0.019**	**0.073**	**0.368**	<0.05 U	<0.05 U	**0.7**	**0.27**	<0.05 U	<0.05 U	**0.56**	<0.05 U	**0.19**	<0.05 U	<0.05 U	<0.002 U
	04/24/24	AMW-11-54	Saturated	54	**100**	<50 U	<250 U	<250 U	<0.002 U	**0.018**	**0.044**	**0.214**	<0.05 U	<0.05 U	**0.3**	**0.12**	<0.05 U	<0.05 U	**0.34**	<0.05 U	**0.078**	<0.05 U	<0.05 U	<0.002 U
	04/24/24	AMW-11-60	Saturated	60	<5 U	--	--	--	<0.002 U	<0.002 U	<0.002 U	<0.004 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.25 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.002 U
HA-1	03/27/13	--	Vadose	2	**400**	**3300**	**15000**	**18300**	**0.35**	**4.9**	**3.2**	**23**	--	--	--	--	--	--	--	--	--	--	--	--
B-1	03/27/13	--	Vadose	10	**40**	--	--	--	< 0.2 U	**0.065**	**0.41**	**0.18**	--	--	--	--	--	--	--	--	--	--	--	--
B-2	03/27/13	--	Vadose	15	**29**	--	--	--	< 0.2 U	**0.084**	**0.41**	**1.2**	--	--	--	--	--	--	--	--	--	--	--	--
B-3	03/27/13	--	Vadose	15	**1100**	--	--	--	< 0.2 U	**2.1**	**14**	**65**	--	--	--	--	--	--	--	--	--	--	--	--
B-4	08/19/20	B-4:15'	Vadose	15	<5 U	--	--	--	<0.02 U	<0.02 U	<0.02 U	<0.06 U	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-4:25'	Saturated	25	**64**	--	--	--	**0.04**	**0.73**	**0.88**	**5.1**	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-4:36'	Saturated	36	**19**	--	--	--	**0.31**	**0.25**	**0.58**	**3.1**	--	--	--	--	--	--	--	--	--	--	--	--
B-5	08/19/20	B-5:15'	Vadose	15	**980**	--	--	--	<0.4 U	**1.4**	**20**	**71**	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-5:25'	Saturated	25	**14**	--	--	--	<0.02 U	**0.042**	**0.057**	**0.15**	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-5:35'	Saturated	25	<5 U	--	--	--	**0.062**	<0.02 U	**0.093**	**0.34**	--	--	--	--	--	--	--	--	--	--	--	--
B-6	08/20/20	B-6:15'	Vadose	15	<5 U	--	--	--	<0.02 U	<0.02 U	<0.02 U	<0.06 U	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-6:20'	Vadose	20	**15**	--	--	--	**0.34**	**1.4**	**0.22**	**1.3**	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-6:35.5'	Saturated	35.5	<5 U	--	--	--	<0.02 U	**0.055**	**0.039**	**0.21**	--	--	--	--	--	--	--	--	--	--	--	--

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

					Total Petroleum Hydrocarbons (TPH)				Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)				Volatile Organic Compounds (VOCs)											
Location	**Date**	**Sample ID**	**Matrix Description**	**Depth (ft bgs)**	**Gasoline Range Organics**	**Diesel Range Organics**	**Oil Range Organics**	**Sum of Diesel and Oil Range Organics**	**Benzene**	**Toluene**	**Ethylbenzene**	**Xylenes, Total**	**1,2-Dichlorobenzene**	**1,2-Dichloropropane**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Chlorobenzene**	**Chloroform**	**Hexane**	**Isopropylbenzene (Cumene)**	**n-Propylbenzene**	**p-Isopropyltoluene**	**sec-Butylbenzene**	**Tetrachloroethene (PCE)**
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					30	2,000	2,000	2,000	0.027	4.5	5.9	14	7	0.05	1.3	1.3	0.86	0.074	72	15	16	0.86	25	0.05
Saturated Zone Soil Screening Level					30	2,000	2,000	2,000	0.02	0.27	0.34	0.83	0.4	0.05	0.072	0.071	0.051	0.05	1.8	0.79	0.88	0.05	1.3	0.025
B-7	08/20/20	B-7:5'	Vadose	5	<5 U	--	--	--	<0.02 U	<0.02 U	<0.02 U	<0.06 U	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-7:15'	Vadose	15	**1,300**	--	--	--	<0.4 U	**36**	**20**	**120**	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-7:30'	Saturated	30	<5 U	--	--	--	<0.02 U	**0.074**	<0.02 U	**0.12**	--	--	--	--	--	--	--	--	--	--	--	--

Notes

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
TEQ = toxic equivalency
(ND = 1/2) = calculated using one-half the reporting limit for non-detected analytes
mg/kg = milligrams per kilogram
ft bgs = feet below ground surface
U = analyte not detected at or above the reporting limit shown
Bold = detected
X = chromatographic pattern does not match fuel standard used for quantitation
J = Result value estimated
Light Green Shaded = Detected concentration exeeds the Screening Level

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

PUBLIC REVIEW DRAFT

					Metals			Polycyclic Aromatic Hydrocarbons (PAHs)														
Location	Date	Sample ID	Matrix Description	Depth (ft bgs)	Chromium (hexavalent)	Chromium	Lead	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Total cPAHs TEQ (ND = 1/2)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					0.54	2,000	3,000	0.047	1.7	49	NE	1,100	NE	0.19	NE	NE	NE	630	51	4.5	NE	330	0.19
Saturated Zone Soil Screening Level					0.5	100	150	0.005	0.088	2.5	NE	57	NE	0.19	NE	NE	NE	32	2.6	0.24	NE	16	0.19
AB-01	03/16/23	AB-01-1.0	Vadose	1	--	--	**92.4 J**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-01-5.0	Vadose	5	--	--	**7.12**	**0.81**	**1.4**	<0.01 U	**0.018**	**0.02**	**0.022**	<0.01 U	<0.01 U	**0.011**	**0.026**	**0.048**	**0.041**	**0.036**	**0.14**	**0.11**	**0.00946**
AB-02	03/16/23	AB-02-0.5	Vadose	0.5	--	--	**12.7**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-02-7.5	Vadose	7.5	--	--	**12**	**1.9**	**3.3**	**0.023**	**0.04**	**0.057**	**0.065**	**0.022**	**0.045**	**0.036**	**0.066**	**0.16**	**0.14**	**1.1**	**0.48**	**0.42**	**0.03516**
AB-03	03/16/23	AB-03-0.5	Vadose	0.5	--	--	**2.97**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-03-6.0	Vadose	6	--	--	**2.24**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AB-04	03/16/23	AB-04-5.0	Vadose	5	--	--	**1.83**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-04-9.0	Vadose	9	--	--	**1.56**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AB-05	03/16/23	AB-05-5.0	Vadose	5	--	--	**1.69**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-05-8.5	Vadose	8.5	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AB-06	03/16/23	AB-06-1	Vadose	1	--	--	**4.93**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-06-5	Vadose	5	--	--	**1.27**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-06-12	Vadose	12	--	--	<1 U	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AB-07	03/16/23	AB-07-5.0	Vadose	5	--	--	**2.1**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-07-9.5	Vadose	9.5	--	--	<1 U	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AB-08	03/16/23	AB-08-1.0	Vadose	1	--	--	**5.51**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/16/23	AB-08-10.5	Vadose	10.5	--	--	**1.08**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AB-09	03/18/24	AB-09-2.5	Vadose	2.5	--	--	--	**0.093**	**0.24**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**1.4**	<0.01 U	<0.01 U	<0.01 U
	03/25/24	AB-09-8	Vadose	8	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.014**	<0.01 U	<0.01 U	<0.01 U
	03/25/24	AB-09-11	Vadose	11	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.04**	<0.01 U	<0.01 U	<0.01 U
	03/25/24	AB-09-18	Saturated	18	--	--	--	**0.45**	**0.82**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**1.6**	<0.01 U	<0.01 U	<0.01 U
	03/25/24	AB-09-34	Saturated	34	--	--	--	**0.048**	**0.098**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.06**	<0.01 U	<0.01 U	<0.01 U
	03/25/24	AB-09-42	Saturated	42	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.025**	<0.01 U	<0.01 U	<0.01 U
	03/25/24	AB-09-55	Saturated	55	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

Location	Date	Sample ID	Matrix Description	Depth (ft bgs)	Metals			Polycyclic Aromatic Hydrocarbons (PAHs)														
					Chromium (hexavalent)	Chromium	Lead	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Total cPAHs TEQ (ND = 1/2)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					0.54	2,000	3,000	0.047	1.7	49	NE	1,100	NE	0.19	NE	NE	NE	630	51	4.5	NE	330	0.19
Saturated Zone Soil Screening Level					0.5	100	150	0.005	0.088	2.5	NE	57	NE	0.19	NE	NE	NE	32	2.6	0.24	NE	16	0.19
AB-10	03/20/24	AB-10-5	Vadose	5	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/20/24	AB-10-13	Vadose	13	--	--	--	**0.19**	**0.36**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.92**	<0.01 U	<0.01 U	<0.01 U
	03/20/24	AB-10-22	Saturated	22	--	--	--	**0.019**	**0.041**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.06**	<0.01 U	<0.01 U	<0.01 U
	03/20/24	AB-10-45	Saturated	45	--	--	--	**0.041**	**0.088**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.13**	<0.01 U	<0.01 U	<0.01 U
	03/20/24	AB-10-55	Saturated	55	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
AB-11	03/26/24	AB-11-14	Vadose	14	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/26/24	AB-11-21	Saturated	21	--	--	--	**0.55**	**1.1**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**1.2**	<0.01 U	<0.01 U	<0.01 U
	03/26/24	AB-11-32	Saturated	32	--	--	--	**3.4**	**5.5**	**0.016**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.011**	**31**	**0.023**	<0.01 U	<0.01 U
	03/26/24	AB-11-44	Saturated	44	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/26/24	AB-11-55	Saturated	55	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
AB-12	03/27/24	AB-12-05.5	Vadose	5.5	**1.91**	**21**	**77**	**1.8**	**3.1**	**0.013**	**0.045**	**0.068**	**0.056**	**0.023 J**	**0.03 J**	**0.04 J**	**0.06**	**0.14**	**0.12**	**1.5**	**0.41**	**0.44**	**0.0337 J**
	03/27/24	AB-12-10	Vadose	10	--	--	--	**0.37**	**0.29**	<0.01 U	**0.013**	**0.02**	**0.014**	<0.01 U	<0.01 U	<0.01 U	**0.016**	**0.044**	**0.034**	**0.62**	**0.12**	**0.086**	**0.00856**
	03/27/24	AB-12-15	Vadose	15	--	**12**	**1.1**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/27/24	AB-12-20	Vadose	20	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/24/24	AB-201	Saturated	25	--	--	--	**0.056**	**0.1**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.047**	**0.016**	**0.012**	<0.01 U
	03/27/24	AB-12-25	Saturated	25	--	--	--	**0.22 J**	**0.43 J**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.02**	**0.012**	**0.21 J**	**0.054**	**0.043**	<0.01 U
	03/27/24	AB-12-30	Saturated	30	**0.797**	**27**	**2.9**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
AMW-01	06/06/22	AMW-01-10	Vadose	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05 U	--	--	--
	06/06/22	AMW-01-20	Saturated	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**13**	--	--	--
	06/06/22	AMW-01-40	Saturated	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.15**	--	--	--
AMW-02	06/07/22	AMW-02-21	Vadose	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.6**	--	--	--
	06/07/22	AMW-02-41.5	Saturated	41.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05 U	--	--	--
AMW-03	06/08/22	AMW-03-05	Vadose	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05 U	--	--	--
	06/08/22	AMW-03-20	Saturated	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05 U	--	--	--
	06/08/22	AMW-03-35	Saturated	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.05 U	--	--	--

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

Location	Date	Sample ID	Matrix Description	Depth (ft bgs)	Metals			Polycyclic Aromatic Hydrocarbons (PAHs)														
					Chromium (hexavalent)	Chromium	Lead	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Total cPAHs TEQ (ND = 1/2)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					0.54	2,000	3,000	0.047	1.7	49	NE	1,100	NE	0.19	NE	NE	NE	630	51	4.5	NE	330	0.19
Saturated Zone Soil Screening Level					0.5	100	150	0.005	0.088	2.5	NE	57	NE	0.19	NE	NE	NE	32	2.6	0.24	NE	16	0.19
AMW-04	03/15/23	AMW-04-22.5	Saturated	22.5	--	--	**3.03**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
	03/15/23	AMW-04-40	Saturated	40	--	--	**4.83**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AMW-05	03/13/23	AMW-05-22.5	Vadose	22.5	--	--	**1.06**	--	--	--	--	--	<0.01 U	<0.01 U	<0.01 U	--	<0.01 U	--	--	**0.037**	--	--	<0.00755 U
	03/13/23	AMW-05-50	Saturated	50	--	--	**1.24**	--	--	--	--	--	<0.01 U	<0.01 U	<0.01 U	--	<0.01 U	--	--	**0.047**	--	--	<0.00755 U
AMW-06	03/14/23	AMW-06-27.5	Vadose	27.5	--	--	**4.89**	--	--	--	--	--	--	--	--	--	--	--	--	**110**	--	--	--
	03/14/23	AMW-06-55	Saturated	55	--	--	**1.16**	--	--	--	--	--	--	--	--	--	--	--	--	<0.005 U	--	--	--
AMW-07	03/19/24	AMW-07-19	Vadose	19	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/19/24	AMW-07-22	Saturated	22	--	--	--	**1.6**	**3.1**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**2.2**	<0.01 U	<0.01 U	<0.01 U
	03/19/24	AMW-07-31	Saturated	31	--	--	--	**0.13**	**0.22**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.2**	<0.01 U	<0.01 U	<0.01 U
	03/19/24	AMW-07-41	Saturated	41	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/19/24	AMW-07-46	Saturated	46	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
AMW-08	03/22/24	AMW-08-18	Vadose	18	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/22/24	AMW-08-26	Vadose	26	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/22/24	AMW-08-35	Saturated	35	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/22/24	AMW-08-55	Saturated	55	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
AMW-09	03/21/24	AMW-09-19	Vadose	19	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/21/24	AMW-09-23	Vadose	23	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/21/24	AMW-09-28	Saturated	28	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/21/24	AMW-09-39.5	Saturated	39.5	--	--	--	<0.01 U	**0.016**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.026**	<0.01 U	<0.01 U	<0.01 U
	03/21/24	AMW-09-50	Saturated	50	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/21/24	AMW-09-60	Saturated	60	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	03/21/24	AMW-101-60	Saturated	60	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

Location	Date	Sample ID	Matrix Description	Depth (ft bgs)	Metals			Polycyclic Aromatic Hydrocarbons (PAHs)														
					Chromium (hexavalent)	Chromium	Lead	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Total cPAHs TEQ (ND = 1/2)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					0.54	2,000	3,000	0.047	1.7	49	NE	1,100	NE	0.19	NE	NE	NE	630	51	4.5	NE	330	0.19
Saturated Zone Soil Screening Level					0.5	100	150	0.005	0.088	2.5	NE	57	NE	0.19	NE	NE	NE	32	2.6	0.24	NE	16	0.19
AMW-10	04/23/24	AMW-10-14.5	Vadose	14.5	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	04/23/24	AMW-10-19	Vadose	19	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	04/23/24	AMW-10-35	Saturated	35	--	--	--	**0.024**	**0.035**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.06**	<0.01 U	<0.01 U	<0.01 U
	04/23/24	AMW-10-39	Saturated	39	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.028**	<0.01 U	<0.01 U	<0.01 U
	04/23/24	AMW-10-52	Saturated	52	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	04/23/24	AMW-10-60	Saturated	60	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
AMW-11	04/24/24	AMW-11-10	Vadose	10	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	04/24/24	AMW-11-18	Vadose	18	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
	04/24/24	AMW-11-23	Vadose	23	--	**11**	**1.2**	**0.26**	**0.47**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**1.2**	<0.01 U	<0.01 U	<0.01 U
	04/24/24	AMW-11-30	Saturated	30	--	--	--	**13**	**27**	**0.064**	<0.01 U	**0.026**	**0.021**	**0.012**	**0.014**	<0.01 U	**0.013**	**0.029**	**0.051**	**3.5**	**0.07**	**0.03**	**0.0171**
	04/24/24	AMW-11-40	Saturated	40	--	--	--	<0.1 U	<0.2 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.05**	<0.01 U	<0.01 U	<0.01 U
	04/24/24	AMW-11-54	Saturated	54	--	--	--	**0.19**	**0.39**	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	**0.061**	<0.01 U	<0.01 U	<0.01 U
	04/24/24	AMW-11-60	Saturated	60	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U
HA-1	03/27/13	--	Vadose	2	--	--	**1000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-1	03/27/13	--	Vadose	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-2	03/27/13	--	Vadose	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-3	03/27/13	--	Vadose	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-4	08/19/20	B-4:15'	Vadose	15	--	--	<1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-4:25'	Saturated	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-4:36'	Saturated	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-5	08/19/20	B-5:15'	Vadose	15	--	--	**1.17**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-5:25'	Saturated	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/19/20	B-5:35'	Saturated	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-6	08/20/20	B-6:15'	Vadose	15	--	--	<1 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-6:20'	Vadose	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-6:35.5'	Saturated	35.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2 - Soil Analytical Results (Detections Only)

Interim Action Work Plan | Estelita's Library Solidarity House Project

					Metals			Polycyclic Aromatic Hydrocarbons (PAHs)														
Location	Date	Sample ID	Matrix Description	Depth (ft bgs)	Chromium (hexavalent)	Chromium	Lead	1-Methylnaphthalene	2-methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a) pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene	Total cPAHs TEQ (ND = 1/2)
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Vadose Zone Soil Screening Level					0.54	2,000	3,000	0.047	1.7	49	NE	1,100	NE	0.19	NE	NE	NE	630	51	4.5	NE	330	0.19
Saturated Zone Soil Screening Level					0.5	100	150	0.005	0.088	2.5	NE	57	NE	0.19	NE	NE	NE	32	2.6	0.24	NE	16	0.19
B-7	08/20/20	B-7:5'	Vadose	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-7:15'	Vadose	15	--	--	**1.12**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/20/20	B-7:30'	Saturated	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
TEQ = toxic equivalency
(ND = 1/2) = calculated using one-half the reporting limit for non-detected analytes
mg/kg = milligrams per kilogram
ft bgs = feet below ground surface
U = analyte not detected at or above the reporting limit shown
Bold = detected
X = chromatographic pattern does not match fuel standard used for quantitation
J = Result value estimated
Light Green Shaded = Detected concentration exeeds the Screening Level

Table 3 - Groundwater Analytical Results

Interim Action Work Plan | Estelita's Library Solidarity House Project

PUBLIC REVIEW DRAFT

			Field Parameters						Total Petroleum Hydrocarbons (TPH)				Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)				Volatile Organic Compounds (VOCs)							Polycylcic Aromatic Hydrocarbons (PAHs)						
Location	**Date**	**Sample Code**	**Temperature** °C	**Specific Conductivity** µS/cm	**pH** -	**Dissolved Oxygen** mg/L	**Oxidation Reduction Potential (ORP)** mV	**Turbidity** NTU	**Gasoline Range Organics** µg/L	**Diesel Range Organics** µg/L	**Oil Range Organics** ug/L	**Sum of Diesel and Oil Range Organics** µg/L	**Benzene** µg/L	**Toluene** µg/L	**Ethylbenzene** µg/L	**Xylenes, Total** µg/L	**1,2,4-Trimethylbenzene** µg/L	**1,3,5-Trimethylbenzene** µg/L	**Isopropylbenzene (Cumene)** µg/L	**n-Propylbenzene** µg/L	**sec-Butylbenzene** µg/L	**Styrene** µg/L	**Trichloroethene (TCE)** µg/L	**1-Methylnaphthalene** µg/L	**2-methylnaphthalene** µg/L	**Acenaphthene** µg/L	**Fluorene** µg/L	**Naphthalene** µg/L	**Phenanthrene** µg/L	**Total cPAHs TEQ (ND = 1/2)** µg/L
Groundwater Screening Level			NE	NE	NE	NE	NE	NE	800	500	500	500	2.4	640	700	320	80	80	800	800	800	100	1.4	0.2	32	480	320	8.8	NE	NE
Groundwater Monitoring Well Samples																														
AMW-01	06/13/22	AMW-01-061322	14.6	285.4	6.9	0.98	64.6	15.6	**27,000**	**2,200 X**	<250 U	**2,200 X**	**2,600**	**960**	**520**	**1,960**	**1,100**	**330**	<100 U	**260**	<100 U	<100 U	<50 U	--	--	--	--	**140**	--	--
AMW-02	06/13/22	AMW-02-061322	16.9	386.4	6.98	0.68	43.2	16.6	**34,000**	**2,600 X**	<250 U	**2,600 X**	**330**	**970**	**2,000**	**5,900**	**1,100**	**200**	<100 U	**220**	<100 U	<100 U	<50 U	--	--	--	--	**460**	--	--
AMW-03	06/13/22	AMW-03-061322	13.5	237.9	7.15	0.39	59.6	5.44	<100 U	**69 X**	<250 U	**69 X**	<0.35 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<0.5 U	--	--	--	--	<1 U	--	--
	03/22/23	AMW-03-032223	13.23	240.72	6.73	0.74	135.1	2.68	<100 U	**67 X**	<250 U	**67 X**	<0.35 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<0.5 U	--	--	--	--	<1 U	--	--
	04/30/24	AMW-03-043024	13.15	275.45	0.29	7.16	91.6	0.70	<100 U	**180 X**	<250 U	**180 X**	<0.35 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<0.5 U	<0.2 U	<0.2 U	<0.02 U	<0.02 U	<0.2 U	<0.02 U	<0.02 U
AMW-04	03/22/23	AMW-04-032223	13.17	216.56	6.7	1.98	124.5	1.67	<100 U	<50 U	<250 U	<250 U	<0.35 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<0.5 U	--	--	--	--	<1 U	--	--
	04/30/24	AMW-04-043024	12.96	210.82	6.66	3.19	209.2	0.85	<100 U	<50 U	<250 U	<250 U	<0.35 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	**0.54**	<0.2 U	<0.2 U	<0.02 U	<0.02 U	<0.2 U	<0.02 U	<0.02 U
AMW-05	04/30/24	AMW-05-043024	14.82	471.71	7.13	0.28	-80.4	0.32	**25,000**	**2,100 X**	<250 U	**2,100 X**	**230**	**270**	**1,300**	**4,050**	**1,200**	**300**	**83**	**230**	**11**	**20**	<5 U	**92**	**170**	**0.12**	**0.077**	**430**	**0.079**	<0.02 U
AMW-08	04/29/24	AMW-08-042924	15.44	56.83	6.71	8.18	135.4	2.64	<100 U	**57 X**	<250 U	**57 X**	<0.35 U	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<0.5 U	<0.2 U	<0.2 U	<0.02 U	<0.02 U	<0.2 U	<0.02 U	<0.02 U
AMW-09	04/29/24	AMW-09-042924	15.23	39.95	7.08	7.88	134.8	3.00	**1,300**	**160 X**	<250 U	**160 X**	**36**	**21**	**100**	**245**	**50**	**6.7**	**4.9**	**10**	<1 U	<1 U	<0.5 U	**3.8**	**3.3**	<0.02 U	<0.02 U	**18**	<0.02 U	<0.02 U
AMW-10	04/29/24	AMW-10-042924	15.81	285.63	5.7	7.85	184.1	4.56	<100 U	**53 X**	<250 U	**53 X**	**0.58**	<1 U	<1 U	<2 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1 U	<0.5 U	<0.2 U	<0.2 U	<0.02 U	<0.02 U	<0.2 U	<0.02 U	<0.02 U
Grab Groundwater Samples																														
B-4	08/19/20	B-4:GW	--	--	--	--	--	--	**99,000**	--	--	--	**3,500**	**4,200**	**4,200**	**18,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-5	08/19/20	B-5:GW	--	--	--	--	--	--	**130,000**	--	--	--	**1,200**	**2,000**	**4,000**	**16,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-6	08/20/20	B-6:GW	--	--	--	--	--	--	**140,000**	--	--	--	**4,500**	**5,000**	**3,500**	**18,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B-7	08/20/20	B-7:GW	--	--	--	--	--	--	**69,000**	--	--	--	**1,300**	**7,100**	**1,800**	**9,200**	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

cPAHs = carcinogenic polycyclic aromatic hydrocabons

TEQ = toxic equivalency

(ND = 1/2) = calculated using one-half the reporting limit for non-detected analytes

µg/L = micrograms per liter

NE = No screening level established

Bold = detected

Light Green Shaded = Detected concentration exeeds the Groundwater Screening Level

U = analyte not detected at or above the reporting limit shown

X = chromatographic pattern does not match fuel standard used for quantitation

-- = not analyzed

Table 4 - Soil Gas Analytical Results

PUBLIC REVIEW DRAFT

Interim Action Work Plan | Estelita's Library Solidarity House Project

			Volatile Organic Compounds (VOCs)								Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)				Total Petroleum Hydrocarbons (TPH)			
Location	Date	Sample ID	1,2-Dichloroethane (EDC)	Acetone	Butane	Cyclohexane	Heptane	Hexane	Pentane	Tetrachloroethene (PCE)	Benzene	Toluene	Ethylbenzene	Xylenes, Total	TPH C5 - C8 Aliphatic	TPH C9 - C10 Aromatic	TPH C9 - C12 Aliphatic	Total Petroleum Hydrocarbons
			µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
MTCA Method B Unrestricted Use SL			3.2	NE	NE	91,000	6,100	11,000	NE	320	11	76,000	15,000	1,500	NE	NE	NE	1,500
MTCA Method B Commercial Use SL			15	NE	NE	780,000	52,000	91,000	NE	1,500	50	650,000	130,000	13,000	NE	NE	NE	13,000
SG-01	03/27/24	SG-01-032724	<0.23 U	**55 J**	**1,100 J**	<39 U	<23 U	**69**	**300 J**	<39 U	**19**	<43 U	**5.4**	**19.7**	**3,200**	<140 U	**200**	**3,536**
SG-02	03/27/24	SG-02-032724	<0.89 U	<100 U	**18,000 J**	**780**	**91**	**420**	**7,800 J**	<150 U	**830**	**2,300 J**	**300**	**1,110**	**60,000**	**780**	**2,100**	**67,440 J**
SS-01	06/21/22	SS-01-062122	<0.19 U	--	--	--	--	**19**	--	**50**	**5.6**	<87 U	**7.3**	**35.9**	**660**	<110 U	<110 U	**880**
SS-02	06/21/22	SS-02-062122	<0.2 U	--	--	--	--	<17 U	--	**190**	**4.0**	<92 U	**7.3**	**40.0**	**800**	<120 U	**2,500**	**3,476**
SS-03	06/21/22	SS-03-062122	**0.84**	--	--	--	--	<16 U	--	<31 U	**4.3**	<85 U	**6.3**	**31.2**	<340 U	<110 U	<110 U	**382**

Notes:

MTCA = Model Toxics Control Act

SL = screning level

µg/m3 = micrograms per cubic meter

NE = No screening level established

-- Not analyzed

U = Analyte not detected at or above the reporting limit shown

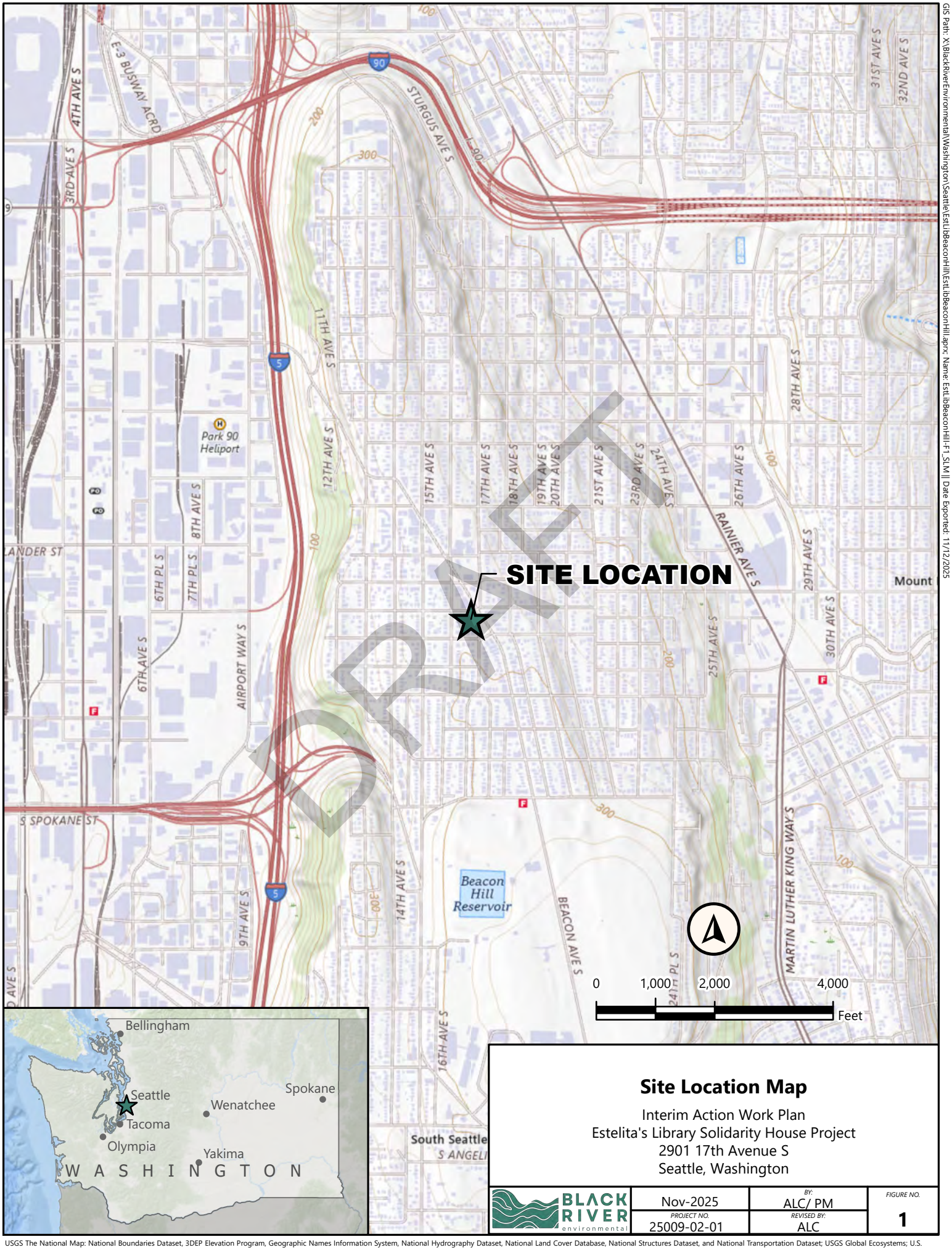
J = Result value estimated

Bold = Detected

Light Green Shaded = Detected concentration exeeds the MTCA Method B Unrestricted Use Screening Level

Light Blue Shaded = Detected concentration exeeds the MTCA Method B Residential and the Commercial Use Screening Level

FIGURES

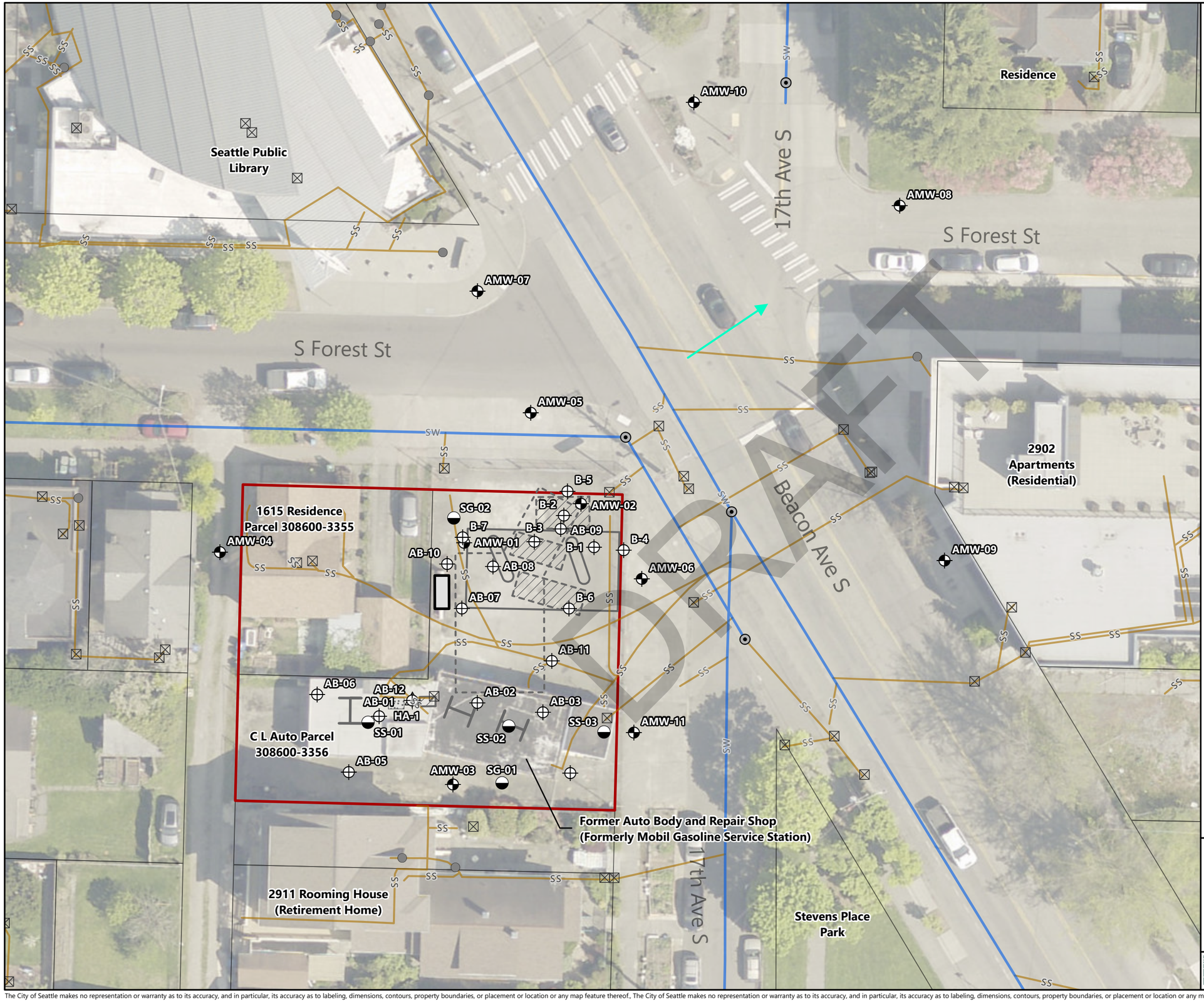


Site Location Map

Interim Action Work Plan
Estelita's Library Solidarity House Project
2901 17th Avenue S
Seattle, Washington

BLACK RIVER environmental	Nov-2025	BY: ALC/ PM	FIGURE NO. 1
	PROJECT NO. 25009-02-01	REVISED BY: ALC	

USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road data; Natural Earth Data; U.S. Department of State HIU; NOAA National Centers for Environmental Information. Data refreshed October 27, 2025., CHS, Esri, Garmin, NaturalVue, Esri, GEBCO, Garmin, NaturalVue, Sources: Esri; U.S. Department of Commerce, Census Bureau; U.S. Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS)



Explorations

- Groundwater Monitoring Well
- Hand Auger
- Soil Boring
- Soil Gas Sample
- Combined Stormwater/Sanitary Line
- Sanitary Sewer Line
- Approximate Groundwater Flow Direction
- Maintenance Hole
- Clean Out
- Catch Basin
- Waste Oil AST
- Closed-In-Place Waste Oil UST
- Removed Former Refueling UST
- Gilmore Gasoline Service Station Footprint (1939 to 1956)
- Mobil Gasoline Service Station and Pump Islands (1956 to 1990)
- Oil/Water Separator
- Subject Property
- King County Parcels
- Hoist

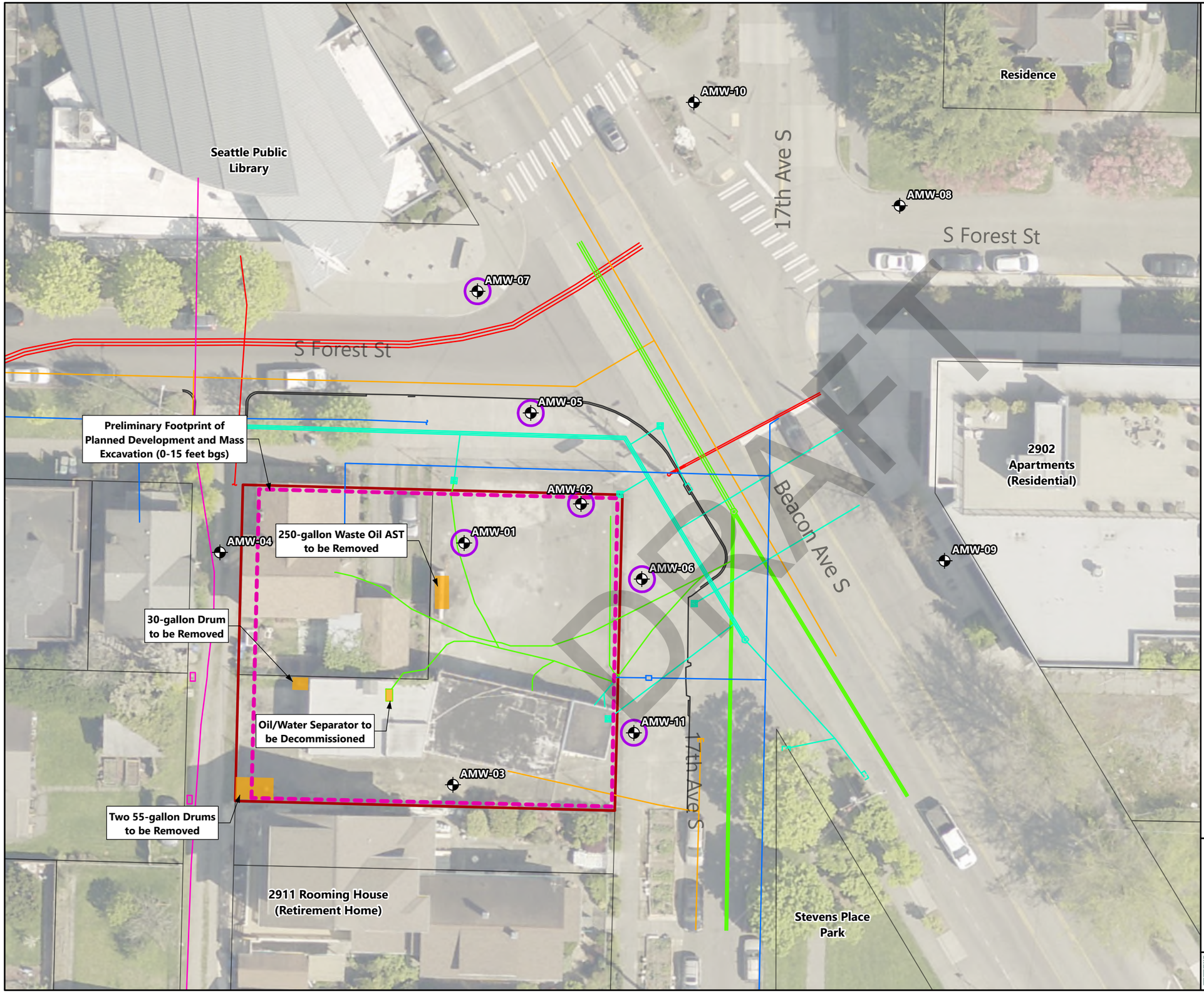
0 15 30 60 Feet

Site Layout

Interim Action Work Plan
Estelita's Library Solidarity House Project
2901 17th Avenue S
Seattle, Washington

BLACK RIVER environmental	Dec-2025	BY: ALC / PM	FIGURE NO. 2
	PROJECT NO. 25009-001-01	REVISED BY: ALC	

GIS Path: X:\BlackRiverEnvironmental\Washington\Seattle\EstLibBeaconHill\EstLibBeaconHill.aprx; Name: EstLibBeaconHill_IAWP-F2_SiteLayout || Date Exported: 12/17/2025



- Groundwater Monitoring Well
- Curb
- Electric Line
- Gas Line
- Sanitary Sewer Line
- Storm Sewer Line
- Telephone Line
- Water Line
- Subject Property
- King County Parcels

Interim Action Components

- LNAPL Recovery
- Former Auto Repair Infrastructure and Products Removal
- On-Property Cleanup Construction

Any Monitoring Wells Disturbed by On-Property Construction Will be Decommissioned Prior to Cleanup Construction and Excavation Activities

0 15 30 60 Feet

Interim Action Summary

Interim Action Work Plan
Estelita's Library Solidarity House Project
2901 17th Avenue S,
Seattle, Washington

BLACK RIVER environmental	May-2026	BY: ALC / PM	FIGURE NO. 3
	PROJECT NO. 25009-02-01	REVISED BY: ALC	

EagleView Technologies, Inc., King County

GIS Path: X:\BlackRiverEnvironmental\Washington\Seattle\EstLibBeaconHill\EstLibBeaconHill.aprx; Name: EstLibBeaconHill_IAWP-F3_IAP || Date Exported: 5/7/2026

APPENDIX A

SAMPLING AND ANALYSIS PLAN & QUALITY ASSURANCE PROJECT PLAN

A.1 Contents

List of Tables

A.2 Acronyms & Abbreviations

%R	percent recovery
Black River	Black River Environmental, LLC
COC	chain-of-custody
DQO	data quality objective
Ecology	Washington State Department of Ecology
EDD	electronic data deliverable
EIS	extracted internal standard
EPA	United States Environmental Protection Agency
GC/MS	gas chromatography/mass spectrometry
HRGC/HRMS	high-resolution GC/MS
ICP/MS	inductively coupled plasma / mass spectrometry
IDW	investigation-derived waste
ITRC	Interstate Technology and Regulatory Council
LCS/LCSD	laboratory control samples/laboratory control sample duplicate
MDL	method detection limit
MQI	measurement quality indicator
MQO	measurement quality objective
MRL	method reporting limit
MS/MSD	matrix spike/matrix spike duplicate
MTCA	Model Toxics Control Act
PARCCS	precision, accuracy, representativeness, comparability, completeness, and sensitivity
PQL	practical quantitation limit
RL	reporting limit
SDG	sample delivery group
QA	quality assurance
QC	quality control
RPD	relative percent difference
SAP/QAPP	Sampling and Analysis Plan / Quality Assurance Project Plan

SOP	standard operating procedure
SVOCs	semivolatile organic compounds
WAC	Washington Administrative Code

A.1 Introduction

This Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) has been prepared for the Estelita's Library Solidarity House Affordable Housing Development Project (the Site) as Appendix C of the Interim Action Work Plan (IAWP). This document meets the requirements of Prospective Purchaser Consent Decree (PPCD) No. 25-2-17319-4 and Grant Agreement No. TCPACG-2527-EstLib-0010 between the Washington State Department of Ecology (Ecology) and Estelita's Library.

The purpose of this SAP/QAPP is to ensure that field sample collection, handling, and laboratory analysis conducted during the implementation of the IAWP will generate data to meet project-specific data needs, in accordance with the Model Toxics Control Act (MTCA) requirements (Washington Administrative Code [WAC] 173-340-820). The SAP identifies the proposed number and location of environmental samples and defines field protocols for sample collection. The QAPP defines analytical laboratory methods and field and laboratory quality assurance (QA) protocols for the samples' chemical analysis. It is the responsibility of Black River Environmental, LLC (Black River) personnel and subcontracted analytical laboratory and data validation personnel performing the sampling and analysis activities to adhere to the requirements of the SAP/QAPP.

A.2 Sampling and Analysis Plan

The IAWP sampling program may consist of collection of soil samples, groundwater samples, soil gas samples, and/or air samples.

A.2.1 Sampling Procedures

Field investigation and sampling procedures to be followed during data collection are described in the following sections. Prior to sample collection requiring subsurface disturbance (such as drilling), the following field-related activities must be accomplished:

- Field locating exploration locations with a hand-held GPS unit.
- Public and private utility locating in the vicinity of each exploration location.
- Use of a vactor truck with airknife and/or hand tools to clear any drilling locations that are within 5 feet of utilities identified by the private and/or public utility locates and/or are located in rights-of-way.

Pre-sampling activities will be documented in field notes and photographs.

Soil, groundwater, soil gas, air and quality control samples may be collected directly from excavations, or from soil borings, monitoring wells, temporary soil gas points. All soil samples will be placed in laboratory-provided sampleware, consisting of 4- to 8-ounce glass jars and/or volatile organic analysis (VOA) containers (filled in accordance with Environmental Protection Agency [EPA] Method 5035A). All groundwater samples will be placed in laboratory-provided sampleware, consisting of 1-liter amber glass bottles, 750-milliliter polyurethane bottles, and VOA containers

filled to limit headspace. All soil gas and air samples will be collected in individually-certified laboratory supplied evacuated cannisters with dedicated sampling trains and fitted with dedicated flow controllers set to 150 milliliters per minute for soil gas and 8- to 24-hour intervals for air.

Filled soil and groundwater sample jars will be placed on ice in coolers with internal temperatures maintained at 4 degrees Celsius (°C). Sample coolers containing soil and groundwater samples and the soil gas and air sample cannisters will be transported by field personnel or courier to the laboratory under standard chain-of-custody procedures.

All reusable sampling equipment will be decontaminated between samples using an Alconox wash and clean water rinse.

A.2.2 Sample Identification & Custody

Each sample container will be labeled with the following using permanent, nonvolatile ink: unique sample identification, date, time, and project number.

- **Soil sample nomenclature**. The unique sample identification format is "B-YY-ZZ" for which B represents the exploration type (EX for excavation, B for soil borings, and MW for monitoring wells), Y is a sequential two-digit ID number starting with B-09 for soil borings and MW-07 for monitoring wells, and ZZ is the depth in feet below ground surface (bgs).
- **Groundwater sample nomenclature**. Each groundwater sample will be assigned a unique sample identification number that includes the well number and the six-digit date on which the sample was collected. For example, a groundwater sample collected from monitoring well MW-12 on October 5, 2021, would be identified as MW-12-211005.
- **Soil gas sample nomenclature**. Each soil gas sample will be assigned a unique sample identification number that includes the exploration number and the six-digit date on which the sample was collected. For example, a soil gas sample collected from soil vapor pin SS-01 on September 30, 2022, would be identified as SS-01-220930.
- **Air sample nomenclature**. Each air sample will be assigned a unique sample identification number that includes the location number and the six-digit date on which the sample was collected. Indoor locations will be designed with "I" and outdoor/ambient air locations will be designed with "A". For example, an outdoor/ambient air sample collected at location A-01 on November 6, 2025 would be identified as A-01-251106.

After collection, samples will be maintained in Black River's custody until formally transferred to the analytical laboratory. A chain of custody record provided by the laboratory will be initiated at the time of sampling for all samples collected and signed by the field representative and all others who subsequently take custody of the samples, including the laboratory representative who receives the sample cooler.

A.2.3 Field Documentation

While conducting field work, the field representative will document pertinent observations and events specific to each activity on field forms and/or in a field notebook, and, when warranted, provide photographic documentation of specific sampling efforts. Field notes will include a

description of the field activity, sample descriptions, and associated details such as the date, time, and field conditions.

A.2.4 IDW Management

Investigation derived waste (IDW) generated during the field program will be placed in labeled United States Department of Transportation-approved drums pending the analytical results to determine appropriate disposal. The drums will be temporarily consolidated onsite, profiled based on available analytical data, and disposed appropriately at a permitted off-site disposal facility.

A.3 Quality Assurance Project Plan

This QAPP identifies QC procedures and criteria required to ensure that data collected during the field program are of known quality and acceptable to achieve project objectives. Specific protocols and criteria are also set forth in this QAPP for a data quality evaluation, upon the completion of data collection, to determine the level of completeness and usability of the data. It is the responsibility of the project personnel performing or overseeing the sampling and analysis activities to adhere to the requirements of the SAP and this QAPP.

A.3.1 Purpose of the QAPP

As stated in Ecology's *Guidelines for Preparation of Quality Assurance Project Plans for Environmental Studies* (Ecology Publication No. 04-03-030, revised December 2016), the specific goals of this QAPP are as follows:

- Focus the project coordinator and project team to factors affecting data quality during the planning stage of the project.
- Facilitate communication among field, laboratory, and management staff as the project progresses.
- Document the planning, implementation, and assessment procedures for QA/QC activities for the investigation.
- Ensure 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 environmental assessment. This QAPP describes both quantitative and qualitative measures of data and details aspects of data collection including analytical methods, QA/QC procedures, and data quality reviews to ensure that the DQOs are achieved. DQOs dictate data collection rationale, sampling and analysis designs, and sample collection procedures that are presented in the SAP (Section C.1).

A.3.2 Analytical Methods

Chemical analysis of samples will be conducted by a laboratory accredited by Ecology, using MTCA-required analytical methods as outlined in Ecology's Guidance (Ecology, 2016). The QC procedures specified by the analytical methods will be implemented by the laboratory in accordance with their internal QC standards (lab method blanks, spikes, etc.) to ensure that the analytical results are of known quality, as discussed further in this QAPP.

A.3.2.1 Method Detection Limit and Method Reporting Limit

The method detection limit (MDL) is the minimum concentration of a compound that can be measured and reported with a 99 percent confidence that the analyte concentration is greater than zero. MDLs are established by the laboratory using prepared samples, not samples of environmental media.

The method reporting limit (MRL) is defined as the lowest concentration at which a chemical can be accurately and reproducibly quantified, within specified limits of precision and accuracy, for a given environmental sample. The MRL can vary from sample to sample depending on sample size, sample dilution, matrix interferences, moisture content, and other sample-specific conditions. As a minimum requirement for organic analyses, the MRL should be equal to or greater than the concentration of the lowest calibration standard in the initial calibration curve and equal to or, preferably less than, the project screening levels. MRLs are operationally equivalent to practical quantitation limits (PQLs) as defined in MTCA.

A.3.3 Measurement Quality Objectives

Measurement quality objectives (MQOs), including the Measurement Quality Indicators (MQIs)—precision, accuracy, representativeness, comparability, completeness, and sensitivity (namely PARCCS parameters)—and sample-specific reporting limits (RLs) are dictated by the project requirements and intended uses of the data. For this project, the analytical data must be of sufficient technical quality to determine whether contaminants are present and, if present, whether their concentrations are greater than or less than applicable screening levels as adjusted for PQLs.

The quality of data generated through the implementation of the field program will be assessed against the MQIs set forth in this QAPP. Specific MQI goals and evaluation criteria (i.e., percent recovery (%R) for accuracy measurements, relative percent difference (RPD) for precision measurements, are defined in Table C.1. Definitions of these parameters and the applicable QC procedures are presented below.

A.3.3.1 Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared with their average values. Analytical precision is measured through matrix spike/matrix spike duplicate (MS/MSD) samples and laboratory control samples/laboratory control sample duplicate (LCS/LCSD) for organic analysis and through laboratory duplicate samples for inorganic analyses.

Analytical precision is quantitatively expressed as the RPD between the LCS/LCSD, MS/MSD, or laboratory duplicate pairs, and is calculated with the following formula:

$$RPD(\%) = 100\ x\ \frac{|S - D|}{(S + D)/2}$$

where:

- S = analyte concentration in sample
- D = analyte concentration in duplicate sample

Analytical precision measurements will be carried out at a minimum frequency of 1 per 20 samples for each matrix sampled, or 1 per laboratory analysis group. Laboratory precision will be evaluated against laboratory quantitative RPD performance criteria provided with the laboratory's analytical data report. If the control criteria are not met, the laboratory will supply a justification of why the limits were exceeded and implement the appropriate corrective actions. The RPD will be evaluated during data review and validation. The data reviewer will note deviations from the specified limits and will comment on the effect of the deviations on reported data.

A.3.3.2 Accuracy

Accuracy measures the closeness of the measured value to the true value. The accuracy of chemical test results is assessed by "spiking" samples with known standards (surrogates, blank spikes, labeled compounds, or matrix spikes) and establishing the recovery. Accuracy is quantified as the %R. The closer the %R is to 100 percent, the more accurate the data.

Surrogate, LCS/LCSD, and labeled compound recovery will be calculated as follows:

$$Recovery\ (\%) = 100\ x\ \frac{MC}{SC}$$

where:

- SC = spiked concentration
- MC = measured concentration

MS/MSD percent recovery will be calculated as follows:

$$Recovery\ (\%) = 100\ x\ \frac{(MC - USC)}{SC}$$

where:

- SC = spiked concentration
- MC = measured concentration
- USC = unspiked sample concentration

Accuracy measurements on MS samples will be carried out at a minimum frequency of 1 in 20 samples per matrix analyzed, as applicable to the method. Blank spikes will also be analyzed at a minimum frequency of 1 in 20 samples per matrix analyzed. Surrogate recoveries for organic compounds will be determined for each sample analyzed for respective compounds. Laboratory

accuracy will be evaluated against the laboratory's quantitative MS and surrogate spike recovery performance criteria as provided with the laboratory's analytical data report. Labeled compound recoveries for HRMS methods will be evaluated against the method criteria. If the control criteria are not met, the laboratory will supply a justification of why the limits were exceeded and implement the appropriate corrective actions. Percent recoveries will be evaluated during data review and validation, and the data reviewer will comment on the effect of the deviations on the reported data.

A.3.3.3 Representativeness

Representativeness measures how closely the measured results reflect the actual concentration or distribution of the chemical compounds in the matrix sampled. The SAP sampling techniques and sample handling protocols (e.g., storage, preservation, and use of duplicates and blanks) have been developed to ensure representative samples.

A.3.3.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. This goal will be achieved through the use of standard techniques to collect samples, EPA-approved standard methods to analyze samples, and consistent units to report analytical results. Data comparability also depends on data quality. Data of unknown quality cannot be compared.

A.3.3.5 Completeness

Completeness is defined as the percentage of measurements made that are judged to be valid. Results will be considered valid if the precision, accuracy, and representativeness objectives are met and if RLs are sufficient for the intended uses of the data. Completeness is calculated as follows:

$$Completeness\ (\%) = 100\ x\ \frac{V}{P}$$

where:

- V = number of valid measurements
- P = number of measurements taken

Valid and invalid data (i.e., data qualified with the R flag [rejected]) will be identified during data validation. The target completeness goal for this project is 95 percent.

A.3.3.6 Sensitivity

Sensitivity depicts the level of ability an analytical system (i.e., sample preparation and instrumental analysis) has in detecting a target component in a given sample matrix with a defined level of confidence. Factors affecting the sensitivity of an analytical system include: analytical system background (e.g., laboratory artifact or method blank contamination), sample matrix (e.g., mass spectrometry ion ratio change, co-elution of peaks, or baseline elevation), and instrument instability.

A.3.4 Quality Control Procedures

Field and laboratory QC procedures are outlined below.

A.3.4.1 Field Quality Control

Beyond use of standard sampling and decontamination protocols defined in the SAP, field QC procedures include maintaining the field instruments. Field instruments (e.g., YSI or equivalent meter for measuring field parameters during groundwater sampling, PID for measuring headspace volatiles during soil sampling) are maintained and calibrated regularly prior to use, in accordance with manufacturer recommendations.

In addition, field QC samples will be collected and submitted for analyses to monitor the precision and accuracy associated with field procedures. Field QC samples may be collected and analyzed for this investigation, including trip blanks and field duplicates. The definition and sampling requirements for field QC samples are presented below.

A.3.4.1.1 Trip Blank

Trip blank samples will be used to monitor possible VOC cross-contamination occurring during sample transport. Trip blank samples are prepared and supplied by the laboratory using organic-free reagent-grade water into a VOC vial prior to the collection of field samples. The trip blank sample vials are placed with and accompany the VOC and gasoline-range TPH samples through the entire transporting process. One trip blank will be collected for each soil sampling round and each groundwater sampling round, where VOC or gasoline-range TPH analyses are conducted.

In case a target compound is present in a trip blank, results for all samples shipped with this trip blank will be evaluated and data qualified accordingly if determined that the results are affected.

A.3.4.1.2 Field Duplicate

Field duplicate samples are used to check for sampling and analysis reproducibility; however, the field duplicate sample results include variability introduced during both field sampling and laboratory preparation and analysis, and Ecology data validation guidance provides no specific evaluation criteria for field duplicate samples. Advisory evaluation criteria are set forth at 35 percent for RPD (if both results are greater than five times the RL) and two times the RLs for concentration difference (if either result is less than five times the RL) between the original and field duplicate results.

Field duplicates will be submitted “blind” to the laboratory as discrete samples (i.e., given unique sample identifiers to keep the duplicate identity unknown to the laboratory), but will be clearly identified in the field log. Field duplicate samples will be collected at a frequency of 5 percent (1 per 20) of the field samples for each matrix (soil and groundwater) and analytical method, but not less than one duplicate per sampling event per matrix.

If a given soil sample depth interval lacks sufficient volume (recovery) to supply material for a planned analysis and its field duplicate analysis, the field duplicate aliquot will be collected for that analysis from another depth interval in that same location if practical.

A.3.4.2 Laboratory Quality Control

The laboratories' analytical procedures must meet requirements specified in the respective analytical methods or approved laboratory standard operating procedures (SOPs), such as instrument performance check, initial calibration, calibration check, blanks, surrogate spikes, internal standards, and/or labeled compound spikes. Specific laboratory QC analyses required for this project will consist of the following at a minimum:

- Instrument tuning, instrument initial calibration, and calibration verification analyses as required in the analytical methods and the laboratory SOPs.
- Laboratory and/or instrument method blank measurements at a minimum frequency of 5 percent (1 per 20 samples) or in accordance with method requirements, whichever is more frequent.
- Accuracy and precision measurements as defined in Table C.1, at a minimum frequency of 5 percent (1 per 20 samples) or in accordance with method requirements, whichever is more frequent. In cases where a pair of MS/MSD or MS/laboratory duplicate analyses are not performed on a project sample, a set of LCS/LCSD analyses will be performed to provide sufficient measures for analytical precision and accuracy evaluation.

The laboratories' QA officers are responsible for ensuring that the laboratory implements the internal QC and QA procedures detailed in each laboratory's Quality Assurance Manual.

A.3.4.2.1 Preventative Maintenance Procedures and Schedules

Preventative maintenance in the laboratories will be the responsibility of each laboratory's personnel and analysts. This maintenance includes routine care and cleaning of instruments and inspection and monitoring of carrier gases, solvents, and sampleware used in analyses. Details of the maintenance procedures are addressed in the respective laboratory SOPs.

Precision and accuracy data are examined for trends and excursions beyond control limits to determine evidence of instrument malfunction. Maintenance will be performed when an instrument begins to change as indicated by the degradation of peak resolution, shift in calibration curves, decrease in sensitivity, or failure to meet one or another of the method-specific QC criteria.

Maintenance and calibration of instruments used in the field for sampling (e.g., YSI meter for measuring field parameters during groundwater sampling) will be conducted regularly in accordance with manufacturer recommendations prior to use.

A.3.4.2.2 Performance and System Audits

The Black River project coordinator has responsibility for reviewing the performance of the laboratory QA program; this review will be achieved through regular contact with the analytical laboratory's project manager. To ensure comparable data, all samples of a given matrix to be analyzed by each specified analytical method will be processed consistently by the same analytical laboratory.

A.3.4.2.3 Corrective Actions

If routine QC audits by the laboratories result in detection of unacceptable conditions or data, actions specified in each of the laboratory's SOPs will be taken. Specific corrective actions are outlined in each SOP used and can include the following:

- Identifying the source of the violation
- Reanalyzing samples if hold time criteria permit
- Resampling and analyzing
- Evaluating and amending sampling and analytical procedures
- Accepting but qualifying data to indicate the level of uncertainty

If unacceptable conditions occur, the laboratory will contact Black River to discuss the issues and determine the appropriate corrective action. Corrective actions taken by the laboratory during analysis of samples for this project will be documented by the laboratory in the case narrative associated with the affected samples.

In addition, Black River will review the laboratory data generated for this investigation to ensure that project DQOs are met. If the review indicates that non-conformances in the data have resulted from field sampling or documentation procedures or laboratory analytical or documentation procedures, the impact of those non-conformances on the overall project data usability will be assessed. Appropriate actions, including re-sampling and/or re-analysis of samples may be recommended to the project coordinator to achieve project objectives.

A.3.5 Data Reduction, Quality Review, and Reporting

All data will undergo a QA/QC evaluation at the laboratories, which will then be reviewed by Black River. Initial data reduction, evaluation, and reporting at each laboratory will be carried out in full compliance with the method requirement and laboratory SOPs. The laboratory internal review will include verification (for correctness and completeness) of the electronic data deliverable (EDD) accompanied with each laboratory report. Black River will verify the completeness and correctness of all laboratory deliverables (i.e., laboratory report and EDDs) before releasing the deliverables for data validation.

A.3.5.1 Minimum Data Reporting Requirements

The following sections specify general and specific requirements for analytical data reporting to provide sufficient deliverables for project documentation and data quality assessment.

A.3.5.1.1 General Requirements

The following requirements apply to laboratory reports for all types of analyses:

- A laboratory report will include a cover page signed by the laboratory director, the laboratory QA officer, or his/her designee to certify the eligibility of the reported contents and the conformance with applicable analytical methodology.
- Definitions of abbreviations, data flags, and data qualifiers used in the report.

- Cross reference of field sample names and laboratory sample identity for all samples in the sample delivery group (SDG).
- Completed COC document signed and dated by parties who acquired and received the samples.
- Completed sample receipt document with record of cooler temperature and sample conditions upon receipt at the laboratory. Anomalies such as inadequate sample preservation, inconsistent bottle counts, and sample container breakage, and the communication record and corrective actions in response to the anomalies will be documented and incorporated in the sample receipt document. The document will be initialed and dated by personnel that complete the document.
- Case narrative that addresses any anomalies or QC outliers in relation to sample receiving, sample preparation, and sample analysis on samples in the SDG. The narrative will be presented separately for each analytical method and each sample matrix.
- All pages in the report are to be paginated. Any insertion of pages after the laboratory report is issued will be paginated with starting page number suffixed with letters (e.g., pages inserted between pages 134 and 135 should be paginated as 134A, 134B, etc.)
- Any resubmitted or revised report pages will be submitted to Black River with a cover page stating the reason(s) and scope of the resubmission or revision, and signed by the laboratory director, QA officer, or the designee.

A.3.5.1.2 Specific Requirements

The following presents specific requirements for laboratory reports:

- Sample results: Sample results will be evaluated and reported down to the MDLs if the MRLs are higher than the most stringent potential screening level. Detections at levels greater than the MDLs but less than the MRLs will be reported and flagged with “J”. If sample results are reported to the MRL for a given analyte, non-detect results or results less than the MRL will be reported at the MRL and flagged with “U”. If sample results are reported to the MDL for a given analyte, non-detect results or results less than the MDLs will be reported at the MDLs and flagged with “UJ”. The report pages for sample results (namely Form 1s) will, at a minimum, include sample results, MRLs, MDLs, units, proper data flags, dates of sample collection, preparation, and analysis, dilution factor, and sample volume (used for analysis).
- Instrument run log: The run log will list, in chronological order, all analytical runs on field samples, QC samples, calibrations, and calibration verification analyses in the SDG with data file name (and/or legible laboratory codes) and analysis date/time for each analytical run.
- Original sample preparation and analyst worksheet: The worksheet will be initialed and dated by analyst and reviewer.
- Gas Chromatography/Mass Spectrometry (GC/MS) and ICP/MS tune report: The report will include ion abundance ratios and criteria for all required ions.

- Initial calibration summary: The summary will include the data file name for each calibration standard file; response factor or calibration factor for each calibration standard and each target and surrogate compound; average response factor or calibration factor, percent relative standard deviation, correlation coefficient, or coefficient of determination; and absolute and relative retention times and ion ratios for high-resolution GC/MS (HRGC/HRMS) methods for each target compound, surrogate (labeled) compounds, and/or extracted internal standard (EIS) compounds.
- Calibration verification summary: The summary will include the true amount, calculated amount, and percent difference or percent drift as applicable for target compounds.
- Method blank results will be included.
- LCS and LCSD (if MSD analysis is not performed) results with laboratory acceptance criteria for %R and RPD.
- Surrogate spike or EIS spike and labeled compound results with laboratory acceptance criteria for %R.
- MS and MSD results with laboratory acceptance criteria for %R and RPD (such as, for metals and SVOCs analysis). In cases where MS/MSD analyses were not performed on a project sample (i.e., PFAS analysis), LCS/LCSD analyses should be performed and reported instead.
- Laboratory duplicate results with RPD and acceptance criteria
- Internal standard (as applicable) results: Internal standard response areas in field samples, QC analyses, and associated calibration verification analyses.
- Interference check standards
- Serial dilutions (metals)

A.3.5.2 Data Quality Verification

Reported analytical results will be qualified by the laboratory to identify QC concerns in accordance with the specifications of the analytical methods. Additional laboratory data qualifiers may be defined and reported by the laboratory to more completely explain QC concerns regarding a particular sample result. All data qualifiers will be defined in the laboratory's narrative reports associated with each case.

Data qualifiers will be assigned based on the outcome of the data validation:

- **U -** The analyte was analyzed for but was determined to be non-detect above the reported sample quantitation limit, or the quantitation limit was raised to the concentration found in the sample due to blank contamination.
- **J –** The reported concentration is an estimate of the concentration of the analyte in the sample. E.g., the analyte was positively identified at levels greater than the MDLs but less than the MRLs.

- **UJ** - The analyte was not detected above the reported quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- **H** – The sample was analyzed outside the method-specified holding time requirement.
- **R** - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. The presence or absence of the analyte cannot be verified.
- **DNR** - Do not report from this analysis; the result for this analyte is to be reported from an alternative analysis.

In cases of multiple analyses (such as an undiluted and a diluted analysis) performed on one sample, the optimal result will be determined and only the determined result will be reported for the sample.

A.3.5.3 Data and Records Management

Records will be maintained documenting all activities and data related to field sampling and chemical analyses.

A.3.5.3.1 Field Documentation

The Black River field manager will ensure that the field team receives and understands the final approved version of this QAPP, the Site Health and Safety Plan, and the SAP prior to initiation of field activities and that all approved plans are followed at all times. Field documents will be maintained in the project file.

A.3.5.3.2 Analytical Data Management

Raw data received from the analytical laboratory in EDD format will be reviewed, entered into a computerized database, and verified for consistency and correctness. The database will be updated based on data review and independent validation if necessary.

The following data will be included in the database:

- Laboratory analytical results, including laboratory data qualifiers
- Data validator qualifiers
- Sample location name and coordinates
- Sample media (i.e., groundwater or soil)
- Sample date
- Sample ID
- Sample fraction (e.g., total or dissolved phase)
- Sample type (e.g., parent, field duplicate, field blank, equipment blank, or dilution)
- Calculated values, such as the total toxic equivalency for carcinogenic polycyclic aromatic hydrocarbons

Data will be submitted to Ecology's Environmental Information Management (EIM) database once data have been reviewed and validated.

A.4 References

Washington State Department of Ecology (Ecology), 2016, Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies, Ecology, No. 04-03-030.

TABLES
APPENDIX C

FIGURES
APPENDIX C

Table A.1 - Quality Control Parameters

Data Quality Indicator	Quality Control Parameters
Precision	RPD values of:
	1) Blank spikes
	2) Matrix spike/matrix spike duplicate (MS/MSD)
	3) Field duplicates
Accuracy/Bias	Percent Recovery (%R) or Relative Percent Difference (%PRD) values of:
	1) Initial calibration and calibration verification
	2) Blank spikes
	3) MS
	4) Surrogate spikes
	Results of:
	1) Instrument and calibration blank
	2) Method (preparation) blank
	3) Trip blank
	4) Equipment rinsate blank (if appropriate)
Representativeness	Results of all blanks
	Sample integrity (chain-of-custody and sample receipt forms)
	Holding times
Comparability	Sample-specific reporting limits
	Sample collection methods
	Laboratory analytical methods
Completeness	Data qualifiers
	Laboratory deliverables
	Requested/reported valid results
Sensitivity	Method Detection Limits (MDLs) and Method Reporting Limits (MRLs)

APPENDIX B
HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

SOLIDARITY HOUSE AFFORDABLE HOUSING DEVELOPMENT

2901 17th Avenue South
Seattle, Washington

Project Number

25009

Date

January 20, 2026

Black River Environmental, LLC
26311 NE Valley St. #141
Duvall, Washington
425-725-3832
www.blackriverenvironmental.com

HEALTH AND SAFETY PLAN

SOLIDARITY HOUSE AFFORDABLE HOUSING DEVELOPMENT

2901 17th Avenue South, Seattle, Washington

Estelita's Library

Project Number
25009

Date
January 20, 2026 | FINAL

Prepared by

Hannah Cohen, LG
Project Geologist
hannah@blackriverenv.com
1/20/2026

Reviewed by

Ali Cochrane, LG
Associate Geologist
ali@blackriverenv.com
1/20/2026

Contents

List of Tables [in text]

List of Figures

List of Attachments

Site Information Overview

Site Location

Table 1. General Site Information

Project Name:	Solidarity House Affordable Housing Development
Project Number:	25009
Site Address:	2901 17th Avenue South Seattle, Washington
Possible Chemicals of Concern:	• Gasoline-, diesel- and oil-range TPH • Petroleum-related VOCs, including BTEX • PAHs • Lead • Chromium • Other VOCs
Minimum Level of Protection:	Level D

Table 2. Emergency Contact Information

Ambulance, Police, Fire		**911**
Poison Control		800-222-1222
Harborview Hospital – Emergency Room		206-520-5000
Black River Project Manager	Hannah Cohen	818-224-0892
Black River Field Lead	Andrew Yonkofski	404-272-3488
Black River Project Director	Ali Cochrane	206-949-7478
Client Contact	Edwin Lindo	415-342-9009
State Emergency Response Commission (for releases of hazardous substances)		800-258-5990
National Response Center (for releases of hazardous substances)		800-424-8802

Table 3. Hospital and Urgent Care Clinic Information

Category	Information
Hospital – Refer to Attachment A for Directions	
Hospital Name	Emergency Room at Harborview Medical Center
Address	325 9th Ave
City, State Zip	Seattle, WA 98104
Phone	206-520-5000
Urgent Care Clinic – Refer to Attachment B for Directions	
Clinic Name	MultiCare Indigo Urgent Care – Seattle – Rainier Ave.
Address	3820 Rainier Ave S, Suite I
City, State Zip	Seattle, WA 98118
Phone	206-731-7500

Emergency Response Procedures

In the event of an emergency, the following steps should be used as a guideline for the response:

1. Secure the scene – Verify that the scene is safe for yourself and/or the victim. Do not endanger your own health or safety to respond to an accident.
2. Call the appropriate emergency number (generally, 911 when cellular service is available). Make sure to provide the following information:
    - Where you are: include address, cross streets, or landmarks
    - Phone number you are calling from
    - What happened: type of injury or accident
    - How many persons need help
    - What is being done for the victim(s)
    - Any possible chemical exposure
3. Have someone retrieve the first aid kit and/or automated external defibrillator (AED); only use an AED if you have been properly trained and are certified to do so.
4. Decontaminate the victim without delaying lifesaving procedures.
5. Administer first aid and/or cardiopulmonary resuscitation (CPR), if properly trained and deemed appropriate, until emergency responders arrive.
6. If safety at the scene necessitates an evacuation, the Field Lead should perform a head count to verify all personnel are accounted for.

7. Notify the Field Lead, the Project Manager, and the H&S Manager; the Project Manager will notify the Project Director and the client.
8. Once the victim is under the care of medical professionals, complete the appropriate incident report.

1 Introduction

This project-specific health and safety plan (HASP) establishes procedures and practices to protect employees of Black River Environmental, LLC (Black River) from potential hazards posed by field activities at the Solidarity House Affordable Housing Development (the site). This HASP will be used in conjunction with Black River's Corporate Health and Safety Program. This HASP covers activities with potential exposure to contaminated media during activities at the site. The intent of this HASP is to meet the requirements of the Washington State Division of Occupational Safety and Health (DOSH) Hazardous Waste Site Operations regulation (Washington Administrative Code [WAC] 296-843). It is not intended to address safety practices on construction sites, such as covered in the DOSH Safety Standards for Construction Work (WAC 296-155).

The procedures in this HASP are mandatory for all Black River employees working at this site. A copy of the HASP will be maintained, kept on site, and always made available to Black River employees for review. In this HASP, measures are provided to minimize potential exposure, accidents, and injuries that may occur during daily activities and adverse conditions. Contingency actions are also described for emergency situations. Black River will inform its subcontractors working on-site of potential fire, explosion, health, safety, or other hazards associated with planned site activities, and Black River can make available to them this project-specific HASP. **HOWEVER, all subcontractors are solely responsible for preparation of their own HASP, and for the health and safety of their employees.**

Personnel assigned to work at the project site will be required to read this plan and must sign the HASP Acknowledgement Form, included as Attachment C, to confirm that they understand and agree to abide by the provisions of this HASP.

2 Site Information and Background

2.1 Site Description

The Solidarity House Affordable Housing Development project is located at 2901 17th Avenue South in Seattle, Washington in Seattle's Beacon Hill neighborhood. The Subject Property comprises two parcels totaling 120,000 square feet in size, according to tax assessor records (King County parcel nos. 308600-3356 and 308600-3355), as follows:

- Parcel 308600-3356 with address 2901 17th Avenue South is referred to herein as the C L Auto Parcel. This parcel was historically used as two generations of gasoline service

stations between 1939 and 1990, and then as an auto body service and repair shop from 1990 to 2022. Those businesses are now closed, and the existing 2,254-square foot former auto repair building is in use by Estelita's Library as a community gathering space.

- Parcel 308600-3355 with address 1615 South Forest Street is referred to herein as the 1615 Residence Parcel. This parcel is residential with a 920-square foot existing residence and detached garage constructed in 1909. The existing residence is a multi-unit rental, and is currently unoccupied.

Estelita's Library purchased the C L Auto Parcel under Prospective Purchaser Consent Decree (PPCD) no. 25-2-17319-4 dated June 11, 2025, and is in the process of modifying the PPCD to include the 1615 Residence Parcel, which they purchased in 2025. Estelita's Library's planned development, Solidarity House, spans both parcels of the Subject Property and will consist of an affordable housing apartment building with community center.

2.2 Site Background

The 1615 Residence Parcel has been developed with the existing residence and detached garage since their construction in 1909, based on tax assessor records and discussions with the former owner. This is the only identified use and development of the 1615 Residence Parcel.

The C L Auto Parcel was historically used as two generations of gasoline service stations from 1939 to 1990, and subsequently as an auto body service and repair shop from 1990 until 2022. The first generation of gasoline station was Gilmore-branded and operated out of a former structure situated on the northwestern portion of the C L Auto Parcel from 1939 to 1956. The second generation gasoline station was Mobil-branded, which operated out of the existing building from 1956 to 1990. The existing building was also utilized by the subsequent auto body service and repair operation from 1990 to 2022. Historical records indicate that three refueling USTs, one for leaded gasoline and two for unleaded gasoline) and two pump islands were previously situated on the north-northeast portion of the C L Auto Parcel, and were removed in August 1990. Records also show that one 285-gallon capacity waste oil UST is decommissioned-in-place beneath the western wing of the existing building in 2001. All known gasoline refueling infrastructure has been removed.

Soil, groundwater, and soil gas contamination is present on the Subject Property as a result of the historical use of the C L Auto Parcel as gasoline service stations and auto body service and repair shop. Based on the information available at this time, chemicals in environmental media at the Site include the following:

- Metals: chromium and lead
- Polycyclic aromatic hydrocarbons (PAHs), include naphthalenes

- Gasoline- diesel- and oil-range total petroleum hydrocarbons (TPH)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX)
- Volatile organic compounds (VOCs)

3 Scope of Work

This HASP was written and/or amended to consider hazards associated with the following activities at the Site:

- Groundwater level gauging
- Light non-aqueous phase liquid (LNAPL) gauging and bailing
- Sample collection from investigation-derived and other potential hazardous or non-hazardous wastes
- Excavation of contaminated soil and soil sample collection

A detailed description of the scope of work can found in the draft Interim Action Work Plan, dated January 23, 2026 (Black River, 2026).

4 Personnel Organization and Responsibilities

This section describes the authority and responsibilities of key Black River project personnel. All personnel, including non-Black River personnel at the site, have **STOP WORK AUTHORITY,** which is the authority to stop or suspend work if unsafe conditions arise that pose a health or safety risk or if conditions change that require modification to this HASP.

The contact information for the following key safety personnel are listed in the Site Emergency Overview section at the beginning of this HASP; their roles are summarized in Table 3 below.

Table 4. Black River Personnel Organization

Team Member	Function
Ali Cochrane	Project Director
Hannah Cohen	Project Manager
Andrew Yonkofski	Field Lead
Andrew Yonkofski	Site Health and Safety Officer

4.1 Project Director

The Project Director provides the overall direction for the project. The Project Director is ultimately responsible for ensuring the project meets the client's objectives in a safe and timely manner.

4.2 Project Manager

The Project Manager is responsible for ensuring that the provisions in the Health and Safety Program and this HASP are being implemented. That includes ensuring that field staff have the appropriate level of training and medical clearance for the tasks assigned and ensuring that the field staff have the appropriate equipment and level of protection to conduct the work safely. The Project Manager is generally responsible for the following tasks prior to and during site activities:

- Overseeing preparation of the scope of work
- Verifying the appropriate permissions for site access are in place and coordinating with site operators/tenants/etc.
- Briefing the Field Lead and other field personnel on specific tasks for the project
- Escalating issues related to unsafe work conditions, incidents, or other changes in the scope of work

4.3 Field Lead / Site Health and Safety Officer

The Field Lead / Site Health and Safety Officer reports to the Project Manager, but they assume control over the on-site field activities and have the authority to direct emergency responses. Their duties include:

- Directing field activities at the site, including communicating requirements to field personnel and subcontractors.
- Ensuring that the provisions of the Health and Safety Program and this HASP are being implemented through daily tailgate safety briefing meetings and through daily inspections.
- Monitoring site conditions during activities where hazardous compounds may be present.
- Recording any variances in conditions.
- Recording any injury, illness, or accident for any Black River personnel on the site.
- Periodically inspecting personal protective equipment and clothing
- Monitoring site personnel for signs of stress, including heat/cold stress and overexertion

- Providing emergency procedures, evacuation routes, and telephone numbers for the local hospital, fire department, police department, and poison control center (in this HASP)
- Communicating incidents promptly to the Project Manger
- Notifying emergency response personnel in the event of an emergency and coordinating medical care.

The Field Lead / Site Health and Safety Officer will record health and safety related details for the project at a minimum daily as part of the tailgate safety briefing before work on site commences each day. A copy of the Daily Tailgate Safety Meeting form is included as Attachment C.

The Field Lead / Site Health and Safety Officer will have completed Occupational Safety and Health Administration (OSHA) 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training (including annual updates), the 8-hour HAZWOPER supervisor training, and current first aid and CPR training.

4.4 Corporate Health and Safety Officer

The Corporate Health and Safety Officer is responsible for all aspects of implementation of the Corporate Health and Safety Manual and this HASP. Their role is to support the Project Manager and Field Lead on all health and safety related issues, including:

- Consulting with the Field Lead on emergency incident response
- Ensuring completion of incident reporting
- Implementing corrective actions for deficiencies in the safety program and/or changes to site conditions.

4.5 Field Team

All field personnel will attend a project-specific safety briefing with the Field Lead / Site Health and Safety Officer and will review this HASP before beginning work at the Site. It is the responsibility of each individual field team member to read and comply with the requirements of the Health and Safety Program and this HASP. Additionally, the field team personnel have the following responsibilities:

- Check all personal protective equipment and clothing to ensure it is in good working order
- Immediately report any accidents/illness, unsafe conditions, unusual smells or chemical smells for the Field Lead / Site Health and Safety Officer
- Immediately report any symptoms of illness, stress, or chemical exposure
- Participate in and/or complete incident reports following an injury/illness/accident

All field team personnel will have completed Occupational Safety and Health Administration (OSHA) 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training (including annual updates) and shall maintain current first aid and CPR training.

5 Air Monitoring

The type and frequency of air monitoring will change based on the phase of the project and the potential for worker and community and exposure. During soil boring advancement, soil sampling, excavation, trenching, or demolition in soils known to contain petroleum contamination or VOC contamination, the work will be monitored using a direct-read photoionization detector (PID) for the detection of VOCs. In addition, if odors are detected in other areas of the site during soil disturbing activities, the PID will be used to determine if the odor may represent a release of site COPCs to workplace or community air, even in areas where contamination has not been previously documented. The following table describes action levels based on air monitoring:

Table 5. Action Levels for VOCs for Worker Protection

PID Readings (ppm)	Action	Personal Protective Equipment
≤ 5 ppm	Continued periodic monitoring	Level D
≥5 ppm, but <20 ppm, not sustained for > 1 minute	Inform site workers of potentially high VOC levels. Increase engineering controls such as fans.	Level D
≥5 ppm, but <20 ppm, sustained for > 1 minute	**STOP WORK and notify Site Health and Safety Officer**	Upgrade PPE as specified by a Certified Industrial Hygienist

6 Hazard Analysis

The following sections discuss the potential health and safety hazards associated with the field tasks described in the Scope of Work, Section 3. To mitigate these hazards, procedures related to physical control, use of PPE, monitoring, training, decontamination, and emergency response are included in this HASP.

6.1 Physical Hazard Analysis

Table 6 below summarizes the primary potential hazards and the control measures identified for each of the work activities described in Section 3. Site conditions may change and require further identification and mitigation of hazards during execution of the work.

Table 6. Work Activities, Primary Potential Hazards, and Control Measures

Work Activity	Primary Potential Hazards	Control Measures
All Field Activities	Hit by vehicles/trucks working on the Property	Wear high-vis safety vest or clothing
		Use the buddy system while accessing locations in active traffic lanes
		Delineate work areas with traffic cones and barriers
	Road traffic on road entering the site	Obey road crossing alerts
		Use traffic control and flaggers, as needed and as defined.
	Heat Stress	Take breaks, seek shade, and increase fluids intake
	Cold Stress	Wear appropriate layers, including moisture wicking underlayers
		Take frequent breaks to warm yourself in field vehicle as necessary
		Monitor for signs of cold stress (shivering, numbness, tingling, etc.)
Excavation Oversight and Soil Sample Collection	Hit by excavation equipment, especially overhead	Delineate zone around excavation area and remain within view of equipment operator; only approach equipment/operator when they have removed their hands from the controls; if passing behind or out of view of the operator or approaching excavation or equipment, get attention of operator before proceeding
		Modified Level D PPE (with hard hat, traffic vest, and safety-toe boots)
	Excessive noise	Wear hearing protection
	Chemical exposure (skin or eye contact, ingestion, inhalation)	Modified Level D PPE
		Air Monitoring (Section 5)
Groundwater and LNAPL gauging and bailing	Chemical exposure (skin or eye contact, ingestion)	Modified Level D PPE
		Ensure pump/tubing connections are secure prior to operation

6.2 Chemical Hazard Analysis

For each chemical hazard, possible exposure routes including inhalation, dermal contact, ingestion (of dust/solids/gases/liquid) were considered:

- Inhalation: To mitigate potential inhalation of chemical substances, position personnel upwind of work activities at the sampling location. Additionally, air monitoring for VOCs will be conducted in accordance with the procedures set forth in Section 5.

- Dermal Contact: Dermal contact with chemical substances will be mitigated through the use of appropriate PPE (primarily nitrile gloves) and decontamination procedures.
- Ingestion: Ingestion can occur either directly or indirectly through cross contamination of food, water, tobacco, and other oral sources. Ingestion of chemical substances will be mitigated through the appropriate worker hygiene practices and decontamination procedures.

The potential chemical hazards for the Site, the associate environmental media, and air concentrations established by OSHA as permissible exposure limits (PELs), short-term exposure limits (STELs), and immediately dangerous to life and health (IDLH) are summarized in Table 7 below.

Table 7. Known and Suspected Chemicals of Potential Concern

Substance	Environmental Media	OSHA Air Concentrations		
		PEL	STEL	IDLH
Gasoline-range TPH	Soil, GW, SG, IA	10 ppm	15 ppm	250 ppm
Diesel- and oil-range TPH	Soil, GW, SG, IA	1 ppm	5 ppm	500 ppm
Benzene	Soil, GW, SG, IA	1 ppm	5 ppm	500 ppm
Toluene	Soil, GW, SG, IA	200 ppm	--	500 ppm
Ethylbenzene	Soil, GW, SG, IA	100 ppm	--	800 ppm
Xylenes	Soil, GW, SG, IA	100 ppm	150 ppm	900 ppm
Lead	Soil, GW	0.05 mg/m^3	--	0.05 mg/m^3

Notes:
-- = none established
GW = groundwater
SG = soil gas
IA = indoor air
ppm = parts per million
mg/m^3 = milligrams per cubic meter

7 Site Control Plan

The primary purpose of site controls is to prevent unauthorized access or exposure to potentially contaminated materials, limit the migration of potentially contaminated materials into uncontaminated areas, and to mitigate exposure of potentially contaminated materials to site workers.

7.1 Worker Hygiene Practices

Black River personnel will use the following hygiene practices when working with potentially contaminated environmental media:

- Eating, drinking, chewing gum, or using tobacco are prohibited in potentially contaminated areas and are restricted to designated areas at the Site. Drinking of replacement fluids for heat stress control is permitted in areas that are free from contamination (except in emergency situations).

- Hands and faces must be washed and decontaminated upon leaving the work area and before eating, drinking, chewing gum or, using tobacco.
- Long hair will be secured away from the face so it does not interfere with work activities.
- Personnel leaving potentially contaminated areas will follow the appropriate decontamination procedures before leaving the contaminated work area.

7.2 Site Access Control

The site has no barrier to unauthorized persons. Controls used to prevent entry by unauthorized persons include:

- Fences and/or barricades
- Traffic cones, barriers, and/or use of flaggers
- Caution tape
- Other physical barriers such as field vehicles

The exclusion zone (EZ) may or may not be mobile, depending upon the task. EZ dimensions will be determined based on the size of the work area, Site limitations, and the potential for exposure to contaminated soils or other media. The edges of the work area shall be marked in some way to identify the exclusion zone. The EZ will be designated as the area immediately surrounding each soil boring being advanced or monitoring well-being sampled at the time of drilling/purging/sampling.

The Contamination Reduction Zone (CRZ) shall provide a buffer to ensure that the physical transfer of Site by personnel, equipment, or through the air is limited by a combination of decontamination, distance between the EZ and population, air dilution, zone restrictions, and work functions. The CRZ will be physically marked or well defined by barrier tape, signs, or physical barriers (e.g., chains, fences, ropes, etc.).

The Support Zone is the outermost part of the work area and is considered to be a non-contaminated or clean area. Access is restricted to authorized Site personnel and visitors. Because normal work clothes are appropriate within this zone, potentially contaminated personnel clothing, equipment, and samples are not permitted until they are decontaminated, if necessary, in the CRZ.

7.3 Emergency Communications

All Black River employees on site will have a mobile phone, which will be used for communications should an emergency arise. Emergency contact phone numbers are listed in Table 2, and phone numbers for Black River personnel are listed in Table 4.

8 Decontamination

The following procedures will be used to limit the distribution of contamination outside the EZ or cross-contamination of samples:

- Personnel:
  - Avoid walking through spilled materials and/or potentially contaminated environmental media
  - Do not handle sample media directly
  - Ensure PPE is in good working condition before use
  - Stay upwind of airborne dust and vapors
  - Do not eat, drink, chew gum, or use tobacco products in the work zones
  - Wash boots and rain gear that have contacted potentially contaminated environmental media with Alconox/tap water and air dry
- Sampling Equipment
  - Avoid spilling sampled media outside of sample containers and/or collection vessels (i.e., buckets)
  - Use plastic bags as necessary to contain sampleware
  - Keep contaminated equipment, tools, and sampleware separate from clean supplies
  - Clean up spilled material immediately
  - Collect disposal PPE (such as gloves, Tyvek) in garbage bags and dispose of appropriately
  - Follow project-specific decontamination process (generally involving a detergent like Alconox and distilled water) to clean equipment
- Investigation-derived waste (IDW)
  - Place soil cuttings, purged groundwater, and decontamination water into United States Department of Transportation-approved steel drums at the Property for future disposal. Each drum should be secured with a locking lid and labeled with the date of sampling and the contents.

9 Personal Protection Equipment Requirements

Based on the hazards identified above, the following PPE will be required for the work activities described in Section 3. A modified Level D PPE ensemble will be used with the main objective of preventing unnecessary dermal and ingestion exposures. Table 8 below describes the minimum PPE that should be used for each work activities, unless conditions change:

Table 8. Minimum PPE Requirements for Each Work Activity

PPE	General Site Work	Soil Borings	Groundwater Sampling	Soil Gas and Indoor Air Sampling
Hard Hat		X		
High-Visibility Vest	X	X	X	X
Safety Glasses/Goggles	X	X	X	X
Ear Plugs	Av	X	Av	Av
Nitrile Gloves	Av	X	X	X
Tyvek Coveralls	Av	Av	Av	Av
Safety-Toe Boots	X	X	X	X
N95 Face Mask	Av	Av	Av	Av

Notes:
X = Required PPE
Av = Have available at work site and use as needed.

Level D protection will only be used when atmospheric concentrations of contaminants are less than the PELs established in Section 6.2.

10 Other Required Safety Equipment

Based on the work activities identified in Section 3, the following safety equipment will be on site and easily accessible during field activities:

Table 9. Other Required Safety Equipment

Item	Required
First Aid Kit	X
Eyewash	X
Fire Extinguisher	X
Drinking Water	X
PID	X
Exhaust Fan	
Wind Sock	
Fall Protection	
Personal Flotation Device	
Other:	

11 Spill Containment

The proposed field work does not include the handling of bulk chemicals, and spill containment provisions for the work are not necessary.

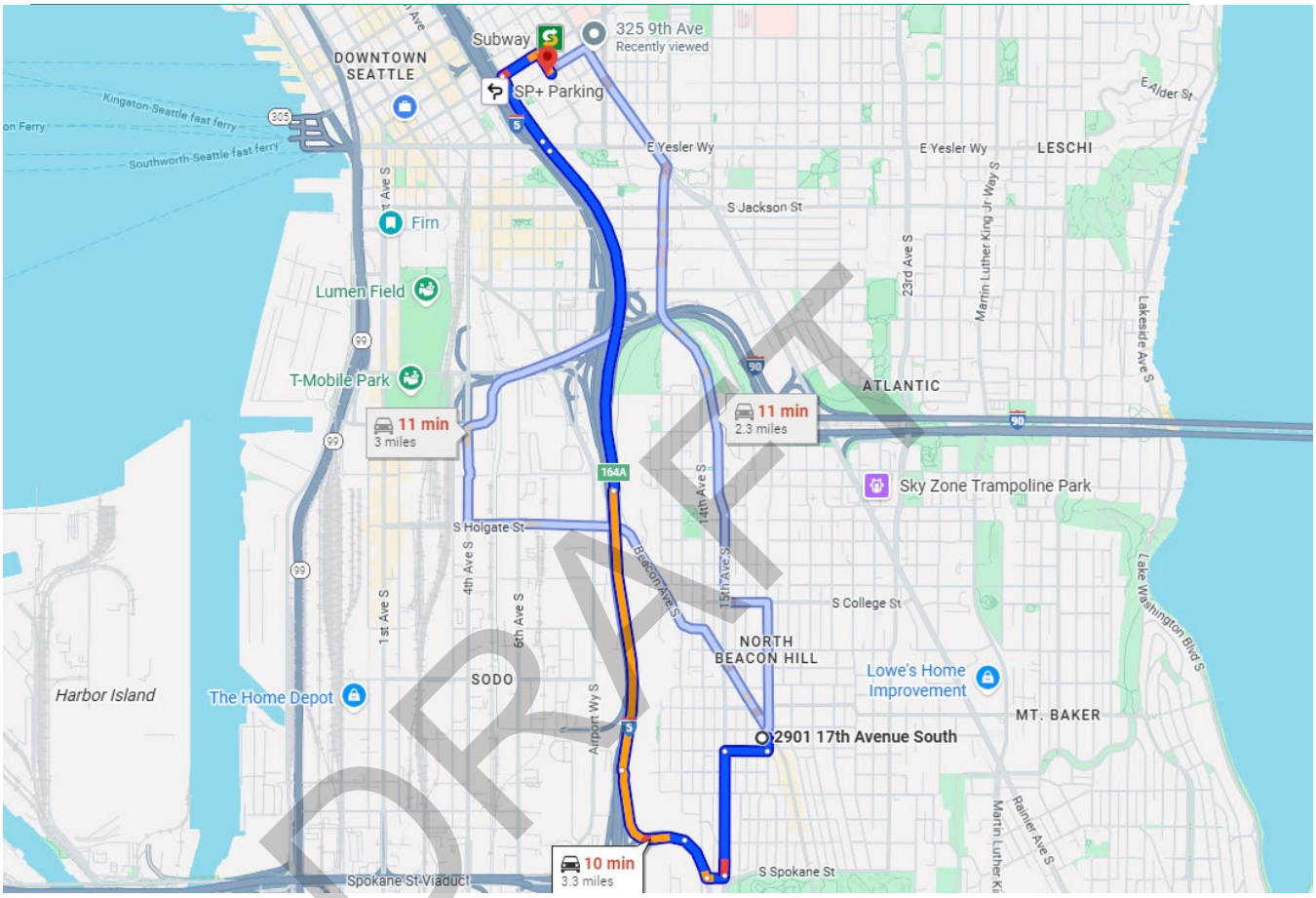
12 Medical Monitoring

Black River employees who perform site work are responsible for understanding potential health and safety hazards at the site. All Black River site workers will have health and safety training for hazardous waste operations in accordance with WAC 296-843-200. Additionally, all employees potentially exposed to chemical hazards in concentrations in excess of the PEL for more than 30 days per year will undergo medical monitoring, in accordance with WAC 296-843-210.

ATTACHMENT A
HOSPITAL DIRECTIONS AND MAP

Hospital Information

Hospital Name	Emergency Room at **Harborview Medical Center**
Address	325 9th Ave
City, State Zip	Seattle, WA 98104
Phone	206-520-5000



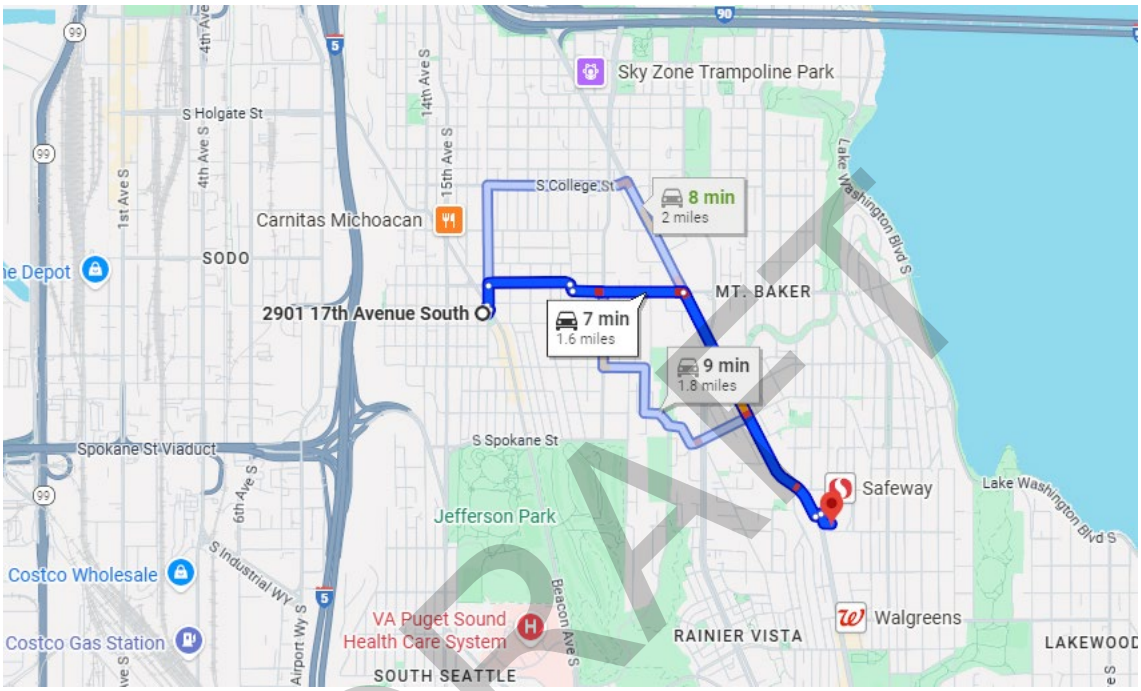
1. Head south on 17th Ave S toward S Stevens St (197 ft)
2. Turn right onto S Stevens St (0.1 mi)
3. Turn left onto 15th Ave S (0.4 mi)
4. Turn right onto S Spokane St (289 ft)
5. Use the left lane to turn right onto S Columbian Way (0.1 mi)
6. Slight left to merge onto 1-5 N toward Vancouver (0.3 mi)
7. Take Exit 164A from the 2nd to the right lane for Dearborn St toward James/Madison St (2.1 mi)
8. Use right lane to take the ramp to Madison St N (154 ft)
9. Use the right lane to take the James St ramp (0.2 mi)
10. Turn right onto James St (0.1 mi)
11. Turn right onto 9th Ave – Destination will be on the right (364 ft)

ATTACHMENT B

URGENT CARE CLINIC DIRECTIONS AND MAP

Urgent Care Clinic Information

Clinic Name	MultiCare Indigo Urgent Care – Seattle – Rainier Ave.
Address	3820 Rainier Ave S, Suite I
City, State Zip	Seattle, WA 98118
Phone	206-731-7500



1. Head northeast on 17th Ave S toward Beacon Ave S (69 ft)
2. Turn left onto Beacon Ave S (75 ft)
3. Slight right onto 17th Ave S (328 ft)
4. Turn right onto McClellan St (0.3 mi)
5. Slight right onto 21st Ave S (108 ft)
6. Turn left onto S McClellan St (0.3 mi)
7. Turn right after O'Reilly Auto Parts on the right (0.8 mi)
8. Turn left then right, destination will be on right (377 ft)

ATTACHMENT C
HEALTH AND SAFETY PLAN ACKNOWLEDGEMENT FORM

HASP ACKNOWLEDGEMENT FORM

PROJECT NUMBER:

PROJECT NAME:

By signing below, I acknowledge that I have read, understand, and agree to follow all policies and procedures outlined in this Health and Safety Plan (HASP). I understand the HASP may include project or company-specific appendices developed by organizations other than Black River.

Date	Name (print)	Signature	Company

ATTACHMENT D

DAILY TAILGATE SAFETY MEETING FORM

DAILY SAFETY BRIEFING

DATE: _____
PROJECT NAME: _____
PROJECT NO.: _____

Person Conducting Meeting: _____
Health & Safety Officer: _____
Project Manager: _____

TOPICS COVERED:

- ☐ Emergency Procedures
- ☐ Evacuation Route
- ☐ Directions to Hospital
- ☐ HASP Review & Location
- ☐ Safety Equipment Location
- ☐ Proper Equipment Use
- ☐ Fire Extinguisher Locations
- ☐ Eye Wash Station(s)
- ☐ Eating/Drinking/Smoking Areas & Restrictions
- ☐ Proper Use of PPE
- ☐ Other:
- ☐ Self and Coworker Monitoring
- ☐ Lines of Authority
- ☐ Communication
- ☐ Site Security
- ☐ Equipment Safety Protocols
- ☐ Work Zones
- ☐ Vehicle Safety and Driving Conditions
- ☐ Decontamination Procedures
- ☐ Buddy System
- ☐ Lifting Techniques
- ☐ Slips, Trips, and Falls
- ☐ Hazard Exposure Routes
- ☐ Heat and Cold Stress
- ☐ Overhead and Underfoot Hazards
- ☐ MSDS Location(s)
- ☐ Chemical Hazards
- ☐ Flammable Hazards
- ☐ Biological Hazards

DETAILS	ATTENDEES	
Weather Conditions:	**Printed Name, Company**	**Signature**
Daily Work Scope:		
Site-Specific Hazards:		
Safety Comments:		

BLACK RIVER
environmental

Black River Environmental, LLC
26311 NE Valley St. #141
Duvall, Washington
425-725-3832
www.blackriverenvironmental.com

APPENDIX C
INADVERTENT DISCOVERY PLAN

INADVERTENT DISCOVERY PLAN

PLAN AND PROCEDURES FOR THE DISCOVERY OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS

To request ADA accommodation, including materials in a format for the visually impaired, call Ecology at 360-407-6000 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with a speech disability may call TTY at 877-833-6341.

Site Name(s): Estelita's Library Location: 2901 17th Ave S, Seattle, WA

Project Lead/Organization: Black River Environmental County: King

If this Inadvertent Discovery Plan (IDP) is for multiple (batched) projects, ensure the location information covers all project areas.

1. INTRODUCTION

The IDP outlines procedures to perform in the event of a discovery of archaeological materials or human remains, in accordance with applicable state and federal laws. An IDP is required, as part of Agency Terms and Conditions for all grants and loans, for any project that creates disturbance above or below the ground. An IDP is not a substitute for a formal cultural resource review (Executive 21-02 or Section 106).

Once completed, **the IDP should always be kept at the project site** during all project activities. All staff, contractors, and volunteers should be familiar with its contents and know where to find it.

2. CULTURAL RESOURCE DISCOVERIES

A cultural resource discovery could be prehistoric or historic. Examples include (see images for further examples):

- An accumulation of shell, burned rocks, or other food related materials.
- Bones, intact or in small pieces.
- An area of charcoal or very dark stained soil with artifacts.
- Stone tools or waste flakes (for example, an arrowhead or stone chips).
- Modified or stripped trees, often cedar or aspen, or other modified natural features, such as rock drawings.
- Agricultural or logging materials that appear older than 50 years. These could include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, and many other items.
- Clusters of tin cans or bottles, or other debris that appear older than 50 years.
- Old munitions casings. ***Always assume these are live and never touch or move.***
- Buried railroad tracks, decking, foundations, or other industrial materials.
- Remnants of homesteading. These could include bricks, nails, household items, toys, food containers, and other items associated with homes or farming sites.

The above list does not cover every possible cultural resource. When in doubt, assume the material is a cultural resource.

3. ON-SITE RESPONSIBILITIES

If any employee, contractor, or subcontractor believes that they have uncovered cultural resources or human remains at any point in the project, take the following steps to ***Stop-Protect-Notify***. **If you suspect that the discovery includes human remains, also follow Sections 5 and 6.**

STEP A: Stop Work.

All work must stop immediately in the vicinity of the discovery.

STEP B: Protect the Discovery.

Leave the discovery and the surrounding area untouched and create a clear, identifiable, and wide boundary (30 feet or larger) with temporary fencing, flagging, stakes, or other clear markings. Provide protection and ensure integrity of the discovery until cleared by the Department of Archaeological and Historical Preservation (DAHP) or a licensed, professional archaeologist.

Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site. Do not allow work to resume within the boundary until the requirements of this IDP are met.

STEP C: Notify Project Archaeologist (if applicable).

If the project has an archaeologist, notify that person. If there is a monitoring plan in place, the archaeologist will follow the outlined procedure.

STEP D: Notify Project and Washington Department of Ecology (Ecology) contacts.

Project Lead Contacts

Primary Contact		Alternate Contact	
Name:	Ali Cochrane	Name:	Jessica Smith
Organization:	Black River Environmenta	Organization:	Black River Environmental
Phone:	206-949-7478	Phone:	206-423-8289
Email:	ali@blackriverenv.com	Email:	jessica@blackriverenv.com

Ecology Contacts (completed by Ecology Project Manager)

Ecology Project Manager		Alternate or Cultural Resource Contact	
Name:	Zak Wall	Name:	Jon Klem
Program:	Toxics Cleanup Program	Program:	Toxics Cleanup Program
Phone:	425-785-5231	Phone:	564-250-6671
Email:	zwal461@ecy.wa.gov	Email:	jon.klem@ecy.wa.gov

STEP E: Ecology will notify DAHP.

Once notified, the Ecology Cultural Resource Contact or the Ecology Project Manager will contact DAHP to report and confirm the discovery. To avoid delay, the Project Lead/Organization will contact DAHP if they are not able to reach Ecology.

DAHP will provide the steps to assist with identification. DAHP, Ecology, and Tribal representatives may coordinate a site visit following any necessary safety protocols. DAHP may also inform the Project Lead/Organization and Ecology of additional steps to further protect the site.

Do not continue work until DAHP has issued an approval for work to proceed in the area of, or near, the discovery.

DAHP Contacts:

Name: Rob Whitlam, PhD
Title: State Archaeologist
Cell: 360-890-2615
Email: Rob.Whitlam@dahp.wa.gov
Main Office: 360-586-3065

Human Remains/Bones:

Name: Guy Tasa, PhD
Title: State Anthropologist
Cell: 360-790-1633 (24/7)
Email: Guy.Tasa@dahp.wa.gov

4. TRIBAL CONTACTS

In the event cultural resources are discovered, the following tribes will be contacted. See Section 10 for Additional Resources.

Tribe:	Muckleshoot Indian Tribe	Tribe:	Tulalip Tribes of Washington
Name:	Laura Murphy	Name:	Richard Young
Title:	Archaeologist, Cultural Resources	Title:	Cultural Resources
Phone:	253-876-3272	Phone:	360-716-2652
Email:	laura.murphy@muckleshoot.nsn.us	Email:	ryoung@tulaliptribes-nsn.gov
Tribe:	Stillaguamish Tribe of Indians	Tribe:	Suquamish Tribe
Name:	Shawn Yannity	Name:	Stephanie Trudel
Title:	Cultural Resources Director	Title:	THPO
Phone:	360-652-7362 ext. 226	Phone:	360-394-8533
Email:	syanity@stillaguamish.com	Email:	strudel@suquamish.nsn.us

Please provide contact information for additional tribes within your project area, if needed, in Section 11.

5. FURTHER CONTACTS (if applicable)

If the discovery is confirmed by DAHP as a cultural or archaeological resource, or as human remains, and there is a partnering federal or state agency, Ecology or the Project Lead/Organization will ensure the partnering agency is immediately notified.

Federal Agency:		State Agency:	
Agency:		Agency:	
Name:		Name:	
Title:		Title:	
Phone:		Phone:	
Email:		Email:	

6. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect. Follow the steps under ***Stop-Protect-Notify.*** For specific instructions on how to handle a human remains discovery, see: *RCW 68.50.645: Skeletal human remains—Duty to notify—Ground disturbing activities—Coroner determination—Definitions*.

Suggestion: If you are unsure whether the discovery is human bone or not, contact Guy Tasa with DAHP, for identification and next steps. Do not pick up the discovery.

Guy Tasa, PhD State Physical Anthropologist
Guy.Tasa@dahp.wa.gov
(360) 790-1633 (Cell/Office)

For discoveries that are confirmed or suspected human remains, follow these steps:

1. Notify law enforcement and the Medical Examiner/Coroner using the contacts below. **Do not call 911** unless it is the only number available to you.

   Enter contact information below (required):
   - Local Medical Examiner or Coroner name and phone: Seattle Medical Examiner Office, 206-731-3232
   - Local Law Enforcement main name and phone: Seattle Police Department, 206-625-5011
   - Local Non-Emergency phone number (911 if without a non-emergency number): (same as local law enforcement, above)
2. The Medical Examiner/Coroner (with assistance of law enforcement personnel) will determine if the remains are human or if the discovery site constitutes a crime scene and will notify DAHP.
3. **DO NOT speak with the media, allow photography or disturbance of the remains, or release any information about the discovery on social media.**
4. If the remains are determined to be non-forensic, Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection and to shield them from being photographed by others or disturbed.

Further activities:

- Per RCW 27.44.055, RCW 68.50, and RCW 68.60, DAHP will have jurisdiction over non-forensic human remains. Ecology staff will participate in consultation. Organizations may also participate in consultation.
- Documentation of human skeletal remains and funerary objects will be agreed upon through the consultation process described in RCW 27.44.055, RCW 68.50, and RCW 68.60.
- When consultation and documentation activities are complete, work in the discovery area may resume as described in Section 8.

If the project occurs on federal lands (such as a national forest or park or a military reservation) the provisions of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) apply and the responsible federal agency will follow its provisions. Note that state highways that cross federal lands are on an easement and are not owned by the state.

If the project occurs on non-federal lands, the Project Lead/Organization will comply with applicable state and federal laws, and the above protocol.

7. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS

Archaeological resources discovered during construction are protected by state law RCW 27.53 and assumed eligible for inclusion in the National Register of Historic Places under Criterion D until a formal Determination of Eligibility is made.

The Project Lead/Organization must ensure that proper documentation and field assessment are made of all discovered cultural resources in cooperation with all parties: the federal agencies (if any), DAHP, Ecology, affected tribes, and the archaeologist.

The archaeologist will record all prehistoric and historic cultural material discovered during project construction on a standard DAHP archaeological site or isolate inventory form. They will photograph site overviews, features, and artifacts and prepare stratigraphic profiles and soil/sediment descriptions for minimal subsurface exposures. They will document discovery locations on scaled site plans and site location maps.

Cultural features, horizons, and artifacts detected in buried sediments may require the archaeologist to conduct further evaluation using hand-dug test units. They will excavate units in a controlled fashion to expose features, collect samples from undisturbed contexts, or to interpret complex stratigraphy. They may also use a test unit or trench excavation to determine if an intact occupation surface is present. They will only use test units when necessary to gather information on the nature, extent, and integrity of subsurface cultural deposits to evaluate the site's significance. They will conduct excavations using standard archaeological techniques to precisely document the location of cultural deposits, artifacts, and features.

The archaeologist will record spatial information, depth of excavation levels, natural and cultural stratigraphy, presence or absence of cultural material, and depth to sterile soil, regolith, or bedrock for each unit on a standard form. They will complete test excavation unit level forms, which will include plan maps for each excavation level and artifact counts and material types, number, and vertical provenience (depth below

surface and stratum association where applicable) for all recovered artifacts. They will draw a stratigraphic profile for at least one wall of each test excavation unit.

The archaeologist will screen sediments excavated for purposes of cultural resources investigation through 1/8-inch mesh, unless soil conditions warrant 1/4-inch mesh.

The archaeologist will analyze, catalogue, and temporarily curate all prehistoric and historic artifacts collected from the surface and from probes and excavation units. The ultimate disposition of cultural materials will be determined in consultation with the federal agencies (if any), DAHP, Ecology, and the affected tribe(s).

Within 90 days of concluding fieldwork, the archaeologist will provide a technical report describing any and all monitoring and resultant archaeological excavations to the Project Lead/Organization, who will forward the report to Ecology, the federal agencies (if any), DAHP, and the affected tribe(s) for review and comment.

If assessment activities expose human remains (burials, isolated teeth, or bones), the archaeologist and Project Lead/Organization will follow the process described in **Section 6**.

8. PROCEEDING WITH WORK

The Project Lead/Organization shall work with the archaeologist, DAHP, and affected tribe(s) to determine the appropriate discovery boundary and where work can continue.

Work may continue at the discovery location only after the process outlined in this plan is followed and the Project Lead/Organization, DAHP, any affected tribe(s), Ecology, and the federal agencies (if any) determine that compliance with state and federal laws is complete.

9. ORGANIZATION RESPONSIBILITY

The Project Lead/Organization is responsible for ensuring:

- This IDP has complete and accurate information.
- This IDP is immediately available to all field staff at the sites and available by request to any party.
- This IDP is implemented to address any discovery at the site.
- That all field staff, contractors, and volunteers are instructed on how to implement this IDP.

10. ADDITIONAL RESOURCES

Informative Video

Ecology recommends that all project staff, contractors, and volunteers view this informative video explaining the value of IDP protocol and what to do in the event of a discovery. The target audience is anyone working on the project who could unexpectedly find cultural resources or human remains while excavating or digging. The video is also posted on DAHP's inadvertent discovery language website.

Ecology's IDP Video (https://www.youtube.com/watch?v=ioX-4cXfbDY)

Informational Resources

DAHP (https://dahp.wa.gov)

Washington State Archeology (DAHP 2003)
(https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf)

Association of Washington Archaeologists (https://www.archaeologyinwashington.com)

Potentially Interested Tribes

Interactive Map of Tribes by Area
(https://dahp.wa.gov/archaeology/tribal-consultation-information)

WSDOT Tribal Contact Website
(https://wsdot.wa.gov/tribal/TribalContacts.htm)

11. ADDITIONAL INFORMATION

Please add any additional contact information or other information needed within this IDP.

Additional Tribal Contacts:

Snoqualmie Indian Tribe
Steven Mullen-Moses, Director, Archaeology and Historic Preservation
425-292-0249
steve@snoqualmietribe.us

Squaxin Island Tribe
Shaun Dinubilo, Archaeologist, Cultural Resources Department
360-432-3998
sdinubilo@squaxin.us

Implement the IDP if you see…

Chipped stone artifacts.

Examples are:

- Glass-like material.
- Angular material.
- “Unusual” material or shape for the area.
- Regularity of flaking.
- Variability of size.

Stone artifacts from Oregon.

Stone artifacts from Washington.

Biface-knife, scraper, or pre-form found in NE Washington. Thought to be a well knapped object of great antiquity. Courtesy of Methow Salmon Rec. Foundation.

Implement the IDP if you see…

Ground stone artifacts.

Examples are:

- Unusual or unnatural shapes or unusual stone.
- Striations or scratching.
- Etching, perforations, or pecking.
- Regularity in modifications.
- Variability of size, function, or complexity.

Above: Fishing Weight - credit CRITFC Treaty Fishing Rights website.

Artifacts from unknown locations (left and right images).

Implement the IDP if you see…

Bone or shell artifacts, tools, or beads.

Examples are:

- Smooth or carved materials.
- Unusual shape.
- Pointed as if used as a tool.
- Wedge shaped like a “shoehorn”.
- Variability of size.
- Beads from shell (dentalium) or tusk.

Upper Left:*Bone Awls from Oregon.*

Upper Center: *Bone Wedge from California.*

Upper Right: *Plateau dentalium choker and bracelet, from Nez Perce National Historical Park, 19th century, made using Antalis pretiosa shells Credit: Nez Perce - Nez Perce National Historical Park, NEPE 8762, Public Domain.*

Above: *Tooth Pendants. Right: Bone Pendants. Both from Oregon and Washington.*

Implement the IDP if you see…

Culturally modified trees, fiber, or wood artifacts.

Examples are:

- Trees with bark stripped or peeled, carvings, axe cuts, de-limbing, wood removal, and other human modifications.
- Fiber or wood artifacts in a wet environment.
- Variability of size, function, and complexity.

Left and Below: *Culturally modified tree and an old carving on an aspen (Courtesy of DAHP).*

Right, Top to Bottom: *Artifacts from Mud Bay, Olympia: Toy war club, two strand cedar rope, wet basketry.*

Implement the IDP if you see…

Strange, different, or interesting looking dirt, rocks, or shells.

Human activities leave traces in the ground that may or may not have artifacts associated with them. Examples are:

- "Unusual" accumulations of rock (especially fire-cracked rock).
- "Unusual" shaped accumulations of rock (such as a shape similar to a fire ring).
- Charcoal or charcoal-stained soils, burnt-looking soils, or soil that has a "layer cake" appearance.
- Accumulations of shell, bones, or artifacts. Shells may be crushed.
- Look for the "unusual" or out of place (for example, rock piles in areas with otherwise few rocks).

Shell Midden pocket in modern fill discovered in sewer trench.

Underground oven. Courtesy of DAHP.

Shell midden with fire cracked rock.

Hearth excavated near Hamilton, WA.

Implement the IDP if you see…

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Agricultural or logging equipment. May include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, etc.
- Domestic items including square or wire nails, amethyst colored glass, or painted stoneware.

Left: Top to Bottom: *Willow pattern serving bowl and slip joint pocket knife discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

Right: *Collections of historic artifacts discovered during excavations in eastern Washington cities.*

Implement the IDP if you see…

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Railway tokens, coins, and buttons.
- Spectacles, toys, clothing, and personal items.
- Items helping to understand a culture or identity.
- Food containers and dishware.

Main Image: *Dishes, bottles, workboot found at the North Shore Japanese bath house (ofuro) site, Courtesy Bob Muckle, Archaeologist, Capilano University, B.C. This is an example of an above ground resource.*

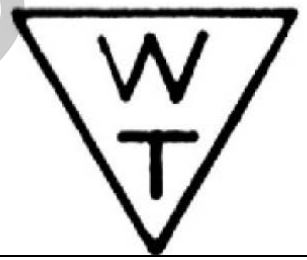
Right, from Top to Bottom: *Coins, token, spectacles and Montgomery Ward pitchfork toy discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

Implement the IDP if you see…

- Old munition casings – if you see ammunition of any type – ***always assume they are live and never touch or move!***
- Tin cans or glass bottles with an older manufacturer's technique – maker's mark, distinct colors such as turquoise, or an older method of opening the container.

Far Left: .303 British cartridge found by a WCC planting crew on Skagit River. Don't ever touch something like this!
Left: Maker's mark on bottom of old bottle.

Right: *Old beer can found in Oregon. ACME was owned by Olympia Brewery. Courtesy of Heather Simmons.*



Logo employed by Whithall Tatum & Co. between 1924 to 1938 (Lockhart et al. 2016).

Can opening dates, courtesy of W.M. Schroeder.

Implement the IDP if you see…

You see historic foundations or buried structures.

Examples are:

- Foundations.
- Railroad and trolley tracks.
- Remnants of structures.

Counter Clockwise, Left to Right: *Historic structure 45KI924, in WSDOT right of way for SR99 tunnel. Remnants of Smith Cove shantytown (45-KI-1200) discovered during Ecology CSO excavation, City of Spokane historic trolley tracks uncovered during stormwater project, intact foundation of historic home that survived the Great Ellensburg Fire of July 4, 1889, uncovered beneath parking lot in Ellensburg.*

Implement the IDP if you see...

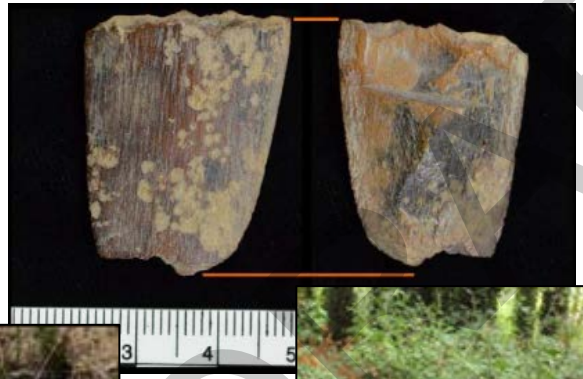
Potential human remains.

Examples are:

- Grave headstones that appear to be older than 50 years.
- Bones or bone tools--intact or in small pieces. It can be difficult to differentiate animal from human so they must be identified by an expert.
- These are all examples of animal bones and are not human.

Center: *Bone wedge tool, courtesy of Smith Cove Shantytown excavation (45KI1200).*

Other images (Top Right, Bottom Left, and Bottom) Center: Courtesy of DAHP.



Directly Above: This is a real discovery at an Ecology sewer project site.

What would you do if you found these items at a site? Who would be the first person you would call?

Hint: *Read the plan!*

APPENDIX D
SITE PHOTOGRAPHS

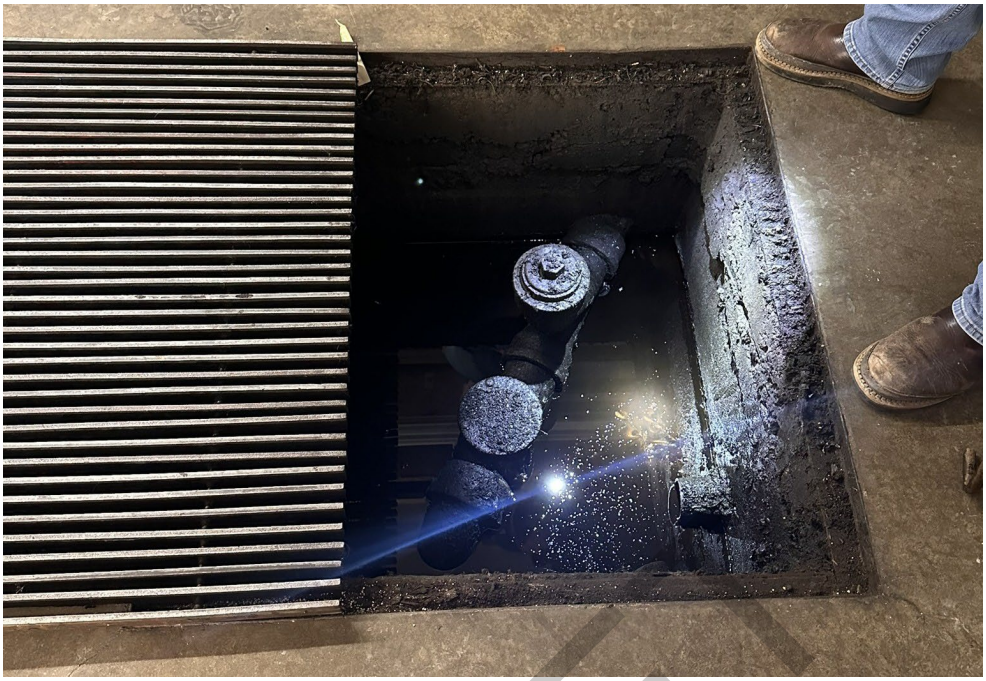


Photo 1. Interior of the oil/water separator containing approximately 8 inches of fluid and solids with petroleum-like odor and sheen.

Photo 2. Aboveground waste oil tank in exterior cabinet north of the building.

Photo 3. The 20-gallon container of engine grease product located inside the building off of the former auto repair bays.

Photo 4. Southwest corner of the C L Auto Parcel, where two 55-gallon drums of unknown contents are stored in the enclosure at the lower right of the photo, and one 30-gallon drum of unknown contents is stored just left of the garage bay door.

BLACK RIVER
environmental

Black River Environmental, LLC
26311 NE Valley St. #141
Duvall, Washington
425-725-3832
www.blackriverenvironmental.com