Remedial Investigation Work Plan

Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Facility Site ID: 73338176
Cleanup Site ID: 6584

Farallon PN: 1071-026

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ABBREVIATIONS AND ACRONYMS

AFFF	aqueous firefighting foam
ASTs	aboveground storage tanks
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
COCs	contaminants of concern
COPCs	constituents of potential concern
cPAHs	carcinogenic polycyclic aromatic hydrocarbons
CSM	conceptual site model
CSWGP	Construction Stormwater General Permit
DRO	diesel-range organics
Ecology	the Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
GRO	gasoline-range organics
HASP	Health and Safety Plan
HVOCs	halogenated volatile organic compounds
IADR	Interim Action Design Report
IAWP	Interim Action Work Plan
IDP	Inadvertent Discovery Plan
IDW	investigation-derived waste
LDW	Lower Duwamish Waterway
µg/L	micrograms per liter
mg/kg	milligrams per kilogram
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
NFA	No Further Action
ORO	oil-range organics
PAHs	polycyclic aromatic hydrocarbons
PCULs	Preliminary Cleanup Levels
PFAS	per- and polyfluoroalkyl substances
PQLs	practical quantitation limits
QAPP	Quality Assurance Project Plan
RI	remedial investigation

RI Work Plan	Remedial Investigation Work Plan
RLs	remediation levels
SAP	Sampling and Analysis Plan
TEE	Terrestrial Ecological Evaluation
TPH	total petroleum hydrocarbons
USTs	underground storage tanks
VCP	Voluntary Cleanup Program
VI Guidance	Vapor Intrusion Guidance
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Agency Review Draft Remedial Investigation Work Plan (RI Work Plan) on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) pursuant to Agreed Order No. DE 16659 between Prologis and the Washington State Department of Ecology (Ecology) (Agreed Order). This RI Work Plan documents the scope, technical approach, and implementation details to complete the remedial investigation (RI) at the Emerald Gateway Site (Site) (Figure 1).

The Site, as defined under the Agreed Order, is where hazardous substances, other than consumer products in consumer use, have been deposited, stored, disposed of, placed, or otherwise come to be located. Based on current information, the Site generally comprises the property at 3301 South Norfolk Street in Seattle and Tukwila, Washington and a portion of the west-adjoining East Marginal Way South right-of-way. Figure 2 shows the Site and surrounding area.

Previous investigations and interim actions have been conducted at the Site since the 1980s. Most recently, between 2020 and 2025, an interim action was conducted in conjunction with Site redevelopment in accordance with the Agreed Order and specifically, the Interim Action Work Plan (IAWP) dated September 18, 2019 (Farallon 2019) and the Interim Action Design Report (IADR) dated April 2, 2020 (Farallon 2020). The interim action included excavation of contaminated soil and significant permanent stormwater utility improvements, including replacement and rerouting of existing stormwater utility infrastructure and installation of new stormwater lines.

1.1 PURPOSE AND OBJECTIVE

The purpose of this RI Work Plan is to describe the RI activities that will be completed to adequately characterize the Site, including the distribution of hazardous substances remaining following the interim actions.

The objective of the scope of work presented in this RI Work Plan is to complete a RI for the Site that will meet the requirements of Washington State Model Toxics Control Act, Chapter 70A.305 of the Revised Code of Washington, and its implementing regulations, Chapter 173-340 of the Washington Administrative Code (WAC) (collectively, MTCA). The RI Work Plan is a specific requirement of the Agreed Order.

The RI Work Plan includes a summary of the existing Site information collected during previous environmental investigations and interim actions completed between 1989 and 2025. Appendices of the RI Work Plan include a Sampling and Analysis Plan (SAP), Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Inadvertent Discovery Plan (IDP).

1.2 KEY PROJECT PERSONNEL

Key project personnel include the following:

- Project Coordinator for Ecology: Brett T. Carp, Aquatics Unit Supervisor, Ecology
- Project Coordinator for Prologis: Pete Kingston, Principal Geologist, Farallon
- Prologis Representatives
    - Brett Richer, Vice President, Global Environmental & Engineering Services
    - Manasi Chavan, Manager, Global Environmental & Engineering Services

1.3 REGULATORY BACKGROUND

The following sections summarize the Site's regulatory history.

1.3.1 Lower Duwamish Waterway

The Site is located proximate to the Lower Duwamish Waterway (LDW), which was identified by U.S. Environmental Protection Agency (EPA) Region 10 on the National Priorities List in 2001. EPA published a final Record of Decision for the LDW Superfund Site in 2014. The Record of Decision presented the selected remedy for cleanup of sediments in the LDW. The sediment cleanup in the LDW commenced in late 2024.

Ecology is leading upland source control activities, consistent with a Memorandum of Agreement with EPA. To support the source control efforts and prevent recontamination of sediments in the LDW, Ecology (2025a) published Preliminary Cleanup Levels (PCULs), which are applied to upland sites that may have open transport pathways for contamination to reach the LDW and may impact surface water, sediments, or organisms.

1.3.2 Agreed Order No. DE 16659

The Site is subject to the Agreed Order between Prologis and Ecology. The Agreed Order required Prologis to complete an interim action during Site redevelopment followed by a RI, Feasibility Study, and draft Cleanup Action Plan.

The interim action was conducted in conjunction with Site redevelopment between 2020 and 2025 in accordance with the IAWP and IADR. The IAWP described the interim action activities that would be completed during redevelopment of the Site. The IADR was prepared to evaluate and select constituents of potential concern (COPCs) for the interim action, select remediation levels (RLs) applicable to the interim action, and provide the final design components of the interim action. The COPCs and RLs were selected for the interim action using a data screening process. Chemical concentrations in soil and groundwater samples collected from the Site were initially screened against the most stringent PCULs. Transport and exposure pathways were then evaluated for the Site and specific PCULs were removed from the screening process.

The interim action was conducted during Site redevelopment between 2020 and 2025. The purpose of conducting the interim action in conjunction with Site redevelopment was to complete cleanup activities to the maximum extent practicable prior to construction of new buildings, since much of the Site would become inaccessible for additional excavation following redevelopment.

The results of the interim action are documented in the Interim Action Progress Report (IAPR) dated November 18, 2022 (Farallon 2022) and in the Interim Action Report dated July 2025 (Farallon 2025).

1.3.3 Voluntary Cleanup Program

Prior to the Agreed Order, the Site included multiple sites that were individually enrolled in Ecology's Voluntary Cleanup Program (VCP).

- The Unified Grocers Norfolk Site located at 3301 South Norfolk Street and identified as VCP Project No. NW1807.
- The Northwest Auto Wrecking Site located at 10230 East Marginal Way South and identified as VCP Project No. NW1812. This Site received a Partial Sufficiency Determination for soil from Ecology in January 2011 (Ecology 2011).
- The Humble Oil Gas Station located at 10056 East Marginal Way South and identified as VCP Project No. NW0125. This Site received a No Further Action (NFA) determination from Ecology in December 1998 (Ecology 1998).

1.4 WORK PLAN ORGANIZATION

This RI Work Plan includes the following sections:

- **Section 2, Site Description and Background** – This section provides a description of the Site location and features; a summary of historical, current and anticipated future land uses; and a description of the local geology and hydrogeology.
- **Section 3, Previous Investigations and Interim Actions** – This section summarizes the activities and results of the previous investigations and interim actions completed at the Site.
- **Section 4, Conceptual Site Model** – This section presents the conceptual site model (CSM) based on the previous investigations, interim actions, and other Site information.
- **Section 5, Scope of Work –** This section presents a scope of work to complete the RI to adequately characterize the Site, including the distribution of hazardous substances.
- **Section 6, Scheduling and Reporting –** This section presents the RI implementation schedule and reporting requirements.
- **Section 7, References –** This section presents the references used to prepare this RI Work Plan.
- **Section 8, Limitations –** This section presents Farallon's limitations for use of this RI Work Plan.

2.0 SITE DESCRIPTION AND BACKGROUND

This section provides a description of the Site location and features; a summary of historical, current and anticipated future land uses on and in the vicinity of the Site; and a description of the local geology and hydrogeology. Additional information regarding the Site description and background is included in the IAWP.

2.1 REGIONAL SETTING

The Site is located east of the LDW in the Duwamish River Valley, which is part of the Puget Lowland region. The LDW is tidally influenced and brackish, with saltwater from Puget Sound mixing with freshwater from the Duwamish River. Regional topography is generally flat and interpreted as a floodplain of the LDW, with hills to the west and east. Land in the vicinity of the Site has been primarily used for industrial and/or commercial purposes since the 1940s, and the LDW was and is used for marine industrial traffic, recreation, and fishing.

2.2 SITE DESCRIPTION

The Site, which is owned by Prologis, comprises nine King County Parcels on approximately 63 acres of land that overlaps the City of Seattle and the City of Tukwila, Washington[1] (Figure 2), as well as a portion of the west-adjoining East Marginal Way right-of-way.

According to the City of Seattle Zoning Map Books, the portion of the Site in Seattle is zoned as "MML U/85" and is located within the Greater Duwamish Manufacturing Industrial district. According to the City of Tukwila Comprehensive Plan and Zoning Map, the portion of the Site in Tukwila is zoned as "Light Industrial."

The Site includes the following:

- Building 1: A 284,067-square-foot cold-storage distribution warehouse constructed in the southern portion of the Site in 1979.
- Building 2: A 151,091-square-foot distribution warehouse constructed in the east-central portion of the Site in 2022.
- Building 3: A 171,924-square-foot distribution warehouse constructed in the northwestern portion of the Site in 2023.

[1] The city limits of both the City of Seattle and the City of Tukwila pass through the central portion of the Property, such that some Property parcels are in the City of Seattle, and others are in the City of Tukwila.

- Building 4: A 230,131-square-foot distribution warehouse constructed in the western portion of the Site in 2024.
- Building 5: A 144,352-square-foot distribution warehouse is planned for construction on the central portion of the Site in 2025.
- King County Metro Training Center: A King County Metro training center consisting of an asphalt-paved lot with a 12,000-square-foot support building constructed in the northeastern portion of the Site in 2023.
- Stormwater Infrastructure: New stormwater infrastructure with catch basins and conveyance piping was installed at the Site during redevelopment. Additional information regarding the new stormwater infrastructure is provided in Section 3.16.

The existing configuration of the Site buildings and stormwater infrastructure are shown on Figure 2.

2.3 LAND USES

The following sections summarize historical, current, and anticipated future land use for the Site and surrounding area.

2.3.1 Historical Land Uses

The Site historically was divided into at least 29 King County parcels, which were used for industrial and commercial purposes. Historically, the Site consisted of two separate properties with different uses:

- The northern, eastern, and southern portions of the Site historically were used for commercial warehousing of food products, and included a truck wash, truck maintenance and repair operations, truck refueling facilities, and associated underground storage tanks (USTs) and aboveground storage tanks (ASTs). Additional historical operations included automobile service stations formerly located on the northwestern and western portions of the Site, and a dry cleaner formerly located on the southwestern portion of the Site.
- The west-central portion of the Site was historically used for automobile wrecking and parts salvaging and included operation of multiple USTs; ASTs for storage of gasoline, waste oil, and stove oil; a garage with hydraulic hoists; a parts cleaning and dismantling shop; automobile storage areas; and soil stockpiles and fill areas.

All the buildings except for Building 1 on the southern portion of the Site were demolished as part of Site redevelopment in 2020. All known USTs and ASTs were removed prior to or during Site redevelopment between 2020 and 2024, except for an approximately 500-gallon diesel AST located proximate to Building 1.

Locations of historical operations on the Site are presented on Figure 3. Additional discussion regarding historical uses of the Site is presented in Section 3.

2.3.2 Current and Future Land Uses

As described in Section 2.2, the Site currently is developed with four warehouse buildings and is primarily used as a warehousing and distribution facility by various tenants. A fifth warehouse building is planned to be constructed in the remaining undeveloped area in the central portion of the Site. In addition, the northeastern portion of the Site is used as a King County Metro Training facility. There are no anticipated changes in current or future land use at the Site, and the Site will remain a warehousing and distribution facility with various tenants for the foreseeable future. Existing Site features are presented on Figure 2.

2.3.3 Adjacent and Surrounding Land Uses

The surrounding area in the vicinity of the Site has historically been used primarily for commercial and industrial purposes since approximately the mid- to late-1940s. The north-adjoining property is developed with King County International Airport – Boeing Field (Boeing Field) and associated aircraft maintenance operations. Airport Way South, rail lines, and Interstate 5 are located east of the Site, beyond which are various commercial and industrial warehouse buildings. A police training facility, shooting range, fuel service station, retail stores, and various commercial and industrial facilities are located south of the Site. East Marginal Way South, a pub (Lucky Liquor), paved parking for nearby Boeing facilities, and the LDW are located west of the Site, beyond which are various industrial operations on the western bank of the LDW (Figure 2).

2.4 GEOLOGY AND HYDROGEOLOGY

The following sections present a summary of local geology and hydrogeology in the vicinity of the Site.

2.4.1 Geology

The Site is in the Duwamish Valley, a glacially carved trough in-filled with more-recent sediments and soil. The ground surface of many areas of the Duwamish Valley was modified by dredging and fill placement in the early 20th century that overlies alluvial deposits.

Based on subsurface observations from previous environmental investigations conducted at the Site, the general area consists of fill material consisting of silty sand with variable amounts of gravel extending from the ground surface to a depth of 4 to 10 feet below ground surface (bgs). Based on observations during interim action activities, a shallow layer of brick and concrete debris was encountered at depths of less than 4 feet bgs in the western portion of the Site and is discussed further in Section 3.13. Underlying the fill are native interbedded silts and sands with clay to depths of 10 to 12 feet bgs, overlying fine to medium sand extending to a maximum explored depth of 55 feet bgs (Farallon 2019).

2.4.2 Hydrogeology

Groundwater is encountered beneath the Site at depths of approximately 8 to 17 feet bgs and is interpreted to flow to the west-southwest toward the LDW. Due to the proximity of the Site to the LDW, groundwater beneath the Site is tidally influenced, with daily variations of groundwater elevations of up to approximately 3.8 feet in the western portion of the Site, decreasing to approximately 0.5 foot in the central portion of the Site. Groundwater beneath the Site is interpreted as brackish and is therefore naturally non-potable as defined in WAC 173-200. Groundwater beneath the Site is not a source of drinking water. Additional information regarding tidal influence on the Site is presented in the IADR, and additional discussion regarding the non-potable groundwater determination is presented in Section 4.3.2.1.

2.4.3 Surface Water

The nearest surface water body is the LDW, located less than 0.01 mile west of the Site. The LDW is tidally influenced and brackish, with saltwater from Puget Sound mixing with freshwater from the Duwamish River. The LDW is not used as a source of drinking water. The LDW is a navigation channel for marine industrial traffic and is also used for recreation and fishing. No other significant surface water bodies are located within 1 mile of the Site.

3.0 PREVIOUS INVESTIGATIONS AND INTERIM ACTIONS

Previous investigations and interim actions have been conducted at the Site since the late 1980s and have included advancement of borings and installation of monitoring wells for collection of soil and groundwater samples, decommissioning of multiple USTs by closure-in-place and/or removal, and excavation of impacted soil. Environmental investigations and interim actions completed prior to the Agreed Order were conducted independently or through Ecology's VCP as described in Section 1.3.2.

Previous investigation and interim action activities conducted prior to Prologis' purchase of the Site are documented in multiple reports prepared by others. Previous environmental reports subdivided the Site into investigation areas based on operational history, identified as Areas 1 through 13. Figure 4 identifies investigation areas, interim action excavation areas, and residual impacts of COPCs in soil following completion of the Site interim actions.

Analytical results from previous investigations and interim actions have been compared to the most-stringent PCULs for non-potable groundwater based on the non-potable groundwater determination discussed in Section 4.3.2.1. Figures 5 through 17 present analytical results for soil groundwater, and catch basin solids samples collected on the Site. Tables 1 through 13 present analytical results for soil, groundwater, soil gas, and catch basin solids collected on the Site.

A more detailed summary of pre-purchase investigation and interim action activities is presented in the IAWP. A summary of the environmental investigation and interim action activities conducted at the Site to date is presented in the following sections.

3.1 AREA 1: DRY GROCERY WAREHOUSE

Area 1 is on the eastern portion of the Site, where three heating oil USTs reportedly were present beneath an expanded footprint of the former Dry Grocery Warehouse building (Figure 3). Two USTs reportedly were removed prior to 2001, and a third was abandoned-in-place. The location of third UST is unknown but is assumed to be in the same general area as the two USTs that were removed. Reconnaissance groundwater samples collected in the vicinity of the former USTs in 2001 did not contain total petroleum hydrocarbons (TPH) at concentrations exceeding laboratory practical quantitation limits (PQLs) (Table 7), and no additional investigation or interim action activities have been conducted in Area 1.

3.2 AREA 2: PERISHABLES WAREHOUSE

Area 2 is on the southern portion of the Site and comprises an area proximate to a former diesel fuel UST, which was removed in 1992, associated with the Perishables Warehouse (Figure 3).

Subsurface investigation activities conducted in 2001 identified TPH as diesel-range organics (DRO), TPH as gasoline-range organics (GRO), and/or benzene at concentrations exceeding the most-stringent PCULs in soil and/or reconnaissance groundwater samples collected in the vicinity of the former UST. Soil excavation activities were conducted in 2002 to remove petroleum-impacted soil in the vicinity of the former UST. DRO was detected at a concentration exceeding PCULs in a single soil sample collected at the limits of the excavation (Figure 5; Table 1).

Subsurface investigation activities conducted in 2016 to evaluate the extent of remaining impacts proximate to the former UST identified DRO, TPH as oil-range organics (ORO), and/or polycyclic aromatic hydrocarbons (PAHs) in soil and/or reconnaissance groundwater at concentrations exceeding the most-stringent PCULs proximate to the former excavation area (Figures 5, 8, 12, and 13; Tables 1, 2, 7, and 8).

Additional interim action excavation activities were conducted proximate to the former excavation area in June 2020 to remove residual impacts of DRO in soil. Interim action excavation activities extended to a depth of approximately 14.5 feet bgs and included removal and off-Site disposal of approximately 460 tons of DRO-impacted soil proximate to the former UST. Confirmation soil samples collected at the limits of the interim action excavation contained DRO and GRO at concentrations exceeding PCULs in the eastern sidewall of the excavation area. The excavation could not be expanded further to the east due to the presence of a high-pressure water line and proximity to the foundation of Building 1 (Figure 5; Table 1).

Groundwater samples collected from monitoring well MW-101, located immediately west (down-gradient) of the former UST historically have not contained petroleum hydrocarbon constituents, including DRO, ORO, GRO, benzene, and carcinogenic PAHs (cPAHs) at concentrations exceeding PCULs. 1-methylnaphthalene was detected in MW-101 at a concentration slightly exceeding PCULs in 2016 (Table 8), and dissolved arsenic was detected in MW-101 at concentrations exceeding PCULs in 2016 and 2019 (Figure 11; Table 10).

3.3 AREA 3: FORMER TRUCK WASH

Area 3 is on the southern portion of the Site and consists of a former building where trucks were reportedly washed (Figure 3). Multiple USTs were reportedly located proximate to the building; however, the USTs were installed but never placed into service. A geophysical survey identified an area of disturbed soil in the northeastern portion of Area 3. No field-screening evidence of petroleum releases to soil was identified in two borings advanced proximate to the areas of disturbed soil, and petroleum hydrocarbon constituents were not detected at concentrations exceeding laboratory PQLs in reconnaissance groundwater samples collected from the borings (Table 7). No additional investigation or interim action activities have been conducted in Area 3.

3.4 AREA 4: FORMER FUELING AREA

Area 4 is on the south-central portion of the Site and was formerly used for fueling trucks (Figure 3). Three 20,000-gallon USTs reportedly were installed in 1979 for storage of gasoline and diesel fuel. Limited excavation of approximately 217 tons of petroleum-impacted soil was conducted during UST upgrade activities in 1998, and one of the diesel fuel USTs was decommissioned by removal. No impacts to groundwater were identified during soil excavation activities. Additional limited excavation of petroleum-impacted soil was conducted in 2002 following observations of surficial soil staining, and soil samples collected at the limits of excavation did not contain petroleum-related constituents at the limits of excavation (Figure 5; Table 1). DRO and ORO were detected at concentrations exceeding PCULs in reconnaissance groundwater samples collected proximate to the USTs in 2007 and 2016 (Table 7).

In March and April 2019, the remaining two USTs, piping, and fuel dispensers were decommissioned by removal. No evidence of petroleum-hydrocarbon contamination was noted during removal of the USTs. However, petroleum-impacted soil was encountered proximate to the former location of the eastern diesel fuel UST, which had been removed in 1998. Approximately 28 cubic yards of petroleum-impacted soil was removed beneath the former location of the diesel fuel UST. Confirmational soil samples collected at the limits of the excavation did not contain petroleum hydrocarbon constituents at concentrations exceeding PCULs (Figure 5; Table 1), indicating that the source of potential DRO and ORO impacts in groundwater had been removed.

Following removal of the USTs in 2019, no additional investigation or interim action activities have been conducted in Area 4.

3.5 AREA 5: FORMER TRAILER MAINTENANCE SHOP

Area 5 is on the north-central portion of the Site and was historically used for trailer repair and maintenance (Figure 3). Soil and/or reconnaissance groundwater samples collected around the exterior of the shop in 2001 and 2016 did not contain petroleum hydrocarbons, volatile organic compounds (VOCs), or PAHs at concentrations exceeding PCULs (Figures 6, 8, and 9; Tables 1 through 3). Dissolved arsenic was detected at a concentration exceeding PCULs in a single reconnaissance groundwater sample, and was either reported non-detect at the laboratory PQL or was detected at concentrations less than PCULs in two other reconnaissance groundwater samples collected in Area 5 (Figure 16; Table 10). No additional investigation or interim action activities have been conducted in Area 5.

3.6 AREA 6: FORMER TRUCK REPAIR SHOP

Area 6 is on the northern portion of the Site in an area historically used for truck repair and maintenance operations (Figure 3). Four USTs ranging in capacity from 500 to 10,000 gallons and containing gasoline, diesel, or waste oil reportedly were used in this area and removed in the late 1980s. Area 6 historically was enrolled in Ecology's VCP as a portion of the Unified Grocers Site, which was assigned VCP Project No. NW1807.

In July and August 2007, approximately 12,200 tons of petroleum-impacted soil was excavated to depths ranging from 9 to 15 feet bgs to the maximum extent practicable. The excavation was backfilled with inert fill and mixed with oxygen-release compound to enhance natural degradation of residual petroleum hydrocarbons. In addition, 17,500 gallons of petroleum-impacted groundwater was pumped from the excavation for off-Site disposal.

Performance soil samples were collected at the extents of the remedial excavation and confirmed that GRO, benzene, toluene, and ethylbenzene were detected at concentrations exceeding the most stringent PCULs. In addition, petroleum-impacted soil was not accessible in the northern portion of the excavation beneath the adjacent Office Building (Figure 3). Ecology issued opinions on completed cleanup activities in 2009 and 2011, indicating that further remedial action was required due to remaining impacts of petroleum hydrocarbon constituents in soil and/or groundwater proximate to Area 6. The Unified Grocers Site was terminated from the VCP in 2015.

Following completion of the soil excavation in 2007, reconnaissance groundwater samples were collected from temporary borings, and groundwater samples were collected from a

network of five monitoring wells (MW-AG1, MW-AG2, MW-4, MW-203, and MW-207) proximate to the Area 6 excavation area (Figure 3). DRO, GRO, benzene, and ethylbenzene were detected at concentrations exceeding the most-stringent PCULs in a single reconnaissance groundwater sample collected in 2016 from boring F-17, which was located down-gradient of the area of known petroleum impacts beneath the former Office Building (Figure 12; Table 7). However, petroleum hydrocarbon constituents were detected at concentrations less than the most-stringent PCULs or were reported non-detect at the laboratory PQL in groundwater samples collected during six groundwater monitoring events conducted at the monitoring well network between November 2009 and July 2019. In addition, petroleum hydrocarbon constituents were detected at concentrations less than the PCULs or were reported non-detect at the laboratory PQL in several reconnaissance groundwater samples collected proximate to the remedial excavation between 2001 and 2016. Groundwater analytical results indicate that petroleum impacts are not present in groundwater in Area 6.

Monitoring wells MW-AG1, MW-AG2, MW-4, MW-203, and MW-207 were decommissioned in May 2020 in preparation for Site redevelopment. The Office Building, which limited the extent of the 2007 excavation, was demolished in June 2020 as part of Site redevelopment.

Interim action excavation activities were conducted in Area 6 in September 2020 to remove residual petroleum-impacted soil at the limits of the 2007 excavation area. Interim action excavation activities extended to depths of approximately 18 to 20 feet bgs and included removal and off-Site disposal of approximately 4,340 tons of petroleum-impacted soil. Confirmation soil samples collected at the limits of the interim action excavation indicated that all soil containing DRO, ORO, and GRO at concentrations exceeding PCULs had been removed. Benzene, toluene, ethylbenzene, and xylenes (collectively BTEX) were detected at concentrations exceeding most-stringent PCULs for saturated soil in soil samples collected beyond the limits of excavation, but groundwater analytical results confirm that BTEX impacts are not present in groundwater, and concentrations of BTEX at the limits of the excavation are less than soil direct contact PCULs (Figure 6; Table 1).

3.6.1 East of Area 6

During demolition activities between August and October 2020, three USTs were discovered east of Area 6 proximate to the Former Dry Grocery Warehouse (Figure 3). All three USTs were decommissioned by removal between August and October 2020 in accordance with WAC 173-360A and Ecology's UST Guidance (Ecology 2021), and approximately 390 tons of

petroleum-impacted soil was excavated for off-Site disposal in the vicinity of the former USTs. Soil samples collected at the limits of excavation did not contain petroleum hydrocarbons at concentrations exceeding PCULs. Naphthalene was detected at a concentration exceeding the most-stringent PCUL in a single soil sample at the limits of the excavation, and cPAHs were detected at toxic equivalent concentrations exceeding the most-stringent PCUL in several soil samples collected at the limits of excavation. (Figures 6 and 8; Tables 1 and 2). However, groundwater analytical results from monitoring wells down-gradient of the former USTs did not contain naphthalene or cPAHs at concentrations exceeding PCULs, indicating that a significant release to groundwater did not occur. Based on the lack of groundwater impacts, interim action RLs for naphthalene and cPAHs were based on direct contact PCULs, which are significantly higher than the concentrations of naphthalene and cPAHs remaining in soil.

3.7 AREA 7: FORMER AUTOMOBILE SERVICE STATIONS

Area 7 is on the western portion of the Site and is identified as the approximate location of one or more historical automobile service stations (Figure 3). GRO, ethylbenzene, and naphthalene were detected at concentrations exceeding the most stringent PCULs in soil samples collected in 2019 from boring FMW-01, installed along the western Site boundary. In addition, naphthalene was detected in groundwater at a concentration exceeding PCULs in a groundwater sample collected from monitoring well FMW-01 in 2019. Remaining petroleum hydrocarbon constituents were reported at concentrations less than the most stringent PCULs or the laboratory PQLs in the groundwater sample collected from monitoring well FMW-01 (Figure 12; Tables 7 and 8).

Monitoring well FMW-01 was decommissioned in May 2020 in preparation for Site redevelopment. Interim action excavation activities were conducted in June 2020 to remove petroleum-impacted soil proximate to FMW-01. Interim action excavation activities extended to depths of approximately 16 to 18 feet bgs and included removal and off-Site disposal of approximately 800 tons of petroleum-impacted soil along the western Site boundary (Figures 7 and 8; Tables 1 and 2). Confirmation soil samples collected at the limits of the interim action excavation contained DRO and GRO at concentrations exceeding PCULs in the western sidewall of the excavation area. The excavation could not be expanded further to the west due to the presence of a high-pressure water line and the western Site boundary (Figure 7).

Borings were advanced in the East Marginal Way South right-of-way west of Area 7 in April 2021 to evaluate the lateral extent of petroleum impacts in soil and/or groundwater beyond the limits of the interim action excavation. GRO was detected at concentrations exceeding PCULs in soil samples collected between depths of 12 to 14.5 feet bgs. A single reconnaissance groundwater sample also contained DRO and GRO at concentrations exceeding PCULs (Figure 12; Table 1).

Monitoring well FMW-04 was installed on the west side of East Marginal Way South in October 2022 to evaluate the lateral extent of petroleum impacts in soil and groundwater west and down-gradient of Area 7. Soil and groundwater samples collected from FMW-04 did not contain detectable concentrations of petroleum constituents (Figure 12; Tables 7 and 8).

3.8 AREA 8: RETURNS BUILDING

Area 8 is on the central portion of the Site and was the potential location of a former fueling facility (Figure 3). A geophysical survey conducted in 2001 did not identify evidence of USTs. Borings advanced proximate to the suspected locations of fueling facility features did not exhibit field evidence of petroleum hydrocarbons, and petroleum hydrocarbon constituents were not detected at concentrations exceeding laboratory PQLs in reconnaissance groundwater samples collected from the borings (Figures 6 and 8; Table 6). Based on soil observations and reconnaissance groundwater analytical results, no additional investigation or interim action activities have been conducted in Area 8.

3.9 AREA 9: FORMER EMPLOYEE PARKING LOT

Area 9 is southwest of the former Office Building on the northern portion of the Site and was the potential location of a suspected fuel UST (Figure 3). A geophysical survey conducted in 2001 did not identify evidence of a UST. Borings advanced proximate to the suspected location of the UST did not exhibit field evidence of petroleum hydrocarbons, and petroleum hydrocarbon constituents were not detected at concentrations exceeding laboratory PQLs in reconnaissance groundwater samples collected in Area 9 (Figures 6 and 8; Table 6). Based on soil and groundwater analytical results, no additional investigation or interim action activities have been conducted in Area 9.

3.10 AREA 10: UP-GRADIENT AREAS

Area 10 represents potential contaminant sources up-gradient of the Site to the east (Figure 3). Reconnaissance groundwater samples collected from borings advanced near the

eastern Site boundary in 2001 did not contain petroleum hydrocarbon constituents, VOCs, and PAHs at concentrations exceeding laboratory PQLs, except for phthalates, which were attributed to laboratory contamination (Tables 7 through 9). Based on reconnaissance groundwater analytical results, no additional investigation or interim action activities have been conducted in Area 10.

3.11 AREA 11: FORMER SOUTH MAINTENANCE SHOP

Area 11 is on the southwestern portion of the Site, where two USTs were encountered and removed by a utility contractor during installation of a subsurface water line in 1995 (Figure 3). The former USTs reportedly were associated with former dry-cleaning operations and consisted of a 450-gallon vertically installed UST and a 300-gallon horizontally installed UST. Analysis of the UST contents and of soil samples collected adjacent to the USTs suggested that Stoddard solvent was previously stored in the USTs. No chlorinated dry-cleaning solvents such as tetrachloroethene or trichloroethene were detected at concentrations exceeding laboratory PQLs in the soil samples collected proximate to the former USTs.

DRO was detected at a concentration exceeding PCULs in a single reconnaissance groundwater sample collected south of the Former South Maintenance Shop in 2016. Remaining petroleum hydrocarbon constituents, VOCs, PAHs, and arsenic either were detected at concentrations less than PCULs or were not detected at concentrations exceeding laboratory PQLs in the soil and reconnaissance groundwater samples collected proximate to the Former South Maintenance Shop (Figures 5, 8, 9, and 12 through 14; Tables 1 through 3 and 7 through 9).

During utility infrastructure trenching conducted between July and October 2020 as part of Site redevelopment, several areas of odorous and/or stained soil were encountered within and proximate to Area 11. Soil samples collected from this odorous and/or stained soil, and from the floor and sidewalls of utility infrastructure trenches did not contain petroleum hydrocarbon constituents at concentrations exceeding PCULs (Figure 5; Table 1). Although soil did not contain petroleum hydrocarbon constituents at concentrations exceeding PCULs, a total of approximately 600 tons of soil exhibiting visual and olfactory evidence of petroleum-impacts was transported off the Site for disposal at an approved waste disposal facility during the interim action.

A 350-gallon UST was encountered at a depth of approximately 8 feet bgs during utility infrastructure trenching activities in 2020. A sample of liquid product collected from the UST

contained detectable concentrations of DRO, ORO, GRO, and petroleum VOCs. The UST was permanently decommissioned by removal in accordance with the UST regulations established in WAC 173-360A and Ecology's UST Guidance (Ecology 2021). During decommissioning, approximately 320 gallons of liquid was removed from the UST for off-Site disposal.

Petroleum-impacted soil was excavated proximate to the UST to the maximum extent practicable. GRO exceeded PCULs in a single soil sample collected from the northern extent of the excavation at a depth of 10 feet bgs (Figure 5; Table 1). The lateral extent of the excavation could not be expanded further to the north due to the proximity of the 60-inch-diameter stormwater line installed during redevelopment activities (Figure 2). Petroleum hydrocarbon constituents either were reported non-detect at the laboratory PQL or were detected at concentrations less than the RLs in the remaining confirmation soil samples collected from the base and sidewalls of the excavation. A total of approximately 270 tons of petroleum-impacted soil was excavated to a depth of up to 14 feet bgs proximate to the UST for off-Site disposal.

3.12 AREA 12: FORMER OLD HUMBLE OIL SERVICE STATION

Area 12 is at the northwestern corner of the Site and is the location of a former automobile service station known as "Old Humble Oil" at 10056 East Marginal Way South (Figure 3). The facility was previously enrolled in Ecology's VCP as the Humble Oil Gas Station and was assigned VCP Project No. NW0125.

Area 12 was historically the location of a fuel service station with four gasoline, diesel fuel, and heating oil USTs ranging from 600 to 6,000 gallons, and one dry well used for disposal of waste oil (Figure 3). All features related to Old Humble Oil were reportedly removed in 1989.

Petroleum releases were identified at the former service station, primarily associated with the dry well used for disposal of waste oil. In 1991, approximately 510 cubic yards of soil was excavated, and 11,000 gallons of groundwater was removed for disposal off the Site. Subsequent groundwater extraction was periodically performed at two monitoring wells located down-gradient of the identified releases. Results from additional groundwater monitoring performed until 1993 indicated that concentrations of petroleum constituents in groundwater had decreased over time to less than PCULs.

Soil samples collected from borings advanced along the northern Site boundary in 1998 did not contain DRO and ORO at concentrations exceeding PCULs (Figure 7; Table 1). Based on the cumulative soil and groundwater results, Ecology (1998) issued a No Further Action determination for Area 12 in December 1998.

During utility infrastructure trenching conducted as part of Site redevelopment between January and March 2023, visual and/or olfactory evidence of potential petroleum-impacted soil were identified in two localized areas within and proximate to Area 12. A soil sample collected from a stockpile of soil excavated during trenching activities contained GRO at a concentration exceeding PCULs, and soil samples collected at the limits of the utility trenches did not contain petroleum hydrocarbon constituents at concentrations exceeding PCULs, indicating that all petroleum-impacted soil had been removed and additional excavation beyond the limits of the utility trenches was not warranted (Figure 7; Table 2). A total of approximately 160 tons of petroleum-impacted soil was removed from Area 12 for off-Site disposal during the interim action and Site redevelopment.

3.13 AREA 13: FORMER NORTHWEST AUTO WRECKING PROPERTY

Area 13 is on the western portion of the Site and is referred to as the Former NWAW Property, which was used for automobile wrecking and parts salvaging from 1958 until approximately 2007 (Figure 3). The facility was previously enrolled in Ecology's VCP as the Northwest Auto Wrecking Site and was assigned VCP Project No. NW1812.

The western portion of Area 13 contained several structures and features, including multiple USTs, hoists, parts cleaners, and a dismantling shop. The remaining portions of Area 13 were used primarily to store wrecked automobiles and parts on bare ground or other unpaved surfaces (Figure 3). Investigation activities conducted on Area 13 between 1996 and 2009 identified impacts of petroleum hydrocarbon constituents, polychlorinated biphenyls, PAHs, and metals in soil, groundwater, and/or stockpile samples collected in Area 13. Interim action activities conducted between 2007 and 2010 under Ecology's VCP included demolition of existing structures and pavement, removal of existing petroleum- and lead-impacted soil stockpiles, removal of former USTs, hoists, and excavation of associated petroleum-impacted soil. Interim action activities conducted between 2007 and 2010 resulted in off-Site disposal of approximately 12,640 tons of petroleum-, metals-, PCB-, and PAH-impacted soil. In some portions of Area 13, petroleum-impacted groundwater also was

extracted for disposal off the Site. Confirmational soil samples were collected at the extent of the remedial excavations and indicated the following:

- Of the 80 soil samples submitted for laboratory analysis for petroleum hydrocarbon constituents, only six soil samples exceeded the PCULs for DRO, GRO, benzene, and ethylbenzene (Figure 7; Table 1);
- PCBs were detected at a concentration exceeding PCULs in a single soil sample (Figure 10; Table 4);
- Arsenic and cadmium were detected at concentrations exceeding PCULs in several shallow soil samples, and copper and zinc were each detected at concentrations exceeding PCULs in a single shallow soil sample (Figure 11; Table 10); and
- cPAHs and halogenated volatile organic compounds (HVOCs) were not detected at concentrations exceeding PCULs in soil samples submitted for analysis (Figures 8 and 9; Tables 2 and 3).

Following the completion of remedial actions in Area 13, Ecology's VCP (2011) provided an opinion letter regarding the actions performed to date. The Ecology opinion letter stated that cleanup standards for Area 13 had been met for petroleum hydrocarbon constituents, chromium, lead, arsenic, cadmium, and PAHs in soil, but that further action was required to clean up petroleum hydrocarbon constituents, lead, and arsenic in groundwater. The VCP determination was based on comparison of analyte concentrations with the MTCA Method A groundwater and soil (unrestricted land use) cleanup levels, which are generally higher than the most-stringent PCULs for the hazardous substances identified at the Site.

DRO, ORO, GRO, benzene, and/or 1-methylnaphthalene have been intermittently detected at concentrations exceeding PCULs in groundwater samples collected from monitoring well DOF-2 during groundwater monitoring events conducted between 2009 and 2019. Groundwater samples collected from remaining monitoring wells in Area 13 did not contain hazardous substances at concentrations exceeding PCULs, with the exception of arsenic and manganese, which were detected at concentrations exceeding PCULs in several monitoring wells since 2009 (Figure 11; Table 10).

Additional investigation and interim action excavation activities were conducted in Area 13 between June 2020 and January 2024 in conjunction with Site redevelopment. Multiple temporary construction stormwater ponds were constructed and abandoned in Area 13 as part of Site redevelopment, and impacts of petroleum hydrocarbons, PCBs, and lead were identified in soil.

Interim action excavation activities conducted in conjunction with Site redevelopment resulted in discovery and removal of approximately 405 tons of petroleum-impacted soil containing GRO at concentrations exceeding PCULs in the eastern portion of Area 13 (Figure 7; Table 1). In addition, approximately 345 tons of brick and concrete debris containing PCBs at a concentration exceeding direct-contact PCULs was discovered between depths of 8 and 10 feet bgs and excavated for off-Site disposal beneath a former stormwater pond in the northeastern portion of Area 13 (Figures 4 and 10; Table 4). The excavation of PCB-impacted brick and concrete debris was conducted based on discussions with Ecology regarding the potential for PCBs in soil to impact groundwater (Ecology 2022b).

During the interim action and Site redevelopment, a shallow layer of brick and concrete debris was encountered beneath portions of Area 13 between depths of approximately 2 and 4 feet bgs. According to a Remedial Action Report prepared by Dalton, Olmstead, and Fuglevand, Inc. (DOF) in 2009 (DOF 2009), brick and concrete debris from the former Rainier Cold Storage facility at 6000 Airport Way South in Seattle was reportedly used to grade the surface of Area 13 following cleanup action activities conducted by the previous property owner in 2008. Soil samples collected from the layer of shallow brick and concrete in May 2022 contained PCBs and lead at concentrations exceeding the most stringent PCULs but less than direct contact PCULs, with the exception of lead, which was detected at a concentration exceeding the direct contact PCUL in two soil samples (Figures 10 and 11; Tables 4 and 5).

The layer of shallow brick and concrete debris was capped by impermeable surfaces including buildings and pavement during Site redevelopment. Ecology indicated that the impermeable cap constructed as part of Site redevelopment was anticipated to be sufficient to eliminate the direct contact pathway and minimize the potential for stormwater infiltration and soil erosion (Ecology 2022b). In addition, PCBs have been reported non-detect at the laboratory PQL in all groundwater samples collected at the Site, and lead has not been detected in groundwater at concentrations exceeding PCULs (Tables 10 and 11).

Additional information regarding interim action activities conducted in Area 13 between 2020 and 2024 is presented in the IAPR and Interim Action Report (Farallon 2025).

3.14 CONSTRUCTION STORMWATER TREATMENT, MONITORING, AND DISCHARGE

Construction stormwater and dewatered groundwater generated during Site redevelopment was conveyed to temporary stormwater detention ponds constructed in Area 13 during Site redevelopment (Figure 4). Stormwater in the ponds was pumped into a construction

stormwater treatment system prior to discharge to the municipal stormwater system in the East Marginal Way right-of-way. The construction stormwater treatment system was monitored and sampled to evaluate stormwater quality parameters and maintain compliance with Indicator Levels and/or discharge limits established in Construction Stormwater General Permit (CSWGP) No. WAR308823 and Administrative Order Docket No. 18101 (Administrative Order) issued by the Ecology Water Quality Program in April 2020.

As described in the Interim Action Report, a total of approximately 98 million gallons of water was discharged to the LDW from the Site during interim action and redevelopment activities between August 2020 and December 2024.

3.15 STORMWATER UTILITY INFRASTRUCTURE IMPROVEMENTS

The interim action and Site redevelopment included significant stormwater utility improvements between 2020 and 2024, including replacement and rerouting of existing stormwater utility infrastructure and installation of new stormwater lines to accommodate plans for Site redevelopment. Stormwater utility improvements included the following:

- Decommissioning of the existing 60-inch-diameter Washington State Department of Transportation (WSDOT) stormwater line that crossed the southern portion of the Site;
- Decommissioning of existing stormwater infrastructure in the eastern and northeastern portions of the Site;
- Installation of a new 60-inch-diameter WSDOT stormwater line transecting the southern portion of the Site before discharging to the LDW; and
- Installation of a new catch basin and stormwater line network equipped with Biopod biofiltration vaults on the eastern and northeastern portions of the Site, which discharges to a stormwater line in the Norfolk Street right-of-way.

The final components of the Site stormwater system will be installed during construction of Building 5 in the central portion of the Site. The layout of existing stormwater infrastructure on the Site is presented on Figure 2.

3.16 PERMANENT STORMWATER INFRASTRUCTURE EVALUATION

A permanent stormwater infrastructure evaluation was conducted on the Site in April 2022 in response to a request from Ecology to evaluate stormwater solids in permanent stormwater infrastructure on the Site for the presence of PCBs (Ecology 2022a). As

described in Ecology's 2023 Source Control Evaluation Report (Ecology 2023a), beginning in 2021 Ecology requested assistance from Seattle Public Utilities with source tracing of PCBs that were discovered to have increased in LDW sediment samples collected near the South Norfolk Street Combined Sewer Outfall (CSO) approximately 0.17 mile west of the Site. Stormwater system solids samples collected by Ecology and SPU identified elevated concentrations of PCBs in a stormwater solids sample collected from a stormwater pipe beneath South Norfolk Street north of the Site, which discharges to the South Norfolk Street CSO (Ecology 2022a).

The permanent stormwater infrastructure evaluation consisted of evaluating five catch basins on the Site, including three newly installed catch basins in the northern portion of the Site that discharge to the stormwater pipe beneath South Norfolk Street (CB-21, CB-23, and CB-24), and two located at the upstream and downstream ends of the WSDOT 60-inch stormwater line (WSDOT-1 and WSDOT-9) that passes beneath the Site and discharges to the LDW (Figure 17).

Catch basin solids samples were collected from CB-23 and CB-24 in the northern portion of the Site. No catch basin solids were observed to be present in the remaining catch basins evaluated. Total PCB Aroclors were detected at a concentration of 0.035 milligrams per kilogram (mg/kg) in the solids sample collected from catch basin CB-23, proximate to the South Norfolk Street discharge location, and were reported non-detect at the laboratory PQL in catch basin CB-24, located upstream of CB-23 (Figure 17; Table 13). As described in Ecology's 2023 Source Control Evaluation Report (Ecology 2023a), the Site was not identified as a specific ongoing source of PCBs to public stormwater infrastructure.

4.0 CONCEPTUAL SITE MODEL

This section presents a preliminary CSM based on data collected at the Site to date. The CSM includes discussion of the source areas and premise of the releases, COPCs, selected screening levels, media of potential concern, potential exposure pathways and receptors, contaminant fate and transport, and nature and extent of contamination based on existing data. Figure 18 illustrates the preliminary CSM for the Site.

4.1 PREMISE OF PROJECT

The Site, as defined under the Agreed Order, is where hazardous substances, other than consumer products in consumer use, have been deposited, stored, disposed of, placed, or otherwise come to be located. Based on the most recent data, the Site generally comprises limited areas of residual impacts in the central, western, and southern portions of the Site and a portion of the west-adjoining East Marginal Way South right-of-way. Contamination requiring cleanup under MTCA exists on the Site as a result of releases associated with historical operations on the Site, including former fuel service stations, vehicle repair and maintenance activities, and automobile wrecking operations. Previous interim actions have resulted in the removal and/or remediation of most contaminated media on the Site, with limited residual impacts left in place in localized areas following the most recent interim action conducted concurrently with Site redevelopment.

4.2 CONTAMINANTS OF POTENTIAL CONCERN

COPCs are identified as hazardous substances that have been detected in soil and/or groundwater during previous investigations and interim actions at concentrations exceeding applicable PCULs. As discussed in Section 1.3.2, a data screening process was conducted to select COPCs and RLs for the interim action. As part of this RI Work Plan, the data screening process was updated to reflect the current, post-interim action soil and groundwater conditions. A multi-tiered statistical screening process was conducted in accordance with WAC 173-340-703 and 173-340-708(2) to derive the COPCs for the RI. The screening process included calculation of sample statistics for chemicals analyzed in soil and groundwater samples collected from the Site. The summary statistics were compared to specific criteria to support the retention or elimination of COPCs for the RI.

In accordance with WAC 173-340-747(9), groundwater data were used to demonstrate empirically that soil concentrations would not cause an exceedance of the applicable PCULs.

If groundwater data demonstrated that the soil leaching to groundwater pathway was incomplete, the applicable PCULs were removed from the screening process (Section 4.4).

4.2.1 Sample Statistics

The following statistics were calculated for each chemical:

- Number of samples;
- Number of detections;
- Detection frequency;
- Maximum detected concentration;
- Frequency of exceedance; and
- Maximum exceedance factor.

Sample statistics for soil and groundwater are summarized in Tables 14 and 15.

The sample statistics do not include analytical results from reconnaissance groundwater samples. Reconnaissance groundwater samples are collected from open borings with limited to no development prior to sampling. This typically results in increased sample turbidity, which can bias detected chemical concentrations high, particularly for metals and hydrophobic organic compounds. If no exceedances are detected in reconnaissance groundwater samples, there is a high level of confidence that contaminant concentrations in the groundwater are less than PCULs at that location. Groundwater samples collected from properly installed and developed monitoring wells are considered to be most representative of groundwater quality. During the screening process, reconnaissance groundwater data were evaluated in areas where concentrations of one or more of the COPCs detected in reconnaissance groundwater samples exceeded PCULs. Analytical results from nearby monitoring wells and/or reconnaissance groundwater sampling locations indicated the detected chemical concentrations in the reconnaissance groundwater samples were likely biased high.

4.2.2 Elimination Criteria

Following calculation of the sample statistics, the results were compared in a sequential manner to the following criteria to determine whether the chemical should be retained or eliminated as a COPC for soil and groundwater:

1. Eliminated chemicals without a PCUL.

2. Eliminated chemicals that were never detected if less than 20 percent of the PQLs exceeded the PCUL.
    - If the PQL frequency of exceedance was greater than 20 percent, eliminated the chemical if the maximum PQL was less than 10 times the PCUL.
    - If the maximum PQL exceeded the PCUL by greater than 10 times, eliminated the chemical if the median reporting limit was less than 5 times the achievable PQL.
3. Eliminated chemicals that did not exceed the most stringent PCUL for both detects and non-detects.
4. If a chemical was detected at a frequency of less than 10 percent and all detected concentrations were less than the PCUL, eliminated the chemical if the PQLs met the criteria specified in Item 2.
5. Eliminated chemicals that were detected at concentrations exceeding PCULs if: 1) the detected concentrations did not exceed two times the PCUL; and 2) the PCUL frequency of exceedance for the samples was less than 10 percent.
6. For every COPC identified in soil, groundwater data were evaluated to determine whether the soil to groundwater leaching pathway was complete. If empirical evidence indicated that groundwater had not been impacted (i.e., groundwater results did not exceed the most stringent PCUL), then the soil chemical concentration was compared to the direct contact PCUL instead of a partitioning to groundwater PCUL. If the soil chemical concentration did not exceed the direct-contact PCUL, the chemical was eliminated as a COPC. Additional site-specific information is provided in Section 4.0.
7. Where a chemical was detected at a concentration exceeding PCULs within a limited area, the compound was retained as a COPC within that area only.

Tables 14 and 15 identify which chemicals were eliminated, the rationale for the elimination, and which chemicals were retained as COPCs for groundwater and soil, respectively. Table 16 provides the evaluation of soil COPCs against direct contact PCULs where no impacts to groundwater were identified. Table 17 identifies the COPCs that are applicable for each area of the Site. Based on the results of the statistical screening process, the following COPCs were retained for the RI:

- DRO and ORO combined;

- GRO;
- Naphthalene;
- Arsenic;
- Copper; and
- Manganese.

During preparation of the Draft Cleanup Action Plan, once cleanup levels have been selected, COPCs exceeding final cleanup levels will be retained as contaminants of concern (COCs) for the permanent cleanup action, and remaining COPCs will be eliminated.

4.3 SCREENING LEVEL SELECTION

Screening levels for the RI were established based on potential exposure pathways and receptors to identify a conservative basis for defining the extent of contamination for each COPC and medium of concern at the Site. The procedures for selecting RI screening levels for soil, groundwater, and soil gas at the Site are summarized in the following sections.

Screening levels established for the RI may or may not be selected as final cleanup levels for the Site. Selected screening levels for the RI are summarized in Table 18.

4.3.1 Soil Screening Levels

Soil screening levels are based on the PCULs for the LDW, which are listed below:

PCUL Number	PCUL Name
SL-1	Direct contact under unrestricted land use
SL-2	Vadose zone protection of drinking water
SL-3	Vadose zone protection of surface water via ground water
SL-4	Vadose zone protection of sediment via ground water
SL-5	Saturated zone protection of drinking water
SL-6	Saturated zone protection of surface water via ground water
SL-7	Saturated zone protection of sediment via ground water
SL-8	Protection of sediment via bank erosion or soil transport through a storm drain
SL-9	Site-specific Terrestrial Ecological Evaluation (TEE) for unrestricted land use
SL-10	Natural background concentration

The following have been identified as potential soil transport pathways for Sites in the vicinity of the LDW: direct contact (SL-1); leaching of soil contaminants to potable groundwater from the vadose zone (SL-2) or the saturated zone (SL-5); leaching of soil

contaminants to the vadose zone (SL-3) or the saturated zone (SL-6) to groundwater followed by transport to surface water; leaching of soil contaminants from the vadose zone (SL-4) or the saturated zone (SL-7) to groundwater followed by partitioning to sediment; transport of soil into stormwater infrastructure that discharges to the LDW (SL-8); and protection of terrestrial plants and animals (SL-9). Also, if the PCUL is less than the natural background concentrations for the COPC, it is adjusted to the natural background concentration (SL-10).

The PCULs for potable groundwater (SL-2 and SL-5) do not apply to the Site because groundwater beneath the Site is considered non-potable based on the criteria presented in Section 4.3.2.1. The PCULs for transport of soil into stormwater infrastructure that discharges to the LDW (SL-8) do not apply to the Site because stormwater infrastructure on the Site was recently replaced during Site redevelopment and the Site is currently covered by impermeable surfaces, eliminating the transport pathway of soil to stormwater. PCULs for protection of terrestrial plants and animals (SL-9) do not apply to the Site since the Site is anticipated to qualify for a TEE exclusion as described in Section 4.6.7.

Groundwater data were evaluated to determine whether the soil to groundwater leaching pathway was complete. If empirical evidence indicated that groundwater had not been impacted (i.e., groundwater results did not exceed the most stringent applicable PCUL), then the direct contact PCUL (SL-1) will apply to the Site.

PCULs evaluated for use as soil screening levels and selected screening levels by COPC are presented in Table 18.

4.3.2 Groundwater Screening Levels

Groundwater screening levels are based on the PCULs for the LDW, which are listed below:

PCUL Number	PCUL Name
GW-1	Drinking water
GW-2	Protection of surface water
GW-3	Protection of sediment
GW-4	Protection of air
GW-5	Natural background concentration

The following have been identified as potential groundwater transport pathways for the LDW: groundwater contaminants in a potable aquifer (GW-1); transport of contaminated groundwater to surface water (GW-2); partitioning of groundwater contamination to

sediment (GW-3); and volatilization of contaminated groundwater followed by intrusion into a building (GW-4). Also, if the PCUL is less than the natural background concentrations for the COPC, it is adjusted to the natural background concentration (GW-5).

Based on current Site conditions, the PCUL for potable groundwater (GW-1) does not apply to the Site. The remaining PCULs (GW-2 through GW-5) are applicable for the Site.

PCULs evaluated for use as groundwater screening levels and selected screening levels by COPC are presented in Table 18.

4.3.2.1 Non-Potable Groundwater Determination

In accordance with MTCA, groundwater cleanup levels are based on estimates of the highest beneficial use, which is drinking water, unless the Site meets the criteria for non-potable groundwater listed in WAC 173-340-720(2). Because groundwater at the Site meets the criteria for non-potable groundwater, it is considered non-potable and the PCULs protective of drinking water (SL-2, SL-5, and GW-1) do not apply to the Site.

These criteria, together with a description of how the criteria are met, are provided below:

1. WAC 173-340-720(2)(a): "The ground water does not serve as a current source of drinking water."
    - The City of Seattle currently supplies drinking water to the Site.
    - There are no drinking water supply wells at the Site or any identified within a 1-mile radius.
2. WAC 173-340-720(2)(c): ". . . it is unlikely that hazardous substances will be transported from the contaminated ground water to ground water that is a current or potential future source of drinking water . . . at concentrations which exceed ground water quality criteria published in chapter 173-200 WAC."
    - Hydraulic gradients are generally upward between the upper and lower groundwater zones, limiting the potential for contaminants in the upper groundwater zone to migrate to the lower groundwater zone (Booth and Herman 1998). Based on this information, contaminated groundwater at the Site will not flow vertically downward into a deeper aquifer that could be a potential future source of drinking water.
3. WAC 173-340-720(2)(d): "Even if groundwater is classified as a potential future source of drinking water . . . there may be sites where there is an extremely low

probability that the ground water will be used for that purpose because of the site's proximity to surface water that is not suitable as a domestic water supply. . . . At such sites, the department may allow ground water to be classified as nonpotable . . . if each of the following conditions can be demonstrated."

- WAC 173-340-720(2)(d)(ii): "There are known or projected points of entry of the ground water into the surface water."
- Shallow groundwater is known to discharge to the LDW (Booth and Herman 1998).
- WAC 173-340-720(2)(d)(iii): "The surface water is not classified as a suitable domestic water supply source under chapter 173-201A WAC."
- Per WAC 173-201A-602, the designated uses of the LDW do not include use as a domestic water supply.
- WAC 173-340-720(2)(d)(iv): "The ground water is sufficiently hydraulically connected to the surface water that the ground water is not practicable to use as a drinking water source."

Groundwater at the Site is hydraulically connected with the LDW; tidal effects on groundwater are described in Section 2.4.2. If groundwater at the Site was used as source for drinking water, there is potential to draw brackish water into the shallow water-bearing zone resulting in increased salinity in groundwater at the Site.

4.3.3 Soil Gas Screening Levels

Soil gas screening levels for protection of indoor air for unrestricted land use (SG-1) are the only soil gas screening levels established for the LDW. However, based on current and anticipated future use of the Site for commercial and industrial warehousing and distribution, MTCA Method B soil gas screening levels for a commercial exposure scenario are appropriate for the Site.

To date, only four soil gas samples have been collected at the Site in Area 6 in 2016. All four soil gas samples were collected within or proximate to the limits of the interim action excavation conducted in June 2020, and 2016 soil gas sampling results are no longer representative of subsurface conditions. Soil gas samples collected during the RI will be screened against MTCA Method B soil gas screening levels for a commercial exposure scenario (Table 18) in accordance with the procedures established in Ecology's Vapor Intrusion Guidance (Ecology 2009) (VI Guidance).

4.4 MEDIA OF POTENTIAL CONCERN

The following sections evaluate confirmed and potential media of concern at the Site.

4.4.1 Soil

Soil is a confirmed medium of concern because residual COPCs remain in soil at concentrations exceeding applicable PCULs following completion of the interim action. Discussion of the nature and extent of remaining soil impacts is presented in Section 4.7.2.

4.4.2 Groundwater

Groundwater is a confirmed medium of concern because COPCs were present in groundwater at concentrations exceeding applicable PCULs prior to implementation of the interim action and post-interim action groundwater monitoring has not been conducted. Discussion of the nature and extent of pre-interim action groundwater impacts is presented in Section 4.7.3.

4.4.3 Indoor Air

Indoor air is considered to a medium of potential concern and will be evaluated in accordance with Ecology's VI Guidance until sufficient information has been collected during the RI to demonstrate whether the pathway is complete or incomplete.

The vapor intrusion pathway for residual petroleum impacts in Area 7 and Area 11 is considered incomplete because the distance between the location of petroleum impacts and the nearest building is greater than the 30-foot horizontal separation distance established in Ecology's VI Guidance. The vapor intrusion pathway is considered potentially complete for residual impacts of petroleum hydrocarbons in Area 2 because the distance between the location of residual petroleum impacts and the nearest building (Building 1) is less than the 30-foot horizontal separation distance established in Ecology's VI Guidance.

4.4.4 Surface Water and Sediment

Surface water and sediment are considered media of potential of concern until sufficient information has been collected during the RI. The RI will evaluate whether COPCs remain in soil and/or groundwater at concentrations exceeding screening levels for protection of surface water and sediment. Surface water and sediment will be eliminated as media of concern if groundwater analytical data collected during the RI confirms that concentrations of COPCs in groundwater demonstrate that groundwater to surface water pathway is incomplete. Based on the most recent groundwater samples collected on the Site between

2019 and 2022, the groundwater to surface water and sediment transport pathways are incomplete.

New stormwater infrastructure, which was evaluated during Ecology's 2023 Source Control Evaluation (Ecology 2023a), eliminates the potential for soil transport to sediment via storm drains, and eliminates the potential for groundwater to enter stormwater infrastructure and reach surface water and/or sediment. If necessary, based on operations, tenants would procure coverage under Ecology's Industrial Stormwater General Permit to prevent discharge of contaminants to surface water.

4.5 FATE AND TRANSPORT

Fate and transport pathways describe how contaminants released to the environment are transported and come to be located in media of potential concern for the Site. A summary of the contaminant fate and transport pathways applicable to the Site is presented in the following sections.

4.5.1 Soil to Groundwater

The soil to groundwater pathway represents the potential for impacts of COPCs in soil to migrate to groundwater. The completeness of the soil to groundwater pathway is based on several factors, including the location and depth of soil impacts relative to groundwater, surface conditions and the potential for stormwater to infiltrate the ground surface, and the locations of soil impacts relative to Site features such as subsurface utilities. The soil to groundwater pathway is considered complete due to confirmed impacts of petroleum hydrocarbons in contact with groundwater in Area 7, resulting in confirmed impacts to groundwater. The soil to groundwater transport pathway is considered potentially complete for residual PCS in Area 2 and Area 11, pending collection of additional groundwater data during the RI.

Significant source removal during interim actions has reduced or eliminated the potential soil to groundwater leaching pathway in many areas of the Site. In addition, Site redevelopment resulted in much of the Site being covered in impermeable surfaces such as buildings and asphalt and/or concrete pavement, reducing or eliminating the potential for stormwater to infiltrate the ground surface and leach COPCs from soil to groundwater. Site redevelopment also resulted in replacement of the stormwater infrastructure on the Site, reducing or eliminating the potential for leaking stormwater infrastructure to transport

COPCs from soil to groundwater. The soil to groundwater pathway will be further evaluated with implementation of a groundwater monitoring program during the RI.

4.5.2 Groundwater to Surface Water and Sediment

The groundwater to surface water and sediment pathway considers whether impacts of COPCs in groundwater are migrating to surface water and/or sediment. As described in Section 2.4.3, the nearest surface water body is the LDW, less than 0.1 mile west of the Site. As described in Section 4.4.4, based on the most recent groundwater samples collected at the Site, the groundwater to surface water pathway is incomplete, indicating that the surface water to sediment pathway is also incomplete. The groundwater to surface water and sediment pathway will be further evaluated with implementation of a groundwater monitoring program during the RI.

4.6 POTENTIAL RECEPTORS AND EXPOSURE PATHWAYS

The following sections evaluate potential human and ecological receptors and exposure pathways for potential receptors to come in contact with contaminated media associated with the Site.

4.6.1 Soil Direct Contact

The soil direct contact pathway is considered complete since construction and/or utility workers could come in contact with shallow impacted soil during future subsurface work. Residual impacted soil is currently capped by pavement and/or buildings but could be exposed if pavement and/or buildings were to be removed.

4.6.2 Groundwater Direct Contact

The groundwater direct contact pathway is considered complete since construction and/or utility workers could come in contact with impacted groundwater if dewatering is conducted during future subsurface work. Areas of impacted soil and/or groundwater currently are capped by pavement and/or buildings, but could be exposed if pavement and/or buildings were to be removed.

4.6.3 Soil and Groundwater Ingestion

Soil and groundwater ingestion pathways are considered incomplete since soil is currently capped by buildings and pavement, and groundwater in the vicinity of the Site is not used for drinking water purposes and is considered non-potable as described in Section 2.4.3 and Section 4.3.2.1.

4.6.4 Soil to Groundwater Leaching

As described in Section 4.7.1, the soil to groundwater pathway is considered complete due to confirmed impacts of petroleum hydrocarbons in soil that are in contact with groundwater in Area 7 and Area 11. Much of the Site currently is capped by pavement and/or buildings that will reduce or eliminate surface infiltration of stormwater, which may leach COPCs from shallow soil to groundwater.

4.6.5 Groundwater to Surface Water and Sediment

As described in Section 4.4.4, the groundwater to surface water and sediment pathways are most likely incomplete based on the most recent groundwater monitoring results. This exposure pathway will be further evaluated during the RI.

4.6.6 Vapor Inhalation

The vapor inhalation pathway is considered potentially complete in Area 2 since residual impacts of petroleum hydrocarbons left in place are within the 30-foot horizontal separation distance established in Ecology's VI Guidance. The vapor inhalation pathway is considered incomplete for residual impacts of petroleum hydrocarbons in Area 7 and Area 11 because there are no buildings located within the 30-foot horizontal separation distance established in Ecology's VI Guidance. The vapor inhalation pathway will be further evaluated in Area 2 during the RI.

4.6.7 Terrestrial Ecological Evaluation

A Terrestrial Ecological Evaluation (TEE) is required by WAC 173-340-7490 at any site where there has been a release of a hazardous substance to soil. The regulation requires that one of the following actions be taken:

- Documenting a TEE exclusion using the criteria presented in WAC 173-340-7491;
- Conducting a simplified TEE in accordance with WAC 173-340-7492; or
- Conducting a site-specific TEE in accordance with WAC 173-340-7493.

Based on the criteria for a TEE exclusion in WAC 173-340-7491(1)(b), and current conditions, the Site likely qualifies for a TEE exclusion since all soil impacted with hazardous substances is or will be covered by buildings, paved roads, pavement, or other physical barriers that will prevent plants or wildlife from being exposed to soil contamination.

4.7 NATURE AND EXTENT OF CONTAMINATION

The nature and extent of contamination at the Site has largely been defined based on previous investigations and interim actions, except for the remaining data gaps discussed in Section 4.8. The following sections present a summary of the current understanding of the nature and extent of contamination at the Site based on existing data. Analytical results for select COPCs in soil and groundwater at the Site are presented on Figures 5 through 16 and in Tables 1 through 11.

4.7.1 Confirmed Source Areas

Remaining confirmed source areas at the Site include residual impacts of petroleum hydrocarbons left in place at the limits of interim action excavations in Area 2, Area 7, and Area 11. Releases in these areas were associated with historical fueling operations and former USTs. Remedial excavation activities were conducted in these areas during the interim action as described in Section 3, but complete excavation of impacted soil in Area 2, Area 7, and Area 11 was not practicable due to proximity to subsurface utilities, building foundations, and/or the Site boundary. The estimated extent of remaining petroleum impacts in Area 2, Area 7, and Area 11 is shown on Figures 5 and 7. In addition, impacts of arsenic and/or naphthalene exceeding most-stringent PCULs have been identified in soil in Area 13 and/or east of Area 6, as described below. Analytical results for metals and naphthalene are shown on Figures 8 and 11.

4.7.2 Extent of Impacts in Soil

As described above, soil containing COPCs at concentrations exceeding PCULs was left in place at the limits of interim action excavations in Area 2, Area 7, and Area 11 during interim action activities due to proximity to subsurface utilities, building foundations, and/or the Site boundary. The extent of petroleum-contaminated soil left in place on the Site is summarized below:

- **Area 2:** A localized area of soil containing DRO and GRO at concentrations exceeding PCULs and interim action RLs was left in place at depths of approximately 5 to 7 feet bgs in the eastern sidewall of the Area 2 interim action excavation due to proximity to a high-pressure water line and the building foundations that limited the eastern extent of excavation activities.
- **Area 7:** Soil containing GRO and naphthalene at concentrations exceeding PCULs and interim action RLs was left in place between depths of approximately 10 to 15 feet bgs in the western sidewall of the Area 7 interim action excavation due to proximity to

a high-pressure water line and the western Site boundary. Soil samples collected in the East Marginal Way South right-of-way west of the interim action excavation area confirmed that petroleum-impacted soil extends beneath the public right-of-way but does not extend to monitoring well FMW-04 on the west side of East Marginal Way South (Figures 7A and 7B).

- **Area 11:** A localized area of soil containing GRO at concentrations exceeding PCULs and interim action RLs was left in place at a depth of approximately 10 feet bgs in the northern sidewall of the interim action UST excavation due to proximity to a 60-inch WSDOT stormwater line that was newly installed during redevelopment (Figures 5A and 5B).

In addition to the areas of petroleum-impacted soil described above, naphthalene also was detected at a concentration exceeding the most-stringent PCUL in a single vadose-zone soil sample collected at the limits of the UST excavations conducted east of Area 6 in October 2020 (Figure 8; Table 2). Naphthalene was detected at a concentration of 0.16 milligrams per kilogram (mg/kg), exceeding the most-stringent PCUL of 0.039 mg/kg but less than the direct contact PCUL of 1,600 mg/kg. The completed excavation area was capped by asphalt pavement, and groundwater samples collected - of the excavation area prior to the interim action did not contain naphthalene at concentrations exceeding PCULs, indicating that the soil to groundwater pathway in this area is incomplete and the direct contact PCUL is applicable for naphthalene east of Area 6.

Arsenic was detected at concentrations exceeding PCULs in several shallow vadose zone soil samples collected from Area 13 (Figure 11; Table 5). Prior to the interim action, much of Area 13 was comprised of unpaved surfaces. Remaining exceedances of arsenic left in place following completion of the interim action are not in contact with groundwater and have been capped with impermeable pavement and buildings, eliminating the potential for surface stormwater infiltration to leach impacts to groundwater.

4.7.3 Extent of Impacts in Groundwater

Prior to the interim action and Site redevelopment, a network of 14 monitoring wells was maintained on the Site (Figure 3). During the interim action, 12 of the 14 on-site monitoring wells were decommissioned to support Site redevelopment, and one monitoring well (FMW-04) was installed in the East Marginal Way South right-of-way west of the Site. Monitoring wells DOF-2 and MW-101 also remain in the western and southern portions of the Site, respectively.

The most recent groundwater samples collected from monitoring wells on the Site between 2019 and 2022 indicated that COPCs were detected in groundwater at concentrations exceeding PCULs in the following areas:

- DRO and ORO were detected at a combined concentration exceeding PCULs in the groundwater sample collected from monitoring well DOF-2 in the western portion of Area 13 in 2019 (Figure 12; Table 7). DRO, ORO, and GRO either were reported non-detect at the laboratory PQL or were detected at concentrations less than PCULs in the remaining groundwater samples collected from monitoring wells between 2019 and 2022.
- Naphthalene was detected at a concentration slightly exceeding PCULs in the groundwater sample collected from monitoring well FMW-01 along the western edge of the Area 7 interim action excavation (Figure 13; Table 8). Naphthalene either was reported non-detect at the laboratory PQL or was detected at concentrations less than PCULs in the remaining groundwater samples analyzed, including in FMW-04 on the west side of East Marginal Way South down-gradient of monitoring well FMW-01.
- Dissolved arsenic was detected at concentrations exceeding PCULs in groundwater samples collected from monitoring wells in Areas 2, 6, and 13 prior to implementation of the interim action. Dissolved arsenic was detected at a maximum concentration of 50.1 micrograms per liter (µg/L) in monitoring well MW-101 in Area 2, compared to the PCUL of 8 µg/L. Monitoring wells containing elevated concentrations of arsenic generally were located proximate to petroleum impacts in soil, which may increase mobilization of arsenic in groundwater due to reducing conditions as a result of natural degradation of petroleum hydrocarbons. Petroleum-impacted soil was excavated from Areas 2, 6, and 13 during the interim action, and as described in Section 4.4.2, a localized area of petroleum impacts was left in place in Area 2.
- Dissolved copper was detected at concentrations exceeding PCULs in MW-AG1 located in Area 6, and in monitoring well DOF-3 located in the northwestern portion of Area 13 along the western boundary of the Site. Dissolved copper was detected at a maximum concentration of 8.87 µg/L in monitoring well DOF-3, compared to the PCUL of 3.1 µg/L. Dissolved copper was reported at concentrations less than PCULs in the remaining monitoring wells at the Site (Figure 16; Table 10).
- Dissolved manganese was detected at concentrations exceeding PCULs in monitoring wells in Areas 2, 4, 6, 7, 11, and 13 (Figure 16; Table 10). Dissolved

manganese was detected at a maximum concentration of 4,060 µg/L in monitoring well MW-101, compared to the PCUL of 100 µg/L. During the interim action, elevated concentrations of manganese were reported in stormwater discharge under the CSWGP. In August 2020, Ecology issued an amendment to the CSWGP Administrative Order, which removed the requirement to monitor for manganese based on the rationale that applicable surface water criteria did not exist and because manganese is a necessary nutrient for mammals and plants and is not reported as toxic in any circumstance using EPA's Gold Book (EPA 1986). According to a Feasibility Study prepared for the 8801 East Marginal Way South cleanup site (FSID 2072) approximately 0.68 mile northwest of the Site, a draft report prepared by Ecology in 2014 regarding groundwater pathways in the Duwamish Basin indicated that elevated concentrations of manganese are naturally occurring proximate to the LDW, with a 90th percentile concentration of 2,500 µg/L.

4.8 DATA GAPS

Following completion of the interim action, data gaps were identified requiring additional investigation as part of the RI. The following sections identify remaining data gaps that will be evaluated during the RI.

4.8.1 Confirmed Source Areas

As described in Section 3.2, residual petroleum-impacted soil was left in place in Area 2, Area 7, and Area 11 during the interim action (Figure 19). The lateral and/or vertical extent of petroleum-impacted soil at the limits of the interim action excavation areas in Area 2, Area 7, and Area 11 has not been fully defined and represents a data gap for the Site. However, based on the nature of remaining petroleum impacts and existing analytical data in Area 2, Area 7, and Area 11, the extent of residual petroleum-impacted soil is anticipated to be limited and is currently capped by impermeable surfaces. Remaining source areas of COPCs were removed during the interim action, and no other confirmed source areas of COPCs have been identified on the Site.

4.8.2 Suspected Source Areas

Based on results of previous investigations and interim actions, all potential sources of contamination on the Site have been identified, and no suspected source areas of contamination remain on the Site beyond the confirmed source areas described in Section 4.8.1.

4.8.3 Site Groundwater

The most recent Site-wide groundwater monitoring event was conducted in 2019 prior to the interim action. Significant excavation activities, utility improvements, and redevelopment of the Site have been conducted since the 2019 groundwater monitoring event, and current groundwater conditions are unknown. Current groundwater conditions following completion of the interim action represent a data gap that will be evaluated during the RI. During the 2019 groundwater monitoring event, COPCs including DRO, ORO, GRO, and/or naphthalene were detected at concentrations exceeding screening levels in monitoring wells DOF-2 and FMW-01 along the western boundary of the Site. In addition, metals including arsenic, copper, and manganese were detected at concentrations exceeding screening levels in one or more groundwater samples collected prior to the interim action.

Additional groundwater monitoring is warranted during the RI to evaluate current groundwater conditions, including evaluating the downgradient extent of COPCs in groundwater and confirming that COPCs are not reaching the LDW and potentially impacting sediments and/or surface water.

4.8.4 Vapor Intrusion

As described in Sections 4.3.3 and 4.6.6, residual petroleum-impacted soil in Area 2 is located within the 30-foot horizontal separation distance for potential vapor intrusion established in Ecology's VI Guidance. Evaluation of soil gas conditions beneath Building 1 proximate to residual petroleum-impacted soil in Area 2 is warranted to evaluate the completeness of the vapor intrusion exposure pathway for occupants of Building 1. Remaining areas of residual petroleum-impacted soil are not located within 30 feet of buildings on the Site.

4.9 PER- AND POLYFLUOROALKYL SUBSTANCES

Ecology issued a letter on June 24, 2025 (Ecology 2025b) indicating that based on the potential historical use of per- and polyfluoroalkyl substances (PFAS)- containing materials at the Site, an investigation of PFAS compounds in Site media is required as part of the RI. To date, PFAS has not been analyzed in any samples collected from the Site.

Ecology's letter stated that the RI Report should include a summary of areas where PFAS-containing materials could have previously been or are currently stored and/or used at the Site and a summary of all known and potential releases at the Site. In addition, Ecology recommended using a phased investigation approach beginning with collection and analysis

of groundwater samples from existing Site monitoring wells. If PFAS are detected in groundwater samples from existing Site monitoring wells, additional assessment to characterize nature and extent may be required.

As part of this RI Work Plan, a preliminary evaluation of potential PFAS use at the Site was conducted. The known historical uses of the Site were compared to known and potential sources of PFAS and PFAS-containing products. The following historical Site uses were identified as potential sources of PFAS and PFAS-containing products.

- Automobile Wrecking. Automobile wrecking operations were historically conducted on the western portion of the Site. PFAS have been identified as being used in various components of automotive manufacturing, including wiring and cables, fuel delivery tubing, gaskets, and certain lubricants and coatings. No automotive manufacturing was conducted on the Site. PFAS may have been contained in automobile components brought to the Site. Automobiles were dismantled, as needed, and the general public could salvage parts from automobiles on the Site. However, automobiles were not shredded and automobile shredder residue was not generated at the Site.
- Truck Wash. A truck wash historically operated on the southern portion of the Site. PFAS-containing products such as coatings, waxes, and other sprays are known to be used in car washes for their water-repellent properties. There are no records that PFAS-containing products were used in operations associated with the Truck Wash.
- Dry Cleaner. A dry cleaner historically operated on the western portion of the Site. PFAS-containing products are known to be used in clothing, which can leach into wastewater during the dry-cleaning process. Considering that a release of dry-cleaning solvents associated with the historical dry cleaner has not been identified, it is unlikely that PFAS was released during dry cleaning operations on the Site.
- Aqueous firefighting foam (AFFF). There is no evidence that AFFF was used or stored on the Site, and there have been no known fire events or historical operations on the Site where AFFF likely would have been used.

North-adjoining properties are occupied by aviation and aerospace-related facilities, including Boeing Field and related aircraft maintenance facilities, which are commonly identified as users of PFAS in items such as mechanical components, fluids, and AFFF. AFFF has been identified as one of the most common sources of PFAS impacts, and facilities where AFFF was used or tested are often identified as locations of PFAS releases. According

to King County's webpage regarding PFAS, PFAS-containing AFFF was historically used at Boeing Field, and was removed from firefighting vehicles in 2024 (King County 2025).

5.0 SCOPE OF WORK

This section presents a scope of work to complete the RI to adequately characterize the Site and support development and evaluation of cleanup action alternatives through a Feasibility Study.

5.1 OBJECTIVES

The objectives of the RI scope of work include addressing remaining data gaps identified in Section 4.8, characterizing the nature and extent of contamination, and collecting sufficient data to support a feasibility study and selection of a permanent cleanup alternative. The scope of work includes installation of monitoring wells, groundwater monitoring, and conducting a vapor intrusion assessment.

5.2 INVESTIGATION ACTIVITIES

Details of planned RI activities are summarized in the following sections.

5.2.1 Monitoring Well Installation

The RI scope of work includes installation of three monitoring wells along the western boundary of the Site as shown on Figure 19. The three new monitoring wells (identified as FMW-05 through FMW-07) and existing monitoring wells MW-101, DOF-2, and FMW-04 will be used to evaluate post-interim action groundwater conditions. The monitoring wells are located proximate to areas where COPCs were left in place in soil at concentrations exceeding screening levels and/or along the down-gradient edge of the Site as described below.

- MW-101. Located down-gradient of soil with concentrations of DRO and GRO exceeding applicable screening levels that could not be excavated during the interim action.
- DOF-2. Located along the western boundary of the Site down-gradient of former remedial excavations in Area 13, and also located down-gradient of historical auto wrecking operations on the Site, which are a potential source of PFAS. DOF-2 contained DRO and ORO at combined concentrations exceeding the applicable screening level prior to the interim action.
- FMW-04. Located down-gradient of soil with concentrations of GRO and naphthalene exceeding applicable screening levels that could not be excavated during the interim action, and down-gradient of decommissioned monitoring well, which contained

naphthalene in groundwater at a concentration exceeding the applicable screening level prior to the interim action.

- FMW-05. Located down-gradient of soil with concentrations of GRO exceeding applicable screening levels that could not be excavated during the interim action, and down-gradient of the former Truck Wash, which has been identified as a potential source of PFAS.
- FMW-06. Located proximate to soil with concentrations of GRO and naphthalene exceeding applicable screening levels that could not be excavated during the interim action, and proximate to decommissioned monitoring well FMW-01, which contained naphthalene in groundwater at a concentration exceeding the applicable screening level prior to the interim action.
- FMW-07. Located proximate to decommissioned monitoring well DOF-3 along the northwestern boundary of the Site, down-gradient of significant excavation activities conducted in Area 6 and Area 13 during the interim action.

Monitoring wells will be installed in accordance with the procedures presented in the SAP included in Appendix A. Soil samples retained for potential laboratory analysis will be transported to a Washington State-accredited analytical laboratory under standard chain of custody-protocols for analysis of one or more of the following:

- DRO and ORO by Northwest Method NWTPH-Dx;
- GRO by Northwest Method NWTPH-Gx; and
- BTEX and naphthalene by EPA Method 8260D.

Upon reaching total depth, the monitoring wells will be completed with prepacked polyvinyl chloride well casing and approximately 10 feet of slotted screen placed to intersect the surface of the first-encountered groundwater-bearing zone and account for tidal variance. A bentonite seal will be installed above the filter pack and the boring will be backfilled to ground surface with a concrete mix. The monitoring wells will be completed with a watertight locking cap and flush-mounted traffic-rated well monument. The monitoring wells will be developed by the drilling contractor using surging and purging techniques until water purged from the wells appears clear. The monitoring wells also will be professionally surveyed for location and elevation by a Washington State-licensed surveyor.

5.2.2 Groundwater Monitoring Program

Following installation of the groundwater monitoring wells, a groundwater monitoring program will be implemented including four consecutive quarterly groundwater monitoring events. The purpose of the groundwater monitoring program is to 1) evaluate groundwater conditions proximate to residual impacts of COPCs in soil, and 2) confirm that COPCs are not reaching the LDW and potentially impacting sediments and/or surface water.

Each groundwater monitoring event will be conducted in accordance with the procedures presented in the SAP (Appendix A). Groundwater samples will be transported to a Washington State-accredited analytical laboratory under standard chain-of-custody protocols for analysis of the following:

- GRO by Northwest Method NWTPH-Gx;
- DRO and ORO by Northwest Method NWTPH-Dx with and without silica gel cleanup;
- BTEX and naphthalene by EPA Method 8260D; and
- Total and dissolved metals including arsenic, copper, and manganese by EPA Method 6020B.

5.2.3 Vapor Intrusion Assessment

The RI scope of work includes conducting a vapor intrusion assessment in Area 2 where petroleum impacts in soil were left in place proximate to Building 1 within the 30-foot horizontal separation distance established in Ecology's VI Guidance. The vapor intrusion assessment will include installing two permanent subslab soil gas probes in the floor of Building 1 for collection of soil gas samples proximate to residual impacts of TPH in soil. The vapor intrusion assessment will include conducting two semiannual soil gas sampling events at the newly installed subslab soil gas probes. Soil gas samples will be collected in 1-Liter Summa canisters in accordance with procedures outlined in Ecology's VI Guidance and the SAP (Appendix A) and transported to a Washington State-accredited analytical laboratory for analysis of Air Phase Hydrocarbons by Method MA-APH and BTEX and naphthalene by EPA Method TO-15.

Soil gas analytical results will be compared to MTCA Method B soil gas screening levels for a commercial exposure scenario to evaluate whether the vapor intrusion pathway is complete for residual impacts of TPH in soil in Area 2.

5.2.4 PFAS Sampling

Groundwater samples collected from monitoring well DOF-2 and proposed monitoring well FMW-05 during the first quarterly groundwater monitoring event will be analyzed for PFAS by EPA Method 1633. Monitoring well DOF-2 is down-gradient of the former auto wrecking operations in Area 13, and proposed monitoring well FMW-05 is down-gradient of the former Truck Wash and dry cleaner, which are historical operations that have been identified as potential sources of PFAS as described in Section 4.9.

If results indicate that PFAS are present in groundwater at concentrations exceeding applicable cleanup levels, groundwater samples may be collected from additional monitoring wells and/or during subsequent monitoring events for analysis of PFAS. Installation of additional monitoring wells may be required on the eastern or northern portion of the Site to evaluate the potential migration of PFAS on to the Site from potential up-gradient sources and Boeing Field.

Ecology will be provided the initial PFAS analytical results from monitoring wells DOF-2 and FMW-05 to evaluate whether additional PFAS evaluation is warranted following the first groundwater monitoring event.

5.3 SAMPLING AND ANALYSIS PLAN

A SAP was prepared for the Site to present the specific requirements for sample collection and analytical activities for the remedial investigation to ensure that activities are conducted in accordance with technically acceptable protocols and that the results meet the data quality objectives. The SAP is included in Appendix A.

5.4 QUALITY ASSURANCE PROJECT PLAN

A QAPP was prepared for the Site to identify the data quality objectives to be implemented in accordance with this RI Work Plan. The QAPP documents specific requirements for sample collection and analysis for the remedial investigation activities to be completed in accordance with the requirements of the AO. The QAPP is included in Appendix B.

5.5 HEALTH AND SAFETY PLAN

A Site-specific HASP was prepared for the Site. The HASP identifies hazards associated with the Site and scope of work and establishes procedures for implementation of the scope of work as they relate to Site hazards. The HASP is included in Appendix C.

5.6 INADVERTENT DISCOVERIES

An IDP was prepared for the Site to outline the procedures to perform in the event of a discovery of archaeological materials or human remains. In general, if archaeological materials or human remains are discovered during field activities, Farallon and subcontractors will stop work, protect the discovery, notify Ecology, and wait for further guidance prior to resuming work. The IDP is included in Appendix D.

5.7 PERMITTING REQUIREMENTS

RI field activities will be conducted in accordance with all applicable federal, state, and local regulations, and any necessary permits will be obtained prior to conducting RI field activities. No permits are anticipated to be required to complete the RI field activities. The RI scope of work currently does not include installation of monitoring wells in the public right-of-way.

5.8 CLIMATE CHANGE CONDITIONS

During the RI, sufficient information will be collected on current and projected local and regional climatological characteristics to evaluate climate change impacts that could affect the migration of hazardous substances at the Site or the resilience of cleanup action alternatives in accordance with WAC 173-340-350(6)(f). The information will be used in the evaluation of potential cleanup alternatives during the feasibility study. Data will be collected relating to flooding, wildfires, landslides and erosion, and drought information.

5.9 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

Investigation-derived waste (IDW) in the form of soil cuttings from soil boring and monitoring well installation and development and purge water generated during monitoring well development and sampling will be containerized in Department of Transportation-approved steel drums. Drums will be appropriately labeled, sealed, and stored on-Site pending completion of waste profiling for disposal. Upon completion of waste profiling, the drums will be removed from the Site for off-site disposal in accordance with local, state, and federal regulations based on the contents of the IDW.

Disposable consumables in the form of plastic gloves, disposable sampling devices and equipment, plastic sheeting used for containment during drilling, and similar wastes will be disposed of as municipal solid waste.

6.0 SCHEDULING AND REPORTING

This section presents the implementation schedule for the RI activities. A Remedial Investigation Report will be prepared in accordance with the Agreed Order to document the completed activities and results. Completion of the RI Report will include an opportunity for public participation in accordance with the Agreed Order and WAC 173-340-600.

6.1 EIM DATA SUBMITTALS

Existing analytical data collected to date has been uploaded to Ecology's EIM database and approved by Ecology's EIM Coordinator and Project Coordinator. Additional analytical data collected during the remedial investigation will be uploaded to Ecology's EIM database within 30 days of the final Remedial Investigation Report.

6.2 INVESTIGATION SCHEDULE AND KEY MILESTONES

In accordance with the schedule presented in the Agreed Order, a final RI Work Plan will be submitted to Ecology within 30 days of receipt of Ecology comments on this Agency Review Draft RI Work Plan. Remedial investigation activities will begin immediately following approval of the final RI Work Plan and will be completed within one year of Ecology's approval of the final RI Work Plan. Following completion of RI field activities, an Agency Review Draft RI Report will be submitted to Ecology within 90 days of receipt of validated RI analytical data. The contents of the RI Report and requirements prior to finalization are presented in Section 6.3

6.3 REMEDIAL INVESTIGATION REPORT

The RI Report format will include information listed in WAC 173-340-350(7), including defining the Site COCs, their sources, nature and extent, and fate and transport mechanisms. In addition, the RI Report will meet the general reporting requirements provided in WAC 173-340-840. The RI Report will include:

- Tabulated data summarizing the data collected at the Site; and
- Maps and figures depicting the Site data to convey information pertaining to the nature and extent of contamination.

Reaching the final RI Report will include these steps:

1. Preparing an *Agency Review Draft* for review and comment by Ecology prior to public participation.

2. Preparing a *Public Review Draft* for public participation.

3. Publishing the RI Report following public participation.

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8.0 LIMITATIONS

8.1 GENERAL LIMITATIONS

The conclusions contained in this report/assessment are based on professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted hydrogeologic and engineering standards and practices applicable to this location. The conclusions contained herein are subject to the following inherent limitations:

- **Accuracy of Information.** Farallon obtained, reviewed, and evaluated certain information used in this report/assessment from sources that were believed to be reliable. Farallon's conclusions, opinions, and recommendations are based in part on such information. Farallon's services did not include verification of its accuracy or authenticity. Should the information upon which Farallon relied prove to be inaccurate or unreliable, Farallon reserves the right to amend or revise its conclusions, opinions, and/or recommendations.
- **Reconnaissance and/or Characterization.** Farallon performed a reconnaissance and/or characterization of the Site that is the subject of this report/assessment to document current conditions. Farallon focused on areas deemed more likely to exhibit hazardous materials conditions. Contamination may exist in other areas of the Site that were not investigated or were inaccessible. Site activities beyond Farallon's control could change at any time after the completion of this report/assessment.

For the foregoing reasons, Farallon cannot and does not warrant or guarantee that the Site is free of hazardous or potentially hazardous substances or conditions, or that latent or undiscovered conditions will not become evident in the future. Farallon's observations, findings, and opinions can be considered valid only as of the date of the report.

This report/assessment has been prepared in accordance with the contract for services between Farallon and Prologis, Inc., and currently accepted industry standards. No other warranties, representations, or certifications are made.

8.2 LIMITATION ON RELIANCE BY THIRD PARTIES

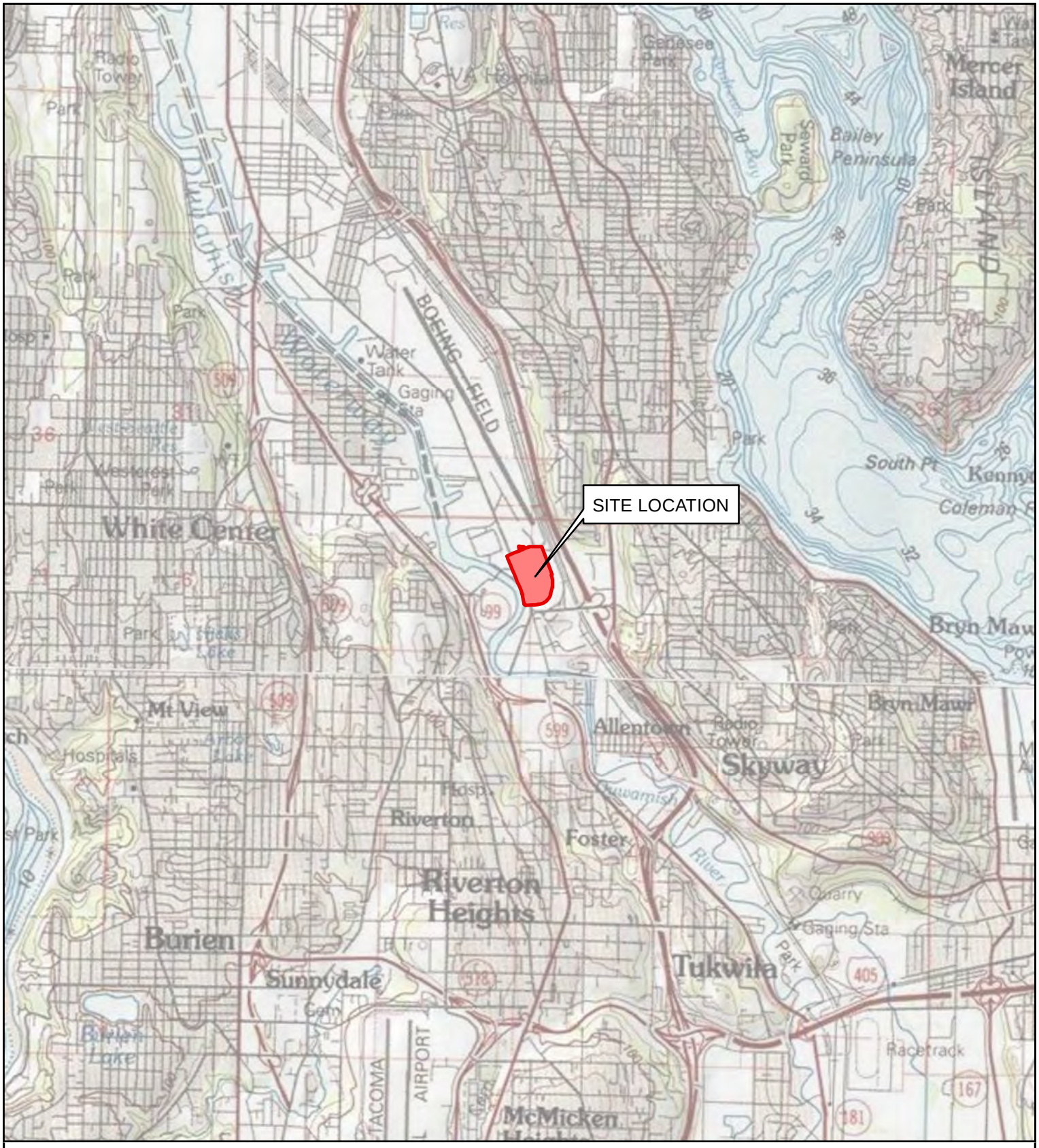
Reliance by third parties is prohibited. This report/assessment has been prepared for the exclusive use of Prologis, Inc. to address the unique needs of Prologis, Inc. at the Site at a specific point in time.

This is not a general grant of reliance. No one other than Prologis, Inc. may rely on this report unless Farallon agrees in advance to such reliance in writing. Any unauthorized use, interpretation, or reliance on this report/assessment is at the sole risk of that party and Farallon will have no liability for such unauthorized use, interpretation, or reliance.

FIGURES

REMEDIAL INVESTIGATION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026



REFERENCE: 7.5 MINUTE USGS QUADRANGLE SEATTLE SOUTH, WASHINGTON, DATED 2013

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0 5,000
SCALE IN FEET

N

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FIGURE 1

SITE VICINITY MAP
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

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Drawn By: lmurock | Checked By: YP | Date: 7/10/2025 | Disc Reference:

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

WAREHOUSE

SOUTH NORFOLK STREET

RAIL LINES

KING COUNTY METRO
TRAINING CENTER

DISTRIBUTION
WAREHOUSE
BUILDING 3

PAVED
PARKING

EAST MARGINAL WAY SOUTH

SUPPORT
BUILDING

AIRPORT WAY SOUTH

DOF-2

DISTRIBUTION
WAREHOUSE
BUILDING 2

DISTRIBUTION
WAREHOUSE
BUILDING 4

PROPOSED BUILDING
BUILDING 5

LUCKY LIQUOR

LOWER DUWAMISH WATERWAY

EXISTING TEMPORARY
CONSTRUCTION
STORMWATER POND

FMW-04

MW-101

WAREHOUSES

PERISHABLES WAREHOUSE
BUILDING 1

SOUTH BOEING ACCESS ROAD

TRANSIT COMPANY
PARKING LOT

N

0 200

SCALE IN FEET

LEGEND

- MONITORING WELL
- STORMWATER BIOPOD
- CATCH BASIN
- COMBINED SANITARY SEWER AND STORM DRAIN LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- WSDOT 60" STORMWATER LINE
- SITE FEATURE
- SITE BOUNDARY

NOTES:
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FIGURE 2

SITE PLAN
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

WAREHOUSE

SOUTH NORFOLK STREET

FORMER OFFICE BUILDING

RAIL LINES

FORMER PUMP ISLAND

FORMER DRY WELL

FORMER TRANSFORMER

FORMER OLD HUMBLE OIL SERVICE STATION

FORMER BUILDING

12

9

6

FORMER TRANSFORMER

FORMER PUMP ISLAND

FORMER TRUCK REPAIR SHOP

FORMER DETENTION PONDS

FORMER PUMP ISLAND

PAVED PARKING

FORMER BANK BUILDING

FORMER WAREHOUSE

FORMER PARTS CLEANING AND DISMANTLING SHOP

EAST MARGINAL WAY SOUTH

5

FORMER TRAILER MAINTENANCE SHOP

AIRPORT WAY SOUTH

FORMER DRY GROCERY WAREHOUSE

FORMER STOCKPILES AND PETROLEUM-IMPACTED SOIL EXCAVATION AREAS

FORMER GASOLINE UST

FORMER HYDRAULIC HOIST AREA

13

FORMER OFFICE

HISTORICAL STOVE OIL UST AREA

RELIC UST AREA

FORMER 10,000-GALLON USTs

FORMER STORAGE BUILDINGS

FORMER TRANSFORMER

FORMER RETURNS BUILDING

8

LUCKY LIQUOR

FORMER AUTOMOBILE SERVICE STATIONS

LOWER DUWAMISH WATERWAY

7

1

10

FORMER GASOLINE AST

FORMER DIESEL USTS

4

FORMER DISPENSER ISLAND

3

FORMER TRUCK WASH

FORMER SOUTH MAINTENANCE SHOP

11

FORMER DRY CLEANER

2

PERISHABLES WAREHOUSE

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

AREA	DESCRIPTION
1	DRY GROCERY WAREHOUSE
2	PERISHABLES WAREHOUSE
3	FORMER TRUCK WASH
4	FORMER FUELING AREA
5	FORMER TRAILER MAINTENANCE SHOP
6	FORMER TRUCK REPAIR SHOP
7	FORMER AUTOMOBILE SERVICE STATIONS
8	RETURNS BUILDING
9	FORMER EMPLOYEE PARKING LOT
10	UP-GRADIENT AREAS
11	FORMER SOUTH MAINTENANCE SHOP
12	FORMER OLD HUMBLE OIL SERVICE STATION
13	FORMER NORTHWEST AUTO WRECKING PROPERTY

LEGEND

- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)
- INVESTIGATION AREA
- SITE BOUNDARY

AST = ABOVEGROUND STORAGE TANK
UST = UNDERGROUND STORAGE TANK

AERIAL IMAGE SOURCE: CITY OF SEATTLE AERIAL 2007

NOTES:
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FIGURE 3

REMEDIAL INVESTIGATION AREAS
AND HISTORICAL SITE FEATURES
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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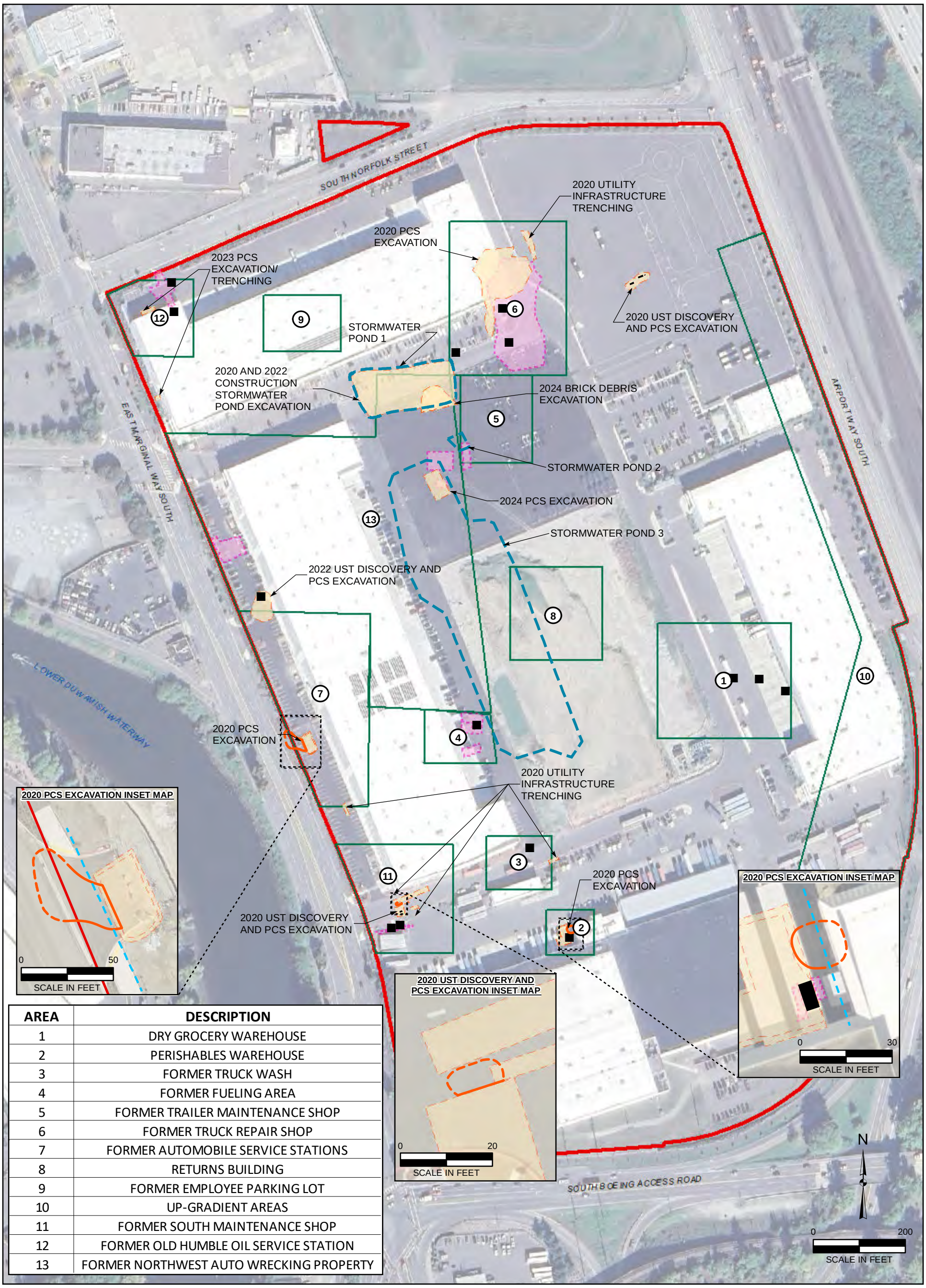

AREA	DESCRIPTION
1	DRY GROCERY WAREHOUSE
2	PERISHABLES WAREHOUSE
3	FORMER TRUCK WASH
4	FORMER FUELING AREA
5	FORMER TRAILER MAINTENANCE SHOP
6	FORMER TRUCK REPAIR SHOP
7	FORMER AUTOMOBILE SERVICE STATIONS
8	RETURNS BUILDING
9	FORMER EMPLOYEE PARKING LOT
10	UP-GRADIENT AREAS
11	FORMER SOUTH MAINTENANCE SHOP
12	FORMER OLD HUMBLE OIL SERVICE STATION
13	FORMER NORTHWEST AUTO WRECKING PROPERTY

LEGEND

- HIGH PRESSURE WATER LINE (APPROXIMATE LOCATION)
- ESTIMATED EXTENT OF RESIDUAL PETROLEUM IMPACTED SOIL (DASHED WHERE INFERRED)
- EXTENT OF FORMER STORMWATER POND
- FORMER REMEDIAL EXCAVATION AREA (2008)
- INTERIM ACTION EXCAVATION
- INVESTIGATION
- SITE BOUNDARY
- FORMER UNDERGROUND STORAGE TANK (UST)

PCS = PETROLEUM CONTAMINATED SOIL
UST = UNDERGROUND STORAGE TANK

NOTES:
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FIGURE 4

REMEDIAL INVESTIGATION AREAS
AND INTERIM ACTION EXCAVATIONS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/22/2025 | Disc Reference:

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PR-PV2(R)
0-0.5'|15|<10|<0.026

SS-3
0.3-1.3'|1,500|9|<0.014

INVESTIGATION AREA 13

N. Wall
Unknown'|<63|---|---

4-3
2.0'|54|---|---

4-5
2.5'|74|---|---

TP-10
2.5'|<250|<2|<0.020

4-1
2.0'|490|---|---

4-4
2.0'|190|---|---

FORMER GASOLINE AST

UST-N-SW
11.0'|<54|<4.3|<0.020

UST-E-SW
11.0'|53|<4.5|<0.020

F-5
6.0'|<68|<7.3|<0.020

West Wall
Unknown'|<62|---|---

UST-W-SW
11.0'|<74|<8.5|<0.020

FORMER DIESEL USTs

Tank 3 E Wall
Unknown'|<59|---|---

UST-1-B
13.0'|<64|<6.5|<0.020

TP2
7.0'|72|<5.9|<0.020
12.0'|63|<9.4|<0.020

UST-2-B
13.0'|<66|<6.5|<0.020

Boring B-1
7.0'|<200|<5.8|<0.06

DI-PIPING
3.5'|89|<8.4|<0.020

UST-S-SW
11.0'|160|<8.0|<0.020

INVESTIGATION AREA 4

E. Sidewall
9.0'|<69|<6.9|<0.07

TP1
7.0'|392|<13|<0.026
12.0'|<79|<12|<0.024

DI-2
3.5'|<52|<6.0|<0.020

S. Sidewall
9.0'|<75|<7.5|<0.08

FORMER DISPENSER ISLAND

DI-1
3.5'|1,170|<5.2|<0.020

F-9
8.0'|<72|<8.1|<0.020

Bottom SW Corner
14.0'|36|9.9|4.8

INVESTIGATION AREA 7

INVESTIGATION AREA 11

F-20
7.0'|<68|<8.8|<0.0015

SWT-NSW-03-3.0
3.0'|24|<5|---

SWT-SSW-02-2.0
2.0'|506|<5|---

SWT-B-04-7.0
7.0'|40|<5|---

SWT-B-03-8.0
8.0'|19|<5|---

SWT-NSW-04-3.0
3.0'|305|<5|---

SWT-NSW-01-2.0
2.0'|23|<5|---

SWT-NSW-02-2.0
2.0'|105.2|<5|---

SWT-B-05-7.0
7.0'|<10|<5|---

SWT-B-02-8.0
8.0'|10|<5|---

SWT-SSW-04-3.0
3.0'|28|<5|---

SWT-B-SSW-01-2.0
2.0'|128|<5|---

SWT-SSW-03-3.0
3.0'|143|<5|---

DWT-NSW-01-1.5
1.5'|105|<5.55|<0.00104

F-22
7.0'|<63|<6.6|<0.0010

DWT-B-01-3.0
3.0'|295.2|38.8|0.00041

UST04-NSW-01-10.0
10.0'|319|**200**|<0.001

DWT-SSW-01-1.5
1.5'|397.9|54.5|<0.00108

UST04-WSW-01-8.0
8.0'|258|13|<0.001

UST04-ESW-01-10.0
10.0'|199|23|<0.001

UST04-SSW-01-8.0
8.0'|119.5|7.6|<0.001

UST04-B-02-14.0
14.0'|<10|<5|<0.001

FMW-03
6.0'|<13|<8.46|<0.0014
13.0'|104.3|<10.8|0.00047
18.0'|<11.8|<6.91|<0.0012

EAST MARGINAL WAY SOUTH

INVESTIGATION AREA 3

EX03-ESW-01-11.0
11.0'|20.24|<7.37|---

EX03-B-02-14.0
14.0'|<13|<7.85|---

EX03-ESW-01-7.0
7.0'|**5,502**|**1,330**|0.00537

EX03-NSW-01-8.0
8.0'|17.2|<5.42|---

F-1
5.7'|**5,900**|<28|<0.022

INVESTIGATION AREA 2

EX03-WSW-02-8.0
8.0'|55.58|<7.79|---

EX03-B-01-14.5
14.5'|<13.1|<7.91|---

EX-2-3
7.0'|1,300|---|---

EX03-WSW-03-8.0
8.0'|<13.3|<8.58|---

EX-2-4
3.0'|<55|---|---

EX03-WSW-03-12.0
12.0'|19.5|<6.87|---

F-25
9.0'|<10.6|<6.46|<0.00102
14.0'|29|<11|<0.00153
19.0'|<12.3|<7.18|<0.00123

EX03-SSW-01-12.0
12.0'|71.3|29|---

EX03-SSW-01-7.0
7.0'|126.1|16.3|---

F-24
9.0'|<10.7|<4.43|<0.00115
12.5'|32.9|<8.07|0.00042
19.0'|<12.3|<7.06|<0.00107

AIRPORT WAY SOUTH

LOWER DUWAMISH WATERWAY

FIGURE 5 EXTENT

0 800
SCALE IN FEET

N

0 60
SCALE IN FEET

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH IN FEET BELOW GROUND SURFACE | DRO+ORO | GRO | BENZENE
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.

BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE LISTED REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
DRO+ORO = SUM OF DRO AND ORO
GRO = TPH AS GASOLINE-RANGE ORGANICS
AST = ABOVEGROUND STORAGE TANK
UST = UNDERGROUND STORAGE TANK

LEGEND

- SOIL SAMPLE/TEST PIT (FARALLON 2020-2024)
- BORING (FARALLON, 2021)
- DECOMMISSIONED MONITORING WELL
- HIGH PRESSURE WATER LINE (APPROXIMATE LOCATION)
- ESTIMATED EXTENT OF RESIDUAL PETROLEUM IMPACTED SOIL (DASHED WHERE INFERRED)
- FORMER UNDERGROUND STORAGE TANK
- FORMER REMEDIAL EXCAVATION AREA (2008)
- INTERIM ACTION SOIL EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
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FIGURE 5

SOIL ANALYTICAL RESULTS FOR
PETROLEUM HYDROCARBONS AND BENZENE
AREAS 2, 4, AND 11
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH IN FEET BELOW GROUND SURFACE | DRO+ORO | GRO | BENZENE
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE LISTED REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
DRO+ORO = SUM OF DRO AND ORO
GRO = TPH AS GASOLINE-RANGE ORGANICS

LEGEND

- SOIL SAMPLE/TEST PIT (FARALLON 2020-2024)
- BORING (FARALLON, 2021)
- FORMER UNDERGROUND STORAGE TANK (UST)
- FORMER SITE FEATURE
- FORMER REMEDIAL EXCAVATION AREA (2008)
- INTERIM ACTION EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
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FIGURE 6

SOIL ANALYTICAL RESULTS FOR
PETROLEUM HYDROCARBONS AND BENZENE
AREAS 5 AND 6
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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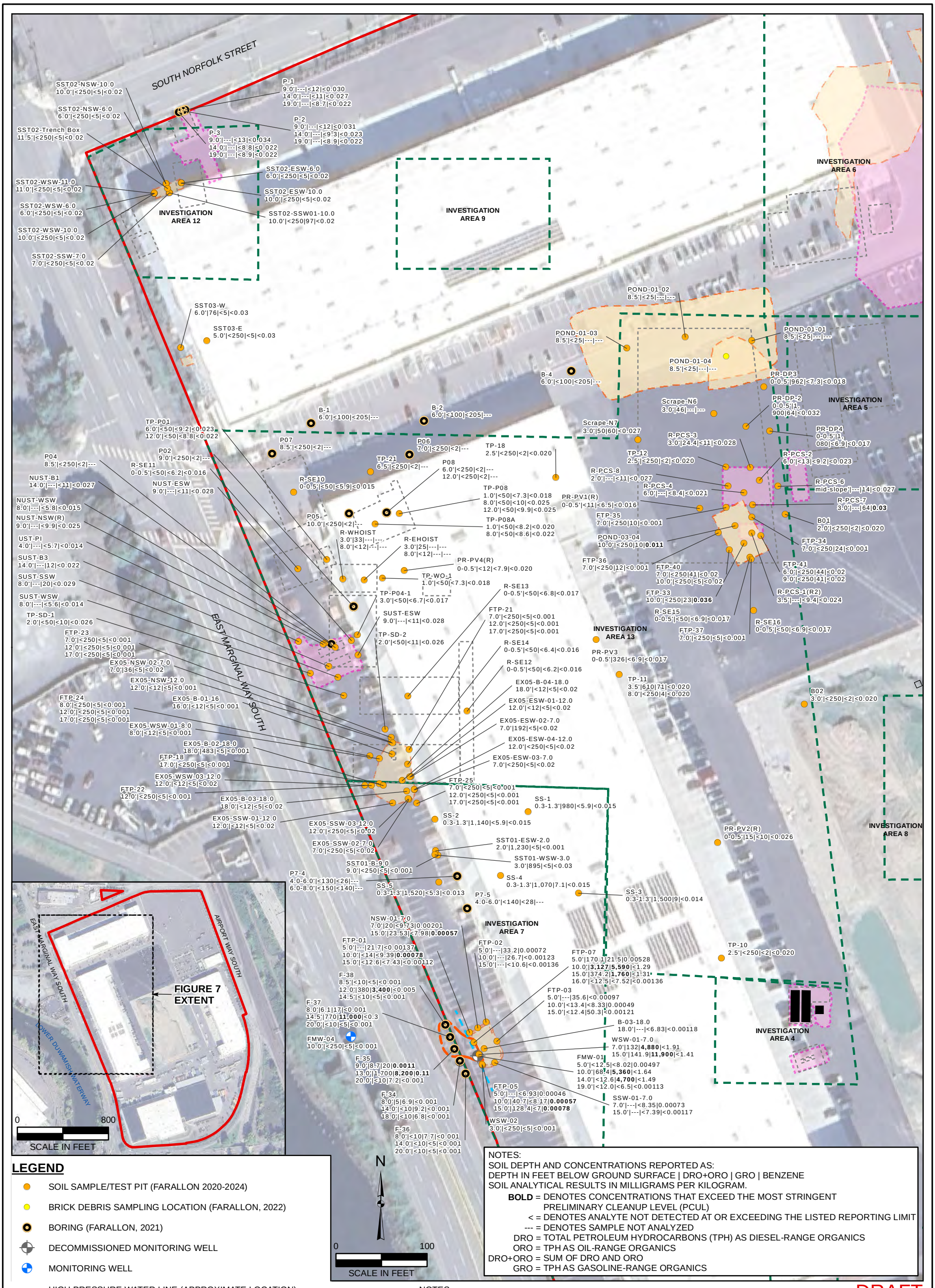

LEGEND

- SOIL SAMPLE/TEST PIT (FARALLON 2020-2024)
- BRICK DEBRIS SAMPLING LOCATION (FARALLON, 2022)
- BORING (FARALLON, 2021)
- DECOMMISSIONED MONITORING WELL
- MONITORING WELL
- HIGH PRESSURE WATER LINE (APPROXIMATE LOCATION)
- ESTIMATED EXTENT OF RESIDUAL PETROLEUM IMPACTED SOIL (DASHED WHERE INFERRED)
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK
- SITE FEATURE
- FORMER REMEDIAL EXCAVATION AREA (2008)
- INTERIM ACTION EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH IN FEET BELOW GROUND SURFACE | DRO+ORO | GRO | BENZENE
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.

BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE LISTED REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
DRO+ORO = SUM OF DRO AND ORO
GRO = TPH AS GASOLINE-RANGE ORGANICS

NOTES:
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FIGURE 7

SOIL ANALYTICAL RESULTS FOR
PETROLEUM HYDROCARBONS AND BENZENE
AREAS 7, 12, AND 13
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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SOUTH NORFOLK STREET

EAST MARGINAL WAY SOUTH

AIRPORT WAY SOUTH

LOWER DUWAMISH WATERWAY

SOUTH BOEING ACCESS ROAD

INVESTIGATION AREA 1

INVESTIGATION AREA 2

INVESTIGATION AREA 3

INVESTIGATION AREA 4

INVESTIGATION AREA 5

INVESTIGATION AREA 6

INVESTIGATION AREA 7

INVESTIGATION AREA 8

INVESTIGATION AREA 9

INVESTIGATION AREA 10

INVESTIGATION AREA 11

INVESTIGATION AREA 12

INVESTIGATION AREA 13

SST02-SSW01-10.0
10.0'|<0.0076|---

SST-ESW-02-4.0
4.0'|**0.0016**|---

UST03-SW-03-7.0
7.0'|**0.0104**|0.0047

UST01-B-10.0
10.0'|**0.0028**|---

UST03-SW-06-7.0
7.0'|**0.0132**|0.0055

UST03-B-03-10.0
10.0'|<0.0015|<0.002

UST03-SW-07-7.0
7.0'|**0.0121**|0.0052

UST03-SW-05-7.0
7.0'|**0.0117**|0.012

UST03-SW-04-7.0
7.0'|**0.0162**|**0.16**

UST03-SW-02-7.0
7.0'|<0.0015|<0.002

UST03-B-01-8.0
8.0'|**0.0151**|0.0057

UST03-SW-01-7.0
7.0'|**0.0133**|0.0068

F-11
8.0'|<0.0063|<0.0011

F-12
6.7'|---|<0.0081

F-13
2.5'|---|<0.0011

F-14
6.0'|---|<0.056

FTP-21
7.0'|<0.0015|<0.002
12.0'|<0.0015|<0.002

EX05-NSW-12.0
12.0'|**0.011**|<0.002

EX05-NSW-02-7.0
7.0'|**0.013**|<0.01

EX05-B-01-16
16.0'|<0.0015|<0.002

EX05-WSW-01-8.0
8.0'|<0.0015|<0.002

FTP-24
12.0'|<0.0015|<0.002

EX05-B-04-18.0
18.0'|<0.0015|<0.002

FTP-18
17.0'|<0.0015|<0.002

FTP-22
12.0'|<0.0015|<0.002

EX05-WSW-03-12.0
12.0'|<0.0015|<0.002

EX05-B-02-18.0
18.0'|**0.14**|<0.05

EX05-SSW-01-12.0
12.0'|<0.0015|<0.002

PR-PV4(R)
0-0.5'|<0.042|<0.056

FTP-23
12.0'|<0.0015|<0.002

EX05-ESW-01-12.0
12.0'|<0.0015|<0.002

EX05-ESW-02-7.0
7.0'|**0.028**|<0.01

EX05-B-03-18.0
18.0'|<0.0015|<0.002

EX05-ESW-04-12.0
12.0'|<0.0015|<0.002

PR-PV1(R)
0-0.5'|<0.045|<0.060

R-SE15
0-0.5'|<0.0076|<0.05

R-SE16
0-0.5'|<0.0076|<0.05

PR-PV3
0-0.5'|<0.045|<0.06

EX05-ESW-03-7.0
7.0'|**0.0017**|<0.002

EX05-SSW-03-12.0
12.0'|<0.0015|<0.002

EX05-SSW-02-7.0
7.0'|**0.029**|<0.02

FTP-25
12.0'|**0.012**|**0.0032**

PR-PV2(R)
0-0.5'|<0.045|<0.06

SST01-SSW01-2.5
2.5'|<0.0076|<0.01

SST01-ESW02-2.5
2.5'|<0.0076|<0.01

SST01-B2-4.5
4.5'|<0.0076|<0.01

SST01-NSW01-2.5
2.5'|<0.0076|<0.01

SST01-WSW-3.0
3.0'|**0.11**|---

UST-1-B
13.0'|<0.0065|<0.0086

UST-N-SW
11.0'|<0.0054|<0.0072

UST-E-SW
11.0'|<0.0054|<0.0071

UST-2-B
13.0'|<0.0066|<0.0088

UST-W-SW
11.0'|<0.0074|<0.0098

UST-S-SW
11.0'|<0.0073|<0.0097

NSW-01-7.0
7.0'|<0.00403|0.00281
15.0'|<0.00398|**0.00523**

FTP-01
10.0'|<0.00394|<0.00489
15.0'|<0.00357|<0.00443

B-03-18.0
18.0'|<0.00403|0.00136

FTP-03
10.0'|<0.00378|<0.00469
15.0'|<0.00349|<0.00433

SSW-01-7.0
7.0'|**0.00402**|0.00145
15.0'|<0.00402|<0.00499

FMW-01
10.0'|---|**0.00595**

WSW-01
7.0'|**0.00229**|**5.43**
15.0'|**0.00364**|**3.75**

FTP-05
15.0'|**0.00961**|**0.00343**

DI-PIPING
3.5'|<0.0068|<0.0090

DI-1
3.5'|**0.033**|<0.0072

DI-2
3.5'|<0.0053|<0.0070
8.0'|<0.0072|<0.0096

F-38
8.5'|<0.0015|<0.002

F-37
8.0'|<0.0015|<0.002

F-35
9.0'|<0.0015|<0.002

F-34
8.0'|<0.0015|<0.002

F-36
8.0'|<0.0015|<0.002

FTP-07
5.0'|**0.0179**|**0.073**
10.0'|**0.00469**|**6.58**
15.0'|**0.00353**|**1.03**
16.0'|<0.00567|0.00126

F-20
7.0'|<0.0069|<0.0015

F-22
7.0'|---|<0.0010

SWT-B-02-8.0
8.0'|<0.0015|<0.002

EX03-NSW-01-8.0
8.0'|**0.00288**|0.00197

EX03-B-02-14.0
14.0'|<0.00398|<0.00495

EX03-ESW-01-11.0
7.0'|**0.0395**|**0.106**
11.0'|<0.00395|**0.0106**

EX03-ESW-01-7.0
7.0'|**0.0395**|**0.106**
11.0'|<0.00395|**0.0106**

F-1
5.7'|**0.007**|**2.0**

EX03-B-01-14.5
14.5'|<0.00399|<0.00496

EX03-SSW-01-7.0
7.0'|**0.00215**|0.0075
12.0'|<0.00391|**0.0132**

EX03-SSW-01-12.0
7.0'|**0.00215**|0.0075
12.0'|<0.00391|**0.0132**

EX03-WSW-02-8.0
8.0'|**0.0351**|0.0128

EX03-WSW-03-8.0
8.0'|<0.00398|<0.00494
12.0'|**0.00368**|<0.00494

EX03-WSW-03-12.0
8.0'|<0.00398|<0.00494
12.0'|**0.00368**|<0.00494

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH IN FEET BELOW GROUND SURFACE | cPAH TEC | NAPHTHALENE
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED
cPAH = CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBON
TEC = TOXIC EQUIVALENT CONCENTRATION

N

0 200

SCALE IN FEET

LEGEND

- SOIL SAMPLE/TEST PIT (FARALLON 2020-2024)
- BORING (FARALLON, 2021)
- DECOMMISSIONED MONITORING WELL
- FORMER REMEDIAL EXCAVATION
- INTERIM ACTION EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 8

SOIL ANALYTICAL RESULTS FOR
cPAHs AND NAPHTHALENE
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: YP | Date: 7/21/2025 | Disc Reference:

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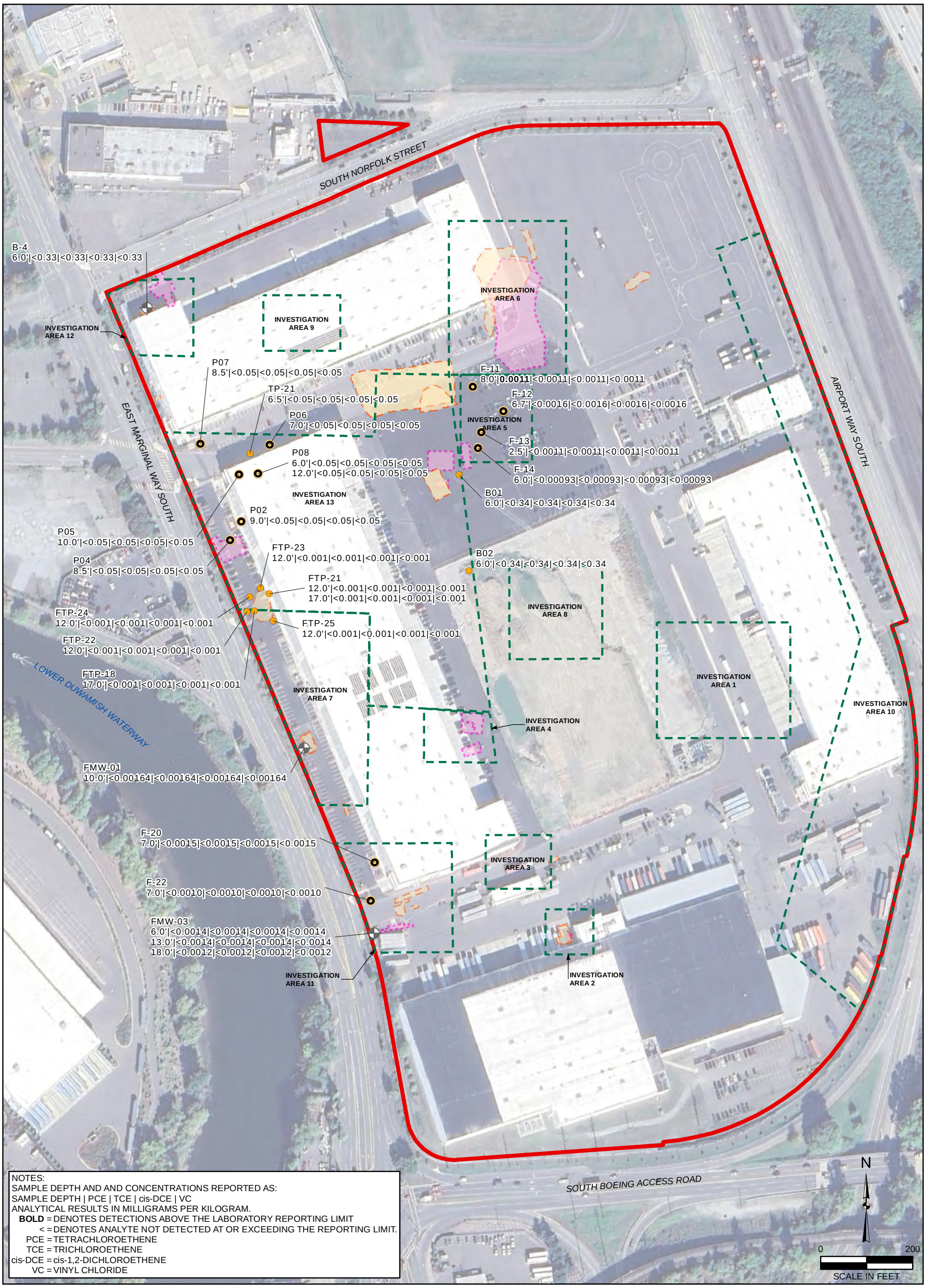

NOTES:
SAMPLE DEPTH AND AND CONCENTRATIONS REPORTED AS:
SAMPLE DEPTH | PCE | TCE | cis-DCE | VC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
BOLD = DENOTES DETECTIONS ABOVE THE LABORATORY REPORTING LIMIT
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-DCE = cis-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- SOIL SAMPLE/TEST PIT (FARALLON 2020-2024)
- BORING (FARALLON, 2021)
- DECOMMISSIONED MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INTERIM ACTION EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
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FIGURE 9

SOIL ANALYTICAL RESULTS FOR
HALOGENATED VOLATILE ORGANIC COMPOUNDS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/22/2025 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\10A_2025\Figure-09_Soil-VOCs.mxd

SOUTH NORFOLK STREET

F-27
2.5'|<0.178
10.0'|<0.180

F-28
2.5'|**0.0269**
8.5'|<0.179

F-30
1.0'|<0.178

INVESTIGATION AREA 12

INVESTIGATION AREA 9

EX02-B-01-2.0
2.0'|<0.18

FTP-27
8.0'|<0.018

FTP-28
8.0'|**0.038**

FTP-26
10.0'|<0.018

INVESTIGATION AREA 6

P-DOF-6-WO
4.0'|<0.055

F-33
1.0'|<0.180

UST01-B-10.0
10.0'|**0.0041**

UST03-SW-03-7.0
7.0'|**0.012**

UST03-B-03-10.0
10.0'|<0.0180

UST03-SW-07-7.0
7.0'|**0.017**

UST03-SW-06-7.0
7.0'|**0.022**

UST03-SW-02-7.0
7.0'|<0.0180

UST03-SW-05-7.0
7.0'|**0.0075**

UST03-SW-04-7.0
7.0'|**0.0080**

UST03-B-01-8.0
8.0'|**0.028**

UST03-SW-01-7.0
7.0'|**0.022**

FTP-50
8.0'|<0.185

EX02-B-02-2.0
2.0'|<0.18

FTP-48
8.0'|**0.206**

FTP-32
8.0'|<0.018

FTP-31
8.0'|<0.018

FTP-46
8.0'|<0.19

INVESTIGATION AREA 5

FTP-30
8.0'|**0.17**
8.0'|**0.028***

FTP-29
2.5'|**0.17**
2.5'|**0.039***
8.0'|**0.24**
8.0'|**0.026***

POND-02-DEB
2.0'|**0.118**
2.0'|**0.089***

EAST MARGINAL WAY SOUTH

AIRPORT WAY SOUTH

PR-PV4(R)
0-0.5'|<0.224

TP-WO-1
1.0'|<3.5

INVESTIGATION AREA 13

R-SE15
0-0.5'|<1.4

POND-03-03-2.5
2.5'|**0.123**
2.5'|**0.126***

PR-PV3
0-0.5'|<0.21

R-SE16
0-0.5'|<1.4

F-32
1.0'|<0.178

PR-PV1(R)
0-0.5'|<0.231

FTP-23
12.0'|<0.018

POND-03-01-2.0
2.0'|**0.096**
2.0'|**0.099***

POND-03-02-3.5
3.5'|**0.148**
3.5'|**0.161***

FTP-24
12.0'|<0.018

FTP-21
7.0'|**0.0104**
12.0'|<0.018

INVESTIGATION AREA 8

FTP-22
12.0'|<0.018

PR-PV2(R)
0-0.5'|<0.21

FTP-18
17.0'|<0.018

FTP-25
12.0'|<0.0187

FTP-18
17.0'|<0.018

LOWER DUWAMISH WATERWAY

INVESTIGATION AREA 7

INVESTIGATION AREA 1

INVESTIGATION AREA 10

NSW-01-15.0
15.0'|<0.179

INVESTIGATION AREA 4

FTP-01
10.0'|<0.176

INVESTIGATION AREA 3

INVESTIGATION AREA 11

INVESTIGATION AREA 2

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

NOTES:
SAMPLE DEPTH AND AND CONCENTRATIONS REPORTED AS:
SAMPLE DEPTH | TOTAL PCBs
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
* = DENOTES SAMPLE PASSED THROUGH A #10 SIEVE, THE FINES WERE DISCARDED AND THE AGGREGATE WAS RINSED WITH DEIONIZED WATER PRIOR TO EXTRACTION.
PCB = POLYCHLORINATED BIPHENYL

LEGEND

- SOIL SAMPLE/TEST PIT (FARALLON 2020-2024)
- BRICK DEBRIS SAMPLING LOCATION (FARALLON, 2022)
- BORING (FARALLON, 2021)
- FORMER REMEDIAL EXCAVATION AREA
- INTERIM ACTION EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 10

SOIL ANALYTICAL RESULTS FOR PCBs
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/14/2025 | Disc Reference:

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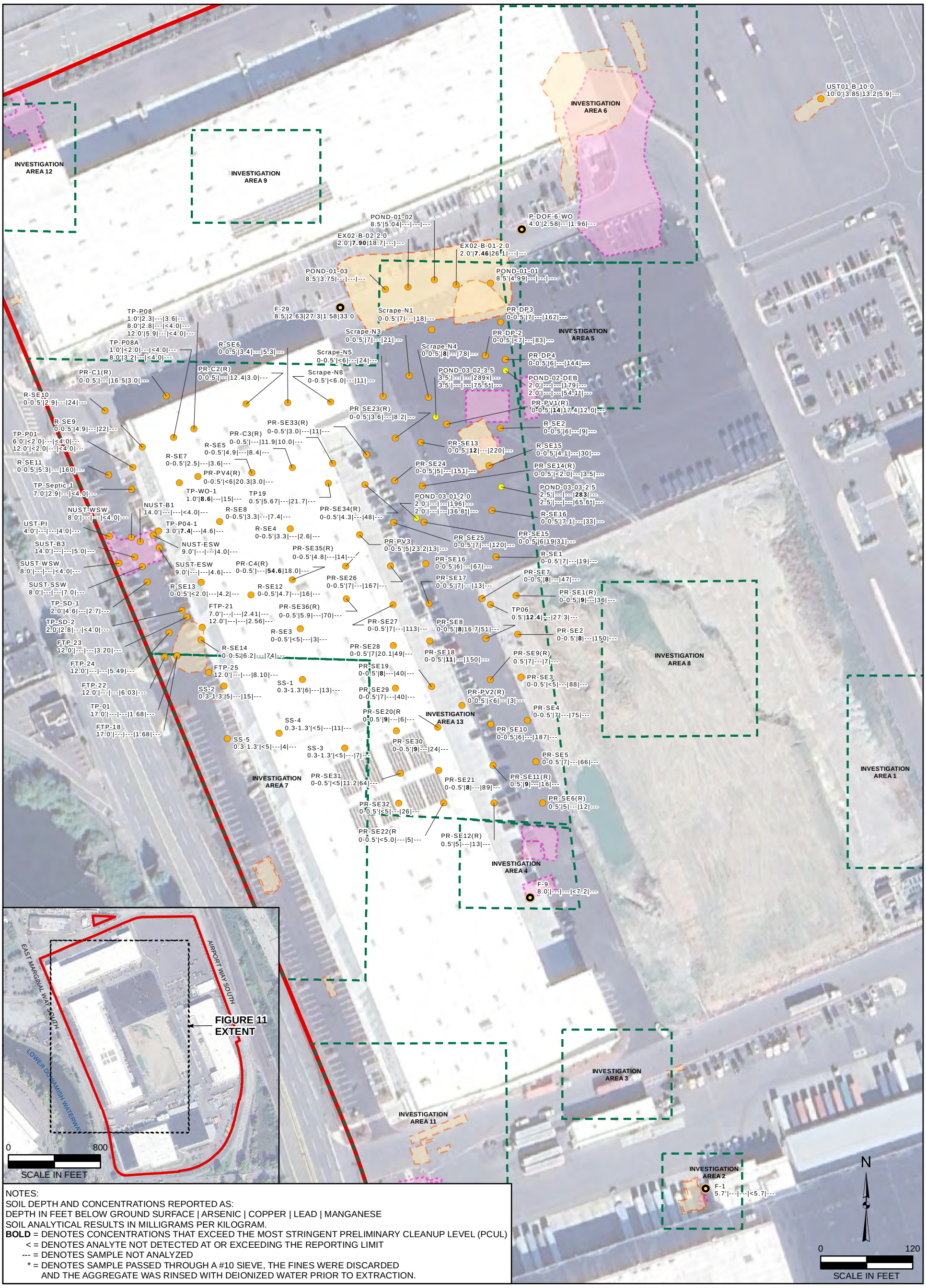

NOTES:
SOIL DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH IN FEET BELOW GROUND SURFACE | ARSENIC | COPPER | LEAD | MANGANESE
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED
* = DENOTES SAMPLE PASSED THROUGH A #10 SIEVE, THE FINES WERE DISCARDED AND THE AGGREGATE WAS RINSED WITH DEIONIZED WATER PRIOR TO EXTRACTION.

LEGEND

- SOIL SAMPLE/TEST PIT (FARALLON 2020-2024)
- BRICK DEBRIS SAMPLING LOCATION (FARALLON, 2022)
- BORING (FARALLON, 2021)
- FORMER REMEDIAL EXCAVATION AREA
- INTERIM ACTION EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
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FIGURE 11

SOIL ANALYTICAL RESULTS FOR METALS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/15/2025 | Disc Reference:

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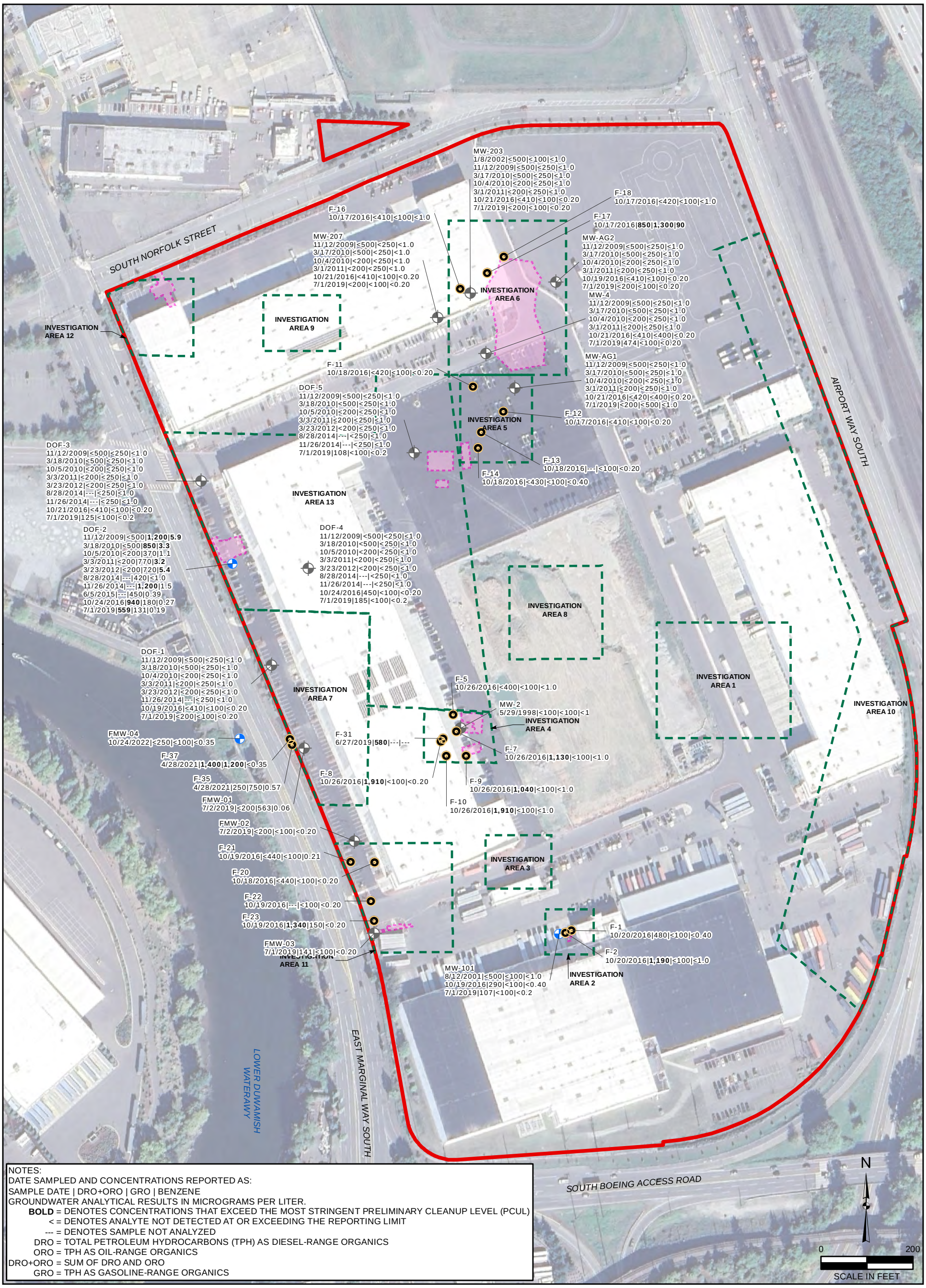

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DRO+ORO | GRO | BENZENE
GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
DRO+ORO = SUM OF DRO AND ORO
GRO = TPH AS GASOLINE-RANGE ORGANICS

LEGEND

- BORING (FARALLON, 2021)
- DECOMMISSIONED MONITORING WELL
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
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FIGURE 12

GROUNDWATER ANALYTICAL RESULTS
FOR PETROLEUM HYDROCARBONS AND BENZENE
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: YP | Date: 7/21/2025 | Disc Reference:

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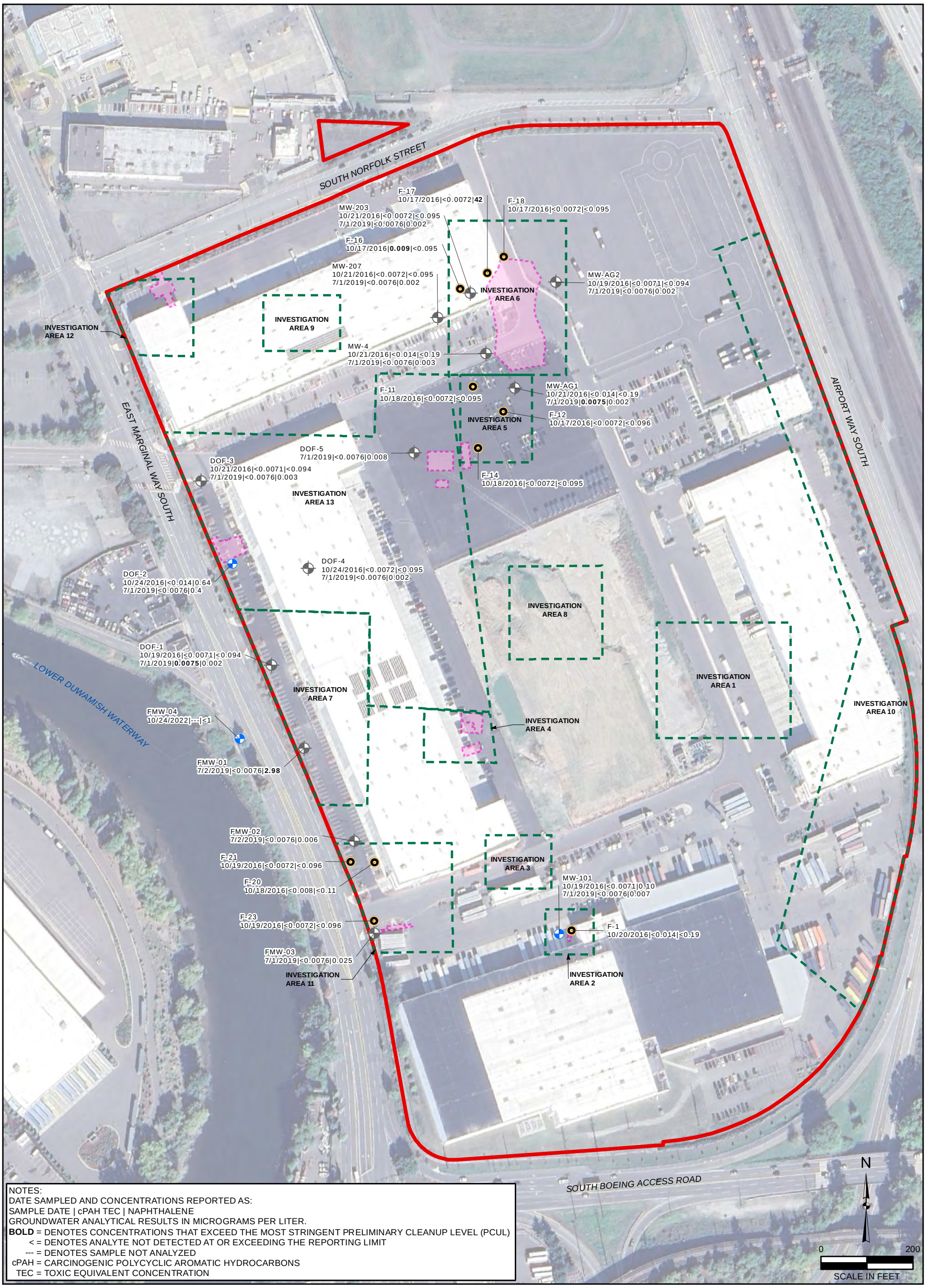

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | cPAH TEC | NAPHTHALENE
GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED
cPAH = CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
TEC = TOXIC EQUIVALENT CONCENTRATION

LEGEND

- BORING (FARALLON, 2021)
- DECOMMISSIONED MONITORING WELL
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
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FIGURE 13

GROUNDWATER ANALYTICAL RESULTS
FOR cPAHs AND NAPHTHALENE
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: YP | Date: 7/21/2025 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\10A_2025\Figure-13_GW-cPAH.mxd

SOUTH NORFOLK STREET

MW-203
10/21/2016|<0.20|<0.20|<0.20|<0.20

MW-207
10/21/2016|<0.20|<0.20|<0.20|<0.20

MW-AG2
10/19/2016|<0.20|<0.20|<0.20|<0.20

INVESTIGATION AREA 12

INVESTIGATION AREA 9

INVESTIGATION AREA 6

MW-4
10/21/2016|<0.20|<0.20|<0.20|<0.20

F-11
10/18/2016|0.22|<0.20|<0.20|<0.20

MW-AG1
10/21/2016|<0.20|<0.20|<0.20|<0.20

F-12
10/17/2016|<0.20|<0.20|<0.20|<0.20

INVESTIGATION AREA 5

F-13
10/18/2016|<0.20|<0.20|<0.20|<0.20

F-14
10/18/2016|<0.40|<0.40|<0.40|<0.40

EAST MARGINAL WAY SOUTH

AIRPORT WAY SOUTH

DOF-3
10/21/2016|<0.20|<0.20|<0.20|<0.20

INVESTIGATION AREA 13

DOF-4
10/24/2016|<0.20|<0.20|<0.20|<0.20

DOF-2
10/24/2016|<0.20|<0.20|<0.20|<0.20

INVESTIGATION AREA 8

DOF-1
10/19/2016|<0.20|<0.20|<0.20|<0.20

LOWER DUWAMISH WATERWAY

INVESTIGATION AREA 7

INVESTIGATION AREA 1

INVESTIGATION AREA 10

INVESTIGATION AREA 4

F-8
10/26/2016|<0.40|<0.20|<0.20|<0.20

F-20
10/18/2016|<0.20|<0.20|<0.20|<0.20

F-21
10/19/2016|<0.20|<0.20|<0.20|<0.20

INVESTIGATION AREA 3

MW-101
10/19/2016|<0.40|<0.40|<0.40|<0.40

F-1
10/20/2016|<0.40|<0.40|<0.40|<0.40

INVESTIGATION AREA 11

F-22
10/19/2016|<0.20|<0.20|0.24|<0.20

F-23
10/19/2016|<0.20|<0.20|<0.20|<0.20

FMW-03
7/1/2019|<0.20|<0.20|<0.20|<0.20

INVESTIGATION AREA 2

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

NOTES:
DATE SAMPLED AND AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | PCE | TCE | cis-DCE | VC
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-DCE = cis-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

LEGEND

- BORING (FARALLON, 2021)
- DECOMMISSIONED MONITORING WELL
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
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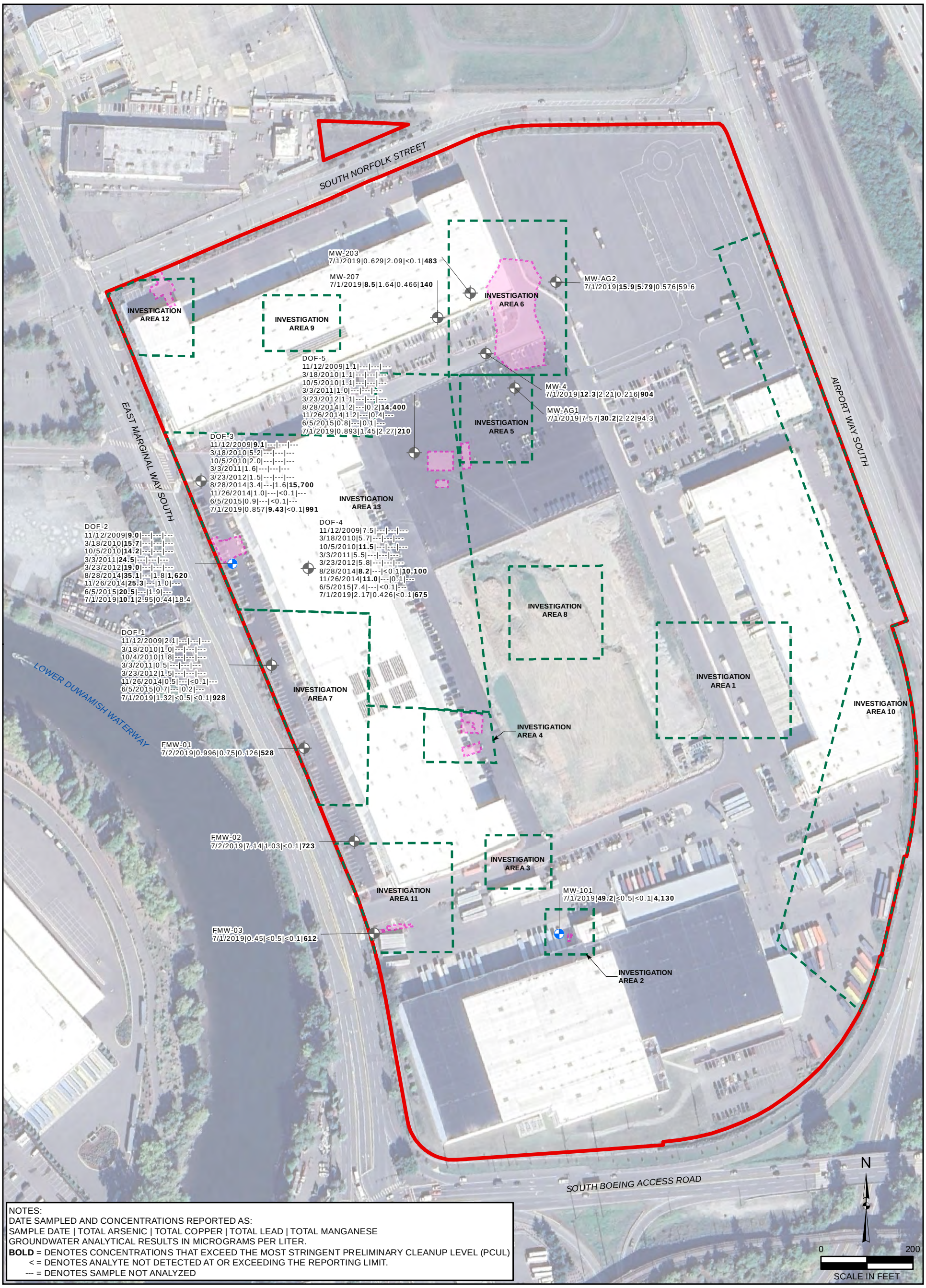
FIGURE 14

GROUNDWATER ANALYTICAL RESULTS FOR
HALOGENATED VOLATILE ORGANIC COMPOUNDS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: YP | Date: 7/21/2025 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\10A_2025\Figure-14_GW-HVOCs.mxd



NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | TOTAL ARSENIC | TOTAL COPPER | TOTAL LEAD | TOTAL MANGANESE
GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED

LEGEND

- DECOMMISSIONED MONITORING WELL
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
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FIGURE 15

GROUNDWATER ANALYTICAL RESULTS FOR
TOTAL METALS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\10A_2025\Figure-15_GW-Metals.mxd

F-17
10/17/2016|**3.2**|---|<1.0

F-18
10/17/2016|**24**|---|<1.0

MW-203
10/21/2016|<3.0|---|---
7/1/2019|**0.476**|<0.1|<0.1

F-16
10/17/2016|<3.0|---|<1.0

MW-207
10/21/2016|**27**|---|---
7/1/2019|**2.96**|**0.061**|<0.1

MW-AG2
10/19/2016|**5.8**|---|---
7/1/2019|**14.8**|<0.1|**0.223**

INVESTIGATION AREA 6

INVESTIGATION AREA 9

INVESTIGATION AREA 12

MW-4
10/21/2016|**38**|---|---
7/1/2019|**11.6**|<0.2|<0.2

F-11
10/18/2016|**3.1**|---|---

DOF-5
11/12/2009|**1.1**|---|---
3/18/2010|**0.9**|---|---
10/5/2010|**1.2**|---|---
3/3/2011|**0.9**|---|---
3/23/2012|**0.8**|---|---
8/28/2014|**1.1**|---|<0.1
11/26/2014|**0.9**|---|<0.1
6/5/2015|**0.7**|---|<0.1
7/1/2019|**0.812**|<0.1|**0.14**

MW-AG1
10/21/2016|**4.8**|---|---
7/1/2019|**5.74**|<0.1|**0.4**

F-12
10/17/2016|<3.0|---|---

INVESTIGATION AREA 5

DOF-3
11/12/2009|**8.6**|---|---
3/18/2010|**5.2**|---|---
10/5/2010|**1.8**|---|---
3/3/2011|**1.3**|---|---
3/23/2012|**0.9**|---|---
8/28/2014|**1.2**|---|**0.5**
11/26/2014|**1.0**|---|<0.1
6/5/2015|**0.9**|---|<0.1
10/21/2016|<3.0|---|<1.0
7/1/2019|**0.776**|**0.062**|<0.1

F-14
10/18/2016|**9.9**|---|---

INVESTIGATION AREA 13

DOF-4
11/12/2009|**7.9**|---|---
3/18/2010|**6.5**|---|---
10/5/2010|**9.4**|---|---
3/3/2011|**6.0**|---|---
3/23/2012|**6.4**|---|---
8/28/2014|**9.3**|---|<0.1
11/26/2014|**11.3**|---|<0.1
6/5/2015|**7.4**|---|<0.1
10/24/2016|<3.0|---|<1.0
7/1/2019|**2**|<0.1|<0.1

DOF-2
11/12/2009|**8.9**|---|---
3/18/2010|**13.7**|---|---
10/5/2010|**12.6**|---|---
3/3/2011|**19.7**|---|---
3/23/2012|**17.1**|---|---
8/28/2014|**35.7**|---|**0.7**
11/26/2014|**28.2**|---|**0.3**
6/5/2015|**20.2**|---|**0.6**
10/24/2016|**6.1**|---|<1.0
7/1/2019|**9.87**|<0.1|**0.479**

INVESTIGATION AREA 8

INVESTIGATION AREA 1

INVESTIGATION AREA 10

DOF-1
11/12/2009|**1.8**|---|---
3/18/2010|**1.0**|---|---
10/4/2010|**2.1**|---|---
3/3/2011|**0.5**|---|---
3/23/2012|**0.3**|---|---
11/26/2014|**0.4**|---|<0.1
6/5/2015|**0.3**|---|<0.1
10/19/2016|<3.0|---|<1.0
7/1/2019|**1.29**|**0.044**|<0.1

INVESTIGATION AREA 7

INVESTIGATION AREA 4

FMW-01
7/2/2019|**0.882**|<0.1|**0.074**

FMW-02
7/2/2019|**6.75**|<0.1|<0.1

INVESTIGATION AREA 3

F-21
10/19/2016|<3.0|---|---

F-2
10/20/2016|**9.6**|---|---

F-23
10/19/2016|<3.0|---|---

F-1
10/20/2016|**11**|---|---

FMW-03
7/1/2019|**0.435**|<0.1|<0.1

MW-101
10/19/2016|**48**|---|<1.0
7/1/2019|**50.1**|<0.1|<0.1

INVESTIGATION AREA 11

INVESTIGATION AREA 2

SOUTH NORFOLK STREET

AIRPORT WAY SOUTH

LOWER DUWAMISH WATERAWY

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DISSOLVED ARSENIC | DISSOLVED COPPER | DISSOLVED LEAD | DISSOLVED MANGANESE
GROUNDWATER ANALYTICAL RESULTS IN MICROGRAMS PER LITER.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED THE MOST STRINGENT PRELIMINARY CLEANUP LEVEL (PCUL)
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT
--- = DENOTES SAMPLE NOT ANALYZED

LEGEND

- DECOMMISSIONED MONITORING WELL
- BORING (FARALLON, 2021)
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
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FIGURE 16

GROUNDWATER ANALYTICAL RESULTS FOR
DISSOLVED METALS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: YP | Date: 7/21/2025 | Disc Reference:

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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

WAREHOUSE

SOUTH NORFOLK STREET

CB-23
0.035

CB-24
<0.018

CB-21

RAIL LINES

KING COUNTY METRO
TRAINING CENTER

DISTRIBUTION
WAREHOUSE
BUILDING 3

PAVED
PARKING

EAST MARGINAL WAY SOUTH

SUPPORT
BUILDING

AIRPORT WAY SOUTH

DISTRIBUTION
WAREHOUSE
BUILDING 2

DISTRIBUTION
WAREHOUSE
BUILDING 4

PROPOSED BUILDING
BUILDING 5

LUCKY LIQUOR

WSDOT-09

LOWER DUWAMISH WATERWAY

EXISTING TEMPORARY
CONSTRUCTION
STORMWATER POND

WSDOT-01

WAREHOUSES

PERISHABLES WAREHOUSE
BUILDING 1

SOUTH BOEING ACCESS ROAD

TRANSIT COMPANY
PARKING LOT

N

0 200

SCALE IN FEET

LEGEND

- STORMWATER BIOPOD
- CATCH BASIN
- COMBINED SANITARY SEWER AND STORM DRAIN LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- STORMWATER LINE
- WSDOT 60' STORMWATER LINE
- SITE FEATURE
- SITE BOUNDARY

NOTES:
SOIL ANALYTICAL RESULTS:
TOTAL PCBs
SOIL ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE LISTED REPORTING LIMIT
PCB = POLYCHLORINATED BIPHENYL

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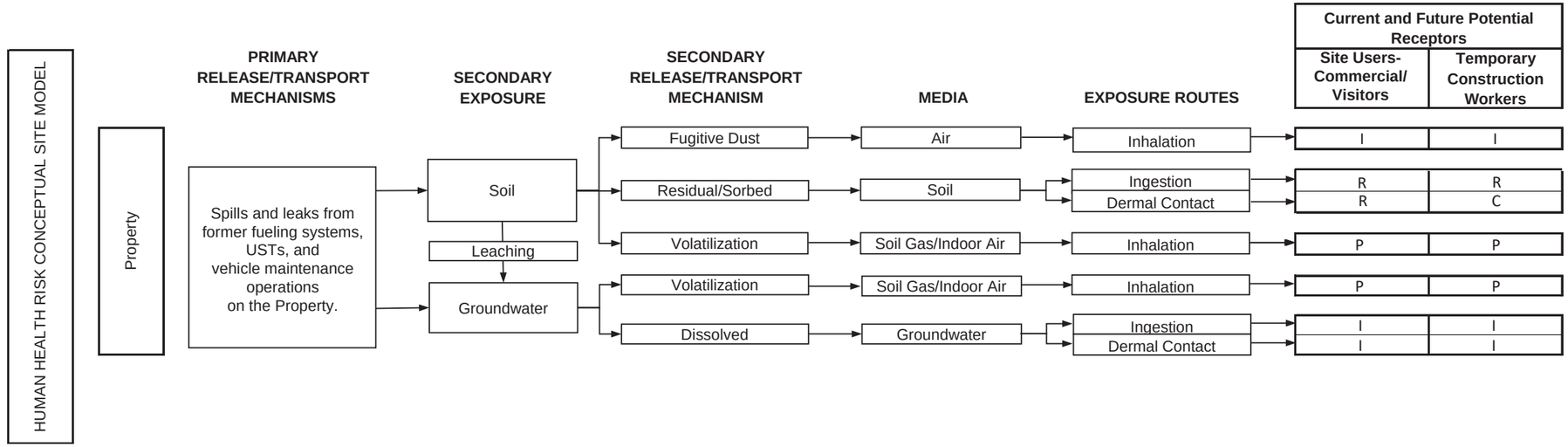
FIGURE 17

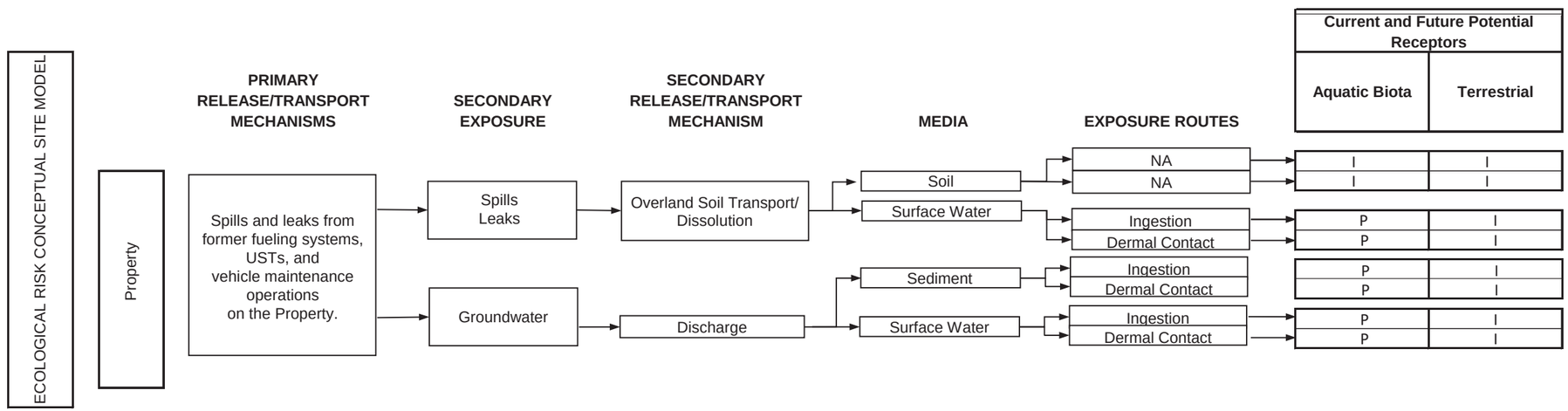
CATCH BASIN SOLIDS
ANALYTICAL RESULTS FOR PCBs
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/14/2025 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\10A_2025\Figure-17_CB_PCBs.mxd





I = Incomplete Pathway
C = Complete Current Pathway
R = Formerly Complete Pathway that has been remediated and is no longer a complete pathway
F = Currently Incomplete, Potentially Complete Pathway in Future
UST = Underground storage tank

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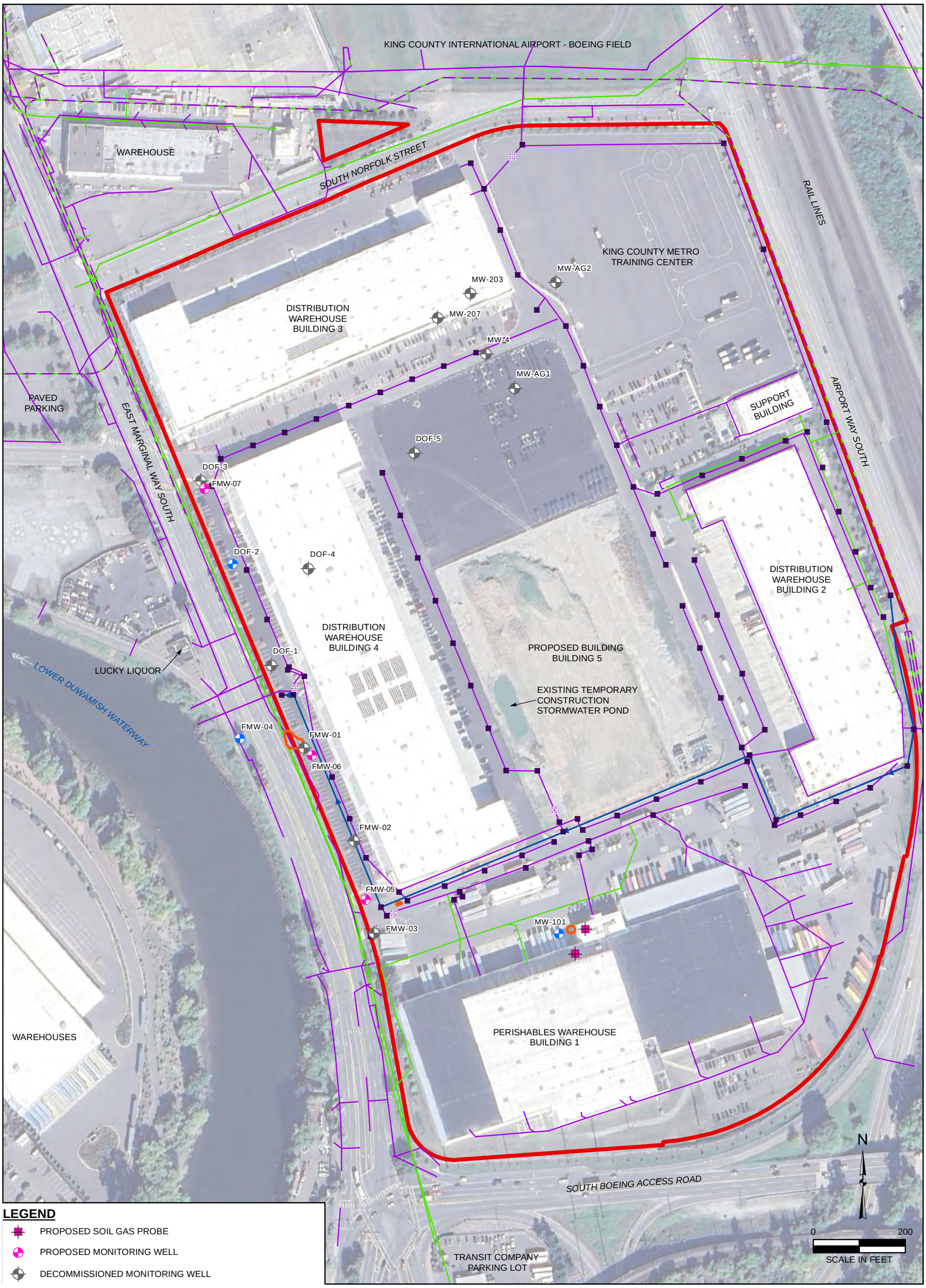
FIGURE 18

CONCEPTUAL SITE MODEL
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/15/2025 | Disc Reference: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\10A_2025\Figure-18_CSM.ai



LEGEND

- PROPOSED SOIL GAS PROBE
- PROPOSED MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- MONITORING WELL
- ESTIMATED EXTENT OF RESIDUAL PETROLEUM IMPACTED SOIL
- STORMWATER BIOPOD
- CATCH BASIN
- COMBINED SANITARY SEWER AND STORM DRAIN LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- WSDOT 60" STORMWATER LINE
- SITE BOUNDARY

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FIGURE 19

PROPOSED MONITORING WELLS
AND SOIL GAS PROBES
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/22/2025 | Disc Reference:

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TABLES

REMEDIAL INVESTIGATION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Former Detention Pond												
2019 Subsurface Investigation												
F-29	Farallon	F-29-2.5	2.5	6/27/2019	134	1,330	1,464	---	---	---	---	---
	Farallon	F-29-8.5	8.5	6/28/2019	< 6.19	< 12.4	< 12.4	---	---	---	---	---
Area 2: Perishables Warehouse												
P2-1	DOF	Probe 2-1	5 - 7	7/3/2001	**9,900**	< 570	**9,900**	---	---	---	---	---
EX-2-2	DOF	Exc. Spl. 2-2	7.0	4/2/2002	< 33	< 65	< 65	---	---	---	---	---
EX-2-3	DOF	Exc. Spl. 2-3	7.0	4/2/2002	1,300	< 59	1,300	---	---	---	---	---
EX-2-4	DOF	Exc. Spl. 2-4	3.0	4/2/2002	< 28	< 55	< 55	---	---	---	---	---
EX-2-5	DOF	Exc. Spl. 2-5	9.0	4/2/2002	< 34	< 68	< 68	---	---	---	---	---
EX-2-6	DOF	Exc. Spl. 2-6	7.0	4/2/2002	< 28	< 55	< 55	---	---	---	---	---
F-1	Farallon	F-1-5.7	5.7	10/20/2016	**5,900**	< 280	**5,900**	< 28	< 0.022	< 0.11	0.16	0.25
F-2	Farallon	F-2-7.0	7.0	10/20/2016	< 28	< 56	< 56	< 5.7	< 0.020	< 0.057	< 0.057	< 0.114
2019 Subsurface Investigation												
F-24	Farallon	F-24-9.0	9.0	6/27/2019	< 5.35	< 10.7	< 10.7	< 4.43	< 0.00115	< 0.00115	< 0.00115	< 0.00345
	Farallon	F-24-12.5	12.5	6/27/2019	< 6.8	32.9	32.9	< 8.07	0.00042 J	0.00043 J	< 0.00134	< 0.00401
	Farallon	F-24-19.0	19.0	6/27/2019	< 6.15	< 12.3	< 12.3	< 7.06	< 0.00107	0.00036 J	< 0.00107	< 0.00322
F-25	Farallon	F-25-9.0	9.0	6/27/2019	< 5.3	< 10.6	< 10.6	< 6.46	< 0.00102	0.00026 J	< 0.00102	< 0.00305
	Farallon	F-25-14.0	14.0	6/27/2019	< 6.97	29.0	29.0	< 11	< 0.00153	0.00042 J	< 0.00153	< 0.00459
	Farallon	F-25-19.0	19.0	6/27/2019	< 6.15	< 12.3	< 12.3	< 7.18	< 0.00123	0.00041 J	< 0.00123	< 0.0037
2020 Interim Action Excavation												
EX03-B-01	Farallon	EX03-B-01-14.5	14.5	6/22/2020	< 6.56	< 13.1	< 13.1	< 7.91 D	---	---	---	---
EX03-B-02	Farallon	EX03-B-02-14.0	14.0	6/22/2020	< 6.48	< 13	< 13	< 7.85 D	---	---	---	---
EX03-ESW-01	Farallon	EX03-ESW-01-7.0	7.0	6/22/2020	**5,380 D**	122	**5,502**	**1,330 D**	0.00537	0.0021	0.0009 J	0.00351
	Farallon	EX03-ESW-01-11.0	11.0	6/22/2020	7.34	12.9	20.24	< 7.37 D	---	---	---	---
EX03-NSW-01	Farallon	EX03-NSW-01-8.0	8.0	6/22/2020	< 5.74	17.2	17.2	< 5.42 D	---	---	---	---
EX03-SSW-01	Farallon	EX03-SSW-01-7.0	7.0	6/22/2020	109	17.1	126.1	16.3 D	---	---	---	---
	Farallon	EX03-SSW-01-12.0	12.0	6/22/2020	24.9	46.4	71.3	29 D	---	---	---	---
EX03-WSW-01	Farallon	EX03-WSW-01-11.0	11.0	6/22/2020	1,600 D	24.5	1,624.5	**635 D**	---	---	---	---
EX03-WSW-02	Farallon	EX03-WSW-02-8.0	8.0	6/22/2020	7.38	48.2	55.58	< 7.79 D	---	---	---	---
EX03-WSW-03	Farallon	EX03-WSW-03-8.0	8.0	6/22/2020	< 6.65	< 13.3	< 13.3	< 8.58 D	---	---	---	---
	Farallon	EX03-WSW-03-12.0	12.0	6/22/2020	< 6.05	19.5	19.5	< 6.87 D	---	---	---	---
Area 4: Former Fueling Area												
1998 UST Decommissioning												
Former Dispenser Island Excavation												
E. Sidewall	Global	East Sidewall	9.0	2/6/1998	< 35	< 69	< 69	< 6.9	< 0.07	< 0.07	< 0.07	< 0.14
S. Sidewall	Global	South Sidewall	9.0	2/6/1998	< 37	< 75	< 75	< 7.5	< 0.08	< 0.08	< 0.08	**0.46**
Bottom SW Corner	Global	Bottom SW Corner	14.0	2/6/1998	36	< 72	36	9.9	**4.8**	< 0.07	**0.61**	**1.98**
Boring B-1	Global	Boring B-1	7.0	5/28/2007	< 200	< 200	< 200	< 5.8	< 0.06	< 0.06	< 0.06	< 0.01
UST Excavation												
Tank 3 E Wall	Global	East Sidewall	Unknown	2/9/1998	< 36	< 59	< 59	---	---	---	---	---
West Wall	Global	West Sidewall	Unknown	2/9/1998	< 31	< 62	< 62	---	---	---	---	---
N. Wall	Global	North Sidewall	Unknown	2/9/1998	< 32	< 63	< 63	---	---	---	---	---
2002 Surface Spill Excavation												
4-1	Terra	Exc. Spl. 4-1	2.0	4/1/2002	300	190	490	---	---	---	---	---
4-3	Terra	Exc. Spl. 4-3	2.0	4/1/2002	54	<53	54	---	---	---	---	---
4-4	Terra	Exc. Spl. 4-4	2.0	4/1/2002	<28	190	190	---	---	---	---	---
4-5	Terra	Exc. Spl. 4-5	2.5	4/1/2002	<33	74	74	---	---	---	---	---
2016 Subsurface Investigation												
F-5	Farallon	F-5-6.0	6.0	10/26/2016	< 34	< 68	< 68	< 7.3	< 0.020	< 0.073	< 0.073	< 0.146
F-7	Farallon	F-7-7.0	7.0	10/26/2016	< 38	< 76	< 76	< 9.1	< 0.020	< 0.091	< 0.091	< 0.182
F-9	Farallon	F-9-8.0	8.0	10/26/2016	< 36	< 72	< 72	< 8.1	< 0.020	< 0.081	< 0.081	< 0.162
2019 UST Decommissioning												
DI	Farallon	DI-1-3.5-040819	3.5	4/8/2019	200 N	970	1,170	< 5.2	< 0.020	< 0.052	< 0.052	< 0.104
	Farallon	DI-2-3.5-040819	3.5	4/8/2019	< 26	< 52	< 52	< 6.0	< 0.020	< 0.060	< 0.060	< 0.12
	Farallon	DI-PIPING-3.5-040819	3.5	4/8/2019	< 34	89	89	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
TP1	Farallon	TP1-7.0	7.0	4/8/2019	72 N	320	392	< 13	< 0.026	< 0.13	< 0.13	< 0.26
	Farallon	TP1-12.0	12.0	4/8/2019	< 39	< 79	< 79	< 12	< 0.024	< 0.12	< 0.12	< 0.24
TP2	Farallon	TP2-7.0	7.0	4/9/2019	< 26	72	72	< 5.9	< 0.020	< 0.059	< 0.059	< 0.12
	Farallon	TP2-12.0	12.0	4/9/2019	63	< 70	63	< 9.4	< 0.020	< 0.094	< 0.094	< 0.19
2019 UST Decommissioning												
UST	Farallon	UST-1-B-13.0	13.0	4/5/2019	< 32	< 64	< 64	< 6.5	< 0.020	< 0.065	< 0.065	< 0.13
	Farallon	UST-2-B-13.0	13.0	4/5/2019	< 33	< 66	< 66	< 6.5	< 0.020	< 0.065	< 0.065	< 0.13
	Farallon	UST-E-SW-11.0	11.0	4/5/2019	< 27	53	53	< 4.5	< 0.020	< 0.045	< 0.045	< 0.09
	Farallon	UST-N-SW-11.0	11.0	4/5/2019	< 27	< 54	< 54	< 4.3	< 0.020	< 0.043	< 0.043	< 0.086
	Farallon	UST-S-SW-11.0	11.0	4/5/2019	160	< 72	160	< 8.0	< 0.020	< 0.080	< 0.080	< 0.16
	Farallon	UST-W-SW-11.0	11.0	4/5/2019	< 37	< 74	< 74	< 8.5	< 0.020	< 0.085	< 0.085	< 0.17
2019 Subsurface Investigation												
FMW-02	Farallon	FMW-02-6.0	6.0	6/26/2019	< 6.02	< 12.0	< 12.0	---	---	---	---	---
	Farallon	FMW-02-11.0	11.0	6/26/2019	< 7.98	93.8	93.8	---	---	---	---	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Area 5: Former Trailer Maintenance Shop												
P5-1	DOF	Probe 5-1	9 - 11	6/28/2001	< 72	< 140	< 140	< 29	---	---	---	---
P5-2	DOF	Probe 5-2	7 - 9	6/28/2001	1,800	190	1,990	< 28	---	---	---	---
	DOF	Probe 5-2	9 - 11	6/28/2001	< 69	< 140	< 140	< 28	---	---	---	---
P5-4	DOF	Probe 5-4	9 - 11	6/28/2001	< 79	< 160	< 160	< 32	---	---	---	---
P5-5	DOF	Probe 5-5	3 - 5	7/2/2001	< 52	< 100	< 100	< 21	---	---	---	---
	DOF	Probe 5-5	7 - 9	7/2/2001	< 59	< 120	< 120	< 24	---	---	---	---
	DOF	Probe 5-5	11 - 13	7/2/2001	< 68	< 140	< 140	< 27	---	---	---	---
F-11	Farallon	F-11-8.0	8.0	10/18/2016	< 31	< 63	< 63	< 5.8	< 0.0011	< 0.0055	< 0.0011	< 0.0033
F-12	Farallon	F-12-6.7	6.7	10/17/2016	< 29	< 58	< 58	< 7.3	< 0.0016	< 0.0081	< 0.0016	< 0.0049
F-13	Farallon	F-13-2.5	2.5	10/18/2016	< 26	< 52	< 52	< 5.9	< 0.0011	< 0.0055	< 0.0011	< 0.0033
F-14	Farallon	F-14-6.0	6.0	10/18/2016	< 28	< 56	< 56	< 5.4	< 0.00093	< 0.0046	< 0.00093	< 0.0028
Area 6: Former Truck Repair Shop												
2001 and 2007 Subsurface Investigation												
P6-7	DOF	Probe 6-7	9 - 11	7/2/2001	< 67	< 130	< 130	< 27	---	---	---	---
P-DOF-6.1	DOF	P-DOF-6.1	8.0	2/2007	< 72	< 144	< 144	< 29	---	---	---	---
P-DOF-6.2	DOF	P-DOF-6.2	8.0	2/2007	< 76	< 152	< 152	< 30	---	---	---	---
P-DOF-6.3	DOF	P-DOF-6.3	8.0	2/2007	< 139	< 69	< 139	< 28	---	---	---	---
P-DOF-6.4	DOF	P-DOF-6.4	8.0	2/2007	< 60	< 119	< 119	< 24	---	---	---	---
P-DOF-6.5	DOF	P-DOF-6.5	8.0	2/2007	< 76	< 151	< 151	< 30	---	---	---	---
P-DOF-6.6	DOF	P-DOF-6.6	8.0	2/2007	< 61	< 121	< 121	< 24	---	---	---	---
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	2/2007	< 55	< 110	< 110	< 22	---	---	---	---
2007 Excavation												
CS-B04	DOF	CS-B04	11.5	8/2/2007	140	27	167	51	< 0.026	< 0.026	< 0.026	< 0.052
CS-B05	DOF	CS-B05	10.5	8/2/2007	< 6.7	< 13	< 13	< 9.7	< 0.024	< 0.024	< 0.024	< 0.048
CS-B06	DOF	CS-B06	11.5	8/2/2007	11	41	52	< 13	< 0.032	< 0.032	< 0.032	< 0.064
CS-B07	DOF	CS-B07	11.0	8/3/2007	230	48	278	61	< 0.028	< 0.028	< 0.028	0.055
2007 Excavation												
CS-B09	DOF	CS-B09	11.5	8/6/2007	12	32	44	32	< 0.031	< 0.031	< 0.031	< 0.063
CS-B10	DOF	CS-B10	11.5	8/6/2007	120	120	240	22	< 0.034	< 0.034	< 0.034	< 0.068
CS-B11R1	DOF	CS-B11R1	15.0	8/9/2007	16	17	33	13	< 0.022	< 0.022	< 0.022	< 0.044
CS-B13	DOF	CS-B13	15.0	8/9/2007	< 7	18	18	19	< 0.027	< 0.027	< 0.027	**0.059**
CS-B14	DOF	CS-B14	15.0	8/9/2007	< 7	21	21	11	< 0.027	< 0.027	< 0.027	< 0.054
CS-B15	DOF	CS-B15	16.0	8/9/2007	300	47	347	26	< 0.031	< 0.031	< 0.031	< 0.062
CS-B16	DOF	CS-B16	15.0	8/15/2007	12	22	34	41	< 0.026	< 0.026	**0.027**	< 0.052
CS-B17	DOF	CS-B17	15.0	8/15/2007	< 6.1	< 12	< 12	14	< 0.021	0.029	**0.040**	**0.20**
CS-B18	DOF	CS-B18	15.0	8/15/2007	< 6.9	< 14	< 14	29	**1.4**	< 0.026	**0.043**	**0.069**
CS-B19	DOF	CS-B19	13.5	8/17/2007	< 6.3	< 12	< 12	< 14	< 0.034	< 0.034	< 0.034	< 0.068
CS-B20	DOF	CS-B20	12.0	8/17/2007	< 6.8	16	16	27	**0.031**	< 0.017	**0.017**	0.037
CS-B22	DOF	CS-B22	11.5	8/21/2007	< 6.5	< 13	< 13	< 9.0	< 0.022	< 0.022	< 0.022	< 0.045
CS-B24	DOF	CS-B24	12.0	8/22/2007	110	20	130	50	< 0.026	**0.051**	< 0.026	< 0.052
CS-B25	DOF	CS-B25	12.5	8/22/2007	550	41	591	95	< 0.025	< 0.025	**0.10**	**0.76**
CS-B26	DOF	CS-B26	12.5	8/22/2007	170	29	199	70	< 0.024	< 0.024	< 0.024	< 0.048
CS-B27	DOF	CS-B27	12.0	8/22/2007	330	39	369	66	< 0.025	< 0.025	< 0.025	**0.49**
CS-B30	DOF	CS-B30	13.0	8/27/2007	< 6.8	< 14	< 14	10	< 0.023	< 0.023	< 0.023	< 0.046
CS-B31	DOF	CS-B31	9.0	8/28/2007	< 7.6	22	22	< 12	< 0.029	< 0.029	< 0.029	**0.066**
CS-B32	DOF	CS-B32	10.0	8/28/2007	< 7.5	15	15	< 13	< 0.032	< 0.032	< 0.032	< 0.064
CS-B33	DOF	CS-B33	10.0	8/29/2007	< 7.2	< 14	< 14	< 11	< 0.028	< 0.028	< 0.028	**0.07**
CS-B34	DOF	CS-B34	10.0	8/29/2007	< 5.3	11	11	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
CS-B35	DOF	CS-B35	15.0	8/30/2007	< 6.5	< 13	< 13	15	**0.37**	< 0.025	**0.037**	**0.16**
CS-B36	DOF	CS-B36	14.0	8/30/2007	< 6.3	< 13	< 13	< 8.4	< 0.021	< 0.021	< 0.021	< 0.042
CS-SW02	DOF	CS-SW02	7.5	8/1/2007	6.9	13	19.9	8.7	< 0.019	< 0.019	< 0.019	< 0.038
CS-SW03	DOF	CS-SW03	6.0	8/2/2007	11	< 12	11	10	< 0.018	< 0.018	< 0.018	< 0.035
CS-SW04	DOF	CS-SW04	8.5	8/2/2007	< 6.7	< 13	< 13	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
CS-SW05	DOF	CS-SW05	8.0	8/2/2007	< 5.8	< 12	< 12	< 7.2	< 0.018	< 0.018	< 0.018	< 0.036
CS-SW06	DOF	CS-SW06	7.5	8/2/2007	72	260	332	< 17	< 0.043	< 0.043	< 0.043	< 0.086
CS-SW07	DOF	CS-SW07	9.5	8/3/2007	670	120	790	52	< 0.032	< 0.032	< 0.032	< 0.064
CS-SW08R1	DOF	CS-SW08R1	8.0	8/7/2007	25	68	93	44	< 0.015	< 0.015	0.029	< 0.030
CS-SW09	DOF	CS-SW09	8.0	8/14/2007	< 6.6	15	15	< 9.6	< 0.024	< 0.024	< 0.024	< 0.048
CS-SW10	DOF	CS-SW10	8.0	8/15/2007	< 5.4	< 11	< 11	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
2007 Excavation												
CS-SW11	DOF	CS-SW11	8.5	8/21/2007	21	64	85	< 11	< 0.027	< 0.027	< 0.027	< 0.054
CS-SW18	DOF	CS-SW18	9.0	8/23/2007	740	46	786	96	< 0.029	< 0.029	**0.031**	**0.39**
CS-SW19	DOF	CS-SW19	9.0	8/27/2007	< 6.3	15	15	< 8.2	< 0.020	< 0.020	< 0.020	< 0.041
CS-SW20	DOF	CS-SW20	7.5	8/27/2007	12	30	42	< 6.5	< 0.016	< 0.016	< 0.016	< 0.032
CS-SW21	DOF	CS-SW21	6.0	8/28/2007	16	15	31	20	< 0.023	< 0.023	< 0.023	< 0.045
CS-SW22	DOF	CS-SW22	7.0	8/28/2007	< 5.8	< 12	< 12	< 7.2	< 0.018	< 0.018	< 0.018	< 0.036
CS-SW23	DOF	CS-SW23	8.0	8/29/2007	< 6.1	< 12	< 12	< 7.7	< 0.019	< 0.019	< 0.019	< 0.039
CS-SW24	DOF	CS-SW24	8.0	8/29/2007	< 5.6	< 11	< 11	< 6.4	< 0.016	< 0.016	< 0.016	< 0.032
CS-SW25	DOF	CS-SW25	9.0	8/30/2007	< 5.6	< 11	< 11	< 6.8	< 0.017	< 0.017	< 0.017	< 0.034
CS-SW26	DOF	CS-SW26	9.0	8/30/2007	44	< 14	44	72	**0.54**	**0.057**	**0.75**	**4.7**
CS-SW27	DOF	CS-SW27	9.0	8/30/2007	33	< 14	33	**150**	**0.56**	**0.057**	**2.7**	**3.8**
CS-SW28	DOF	CS-SW28	8.0	8/30/2007	< 5.3	< 11	< 11	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
PS-B01	DOF	PS-B01	7.5	7/30/2007	6.7	< 12.0	6.7	< 7.8	< 0.039	< 0.039	< 0.039	< 0.078
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Area 6: Former Truck Repair Shop (continued)												
2007 Excavation (continued)												
PS-B06	DOF	PS-B06	14.0	8/6/2007	120	19	139	12	< 0.024	< 0.024	< 0.024	< 0.048
PS-SW03	DOF	PS-SW03	6.5	7/31/2007	< 6.5	< 13	< 13	< 9.6	< 0.024	< 0.024	< 0.024	< 0.048
2020 Interim Action Excavation												
FTP-08	Farallon	FTP-08-7.0	7.0	9/9/2020	28 X	67	95	74	**0.57**	0.062	**2.3**	0.58
	Farallon	FTP-08-11.0	11.0	9/9/2020	110	< 10	110	93	**0.0029**	< 0.001	0.0087	0.0067
FTP-09	Farallon	FTP-09-7.0	7.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	FTP-09-10.0	10.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
FTP-10	Farallon	FTP-10-9.0	9.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	FTP-10-12.0	12.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
FTP-11	Farallon	FTP-11-6.0	6.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	FTP-11-13.0	13.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
FTP-12	Farallon	FTP-12-7.0	7.0	9/9/2020	14 X	40	54	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	FTP-12-11.0	11.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
FTP-13	Farallon	FTP-13-11.0	11.0	9/9/2020	5 X	32 X	37	12	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	FTP-13-13.0	13.0	9/9/2020	< 5	18 X	18	< 5	< 0.001	< 0.001	< 0.001	< 0.003
FTP-14	Farallon	FTP-14-9.0	9.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	FTP-14-14.0	14.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
FTP-15	Farallon	FTP-15-8.0	8.0	9/9/2020	17 X	61	78	12	**0.17**	0.052	0.078	0.26
	Farallon	FTP-15-14.0	14.0	9/9/2020	35	29	64	**410**	**0.13**	0.0027	**0.20**	**0.100**
FTP-16	Farallon	FTP-16-9.0	9.0	9/9/2020	77	78	155	**150**	**19**	**1.5**	**32**	**79.2**
	Farallon	FTP-16-15.0	15.0	9/9/2020	550	25 X	575	**1,200**	**32**	**2.4**	**110**	**374.2**
FTP-17	Farallon	FTP-17-7.0	7.0	9/9/2020	21 X	89	110	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	FTP-17-13.0	13.0	9/9/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-01	Farallon	EX04-B-01-18.0	18.0	9/17/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-02	Farallon	EX04-B-02-10.0	10.0	9/18/2020	**2,700**	52 X	**2,752**	**1,600**	**0.88**	< 0.05	**7.2**	**0.18**
EX04-B-03	Farallon	EX04-B-03-20.0	20.0	9/18/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-04	Farallon	EX04-B-04-18.0	18.0	9/21/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-05	Farallon	EX04-B-05-18.0	18.0	9/21/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-07	Farallon	EX04-B-07-18.0	18.0	9/22/2020	150	< 10	150	33	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-09	Farallon	EX04-B-09-18.0	18.0	9/22/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-10	Farallon	EX04-B-10-18.0	18.0	9/30/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-11	Farallon	EX04-B-11-20.0	20.0	9/30/2020	< 5	26	26	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-B-12	Farallon	EX04-B-12-16.0	16.0	9/30/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SE-04	Farallon	EX04-SE-04-10.0	10.0	9/22/2020	62 X	710	772	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SE-05	Farallon	EX04-SE-05-10.0	10.0	9/22/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SE-06	Farallon	EX04-SE-06-10.0	10.0	9/30/2020	< 5	36	36	27	**0.0015**	0.0012	< 0.001	0.0165
EX04-SE-08	Farallon	EX04-SE-08-10.0	10.0	9/30/2020	< 5	50	50	9.5	**0.0019**	0.0012	0.0021	0.0255
EX04-SW-01	Farallon	EX04-SW-01-16.0	16.0	9/21/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	0.0013	0.0023
EX04-SW-02	Farallon	EX04-SW-02-10.0	10.0	9/22/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SW-03	Farallon	EX04-SW-03-10.0	10.0	9/22/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SW-04	Farallon	EX04-SW-04-10.0	10.0	9/22/2020	< 5	34	34	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SW-06	Farallon	EX04-SW-06-6.0	6.0	9/30/2020	2,000 X	**2,800**	**4,800**	**4,300**	< 0.001	< 0.001	0.0021	< 0.003
EX04-SW-07	Farallon	EX04-SW-07-10.0	10.0	9/30/2020	< 5	38	38	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SW-09	Farallon	EX04-SW-09-10.0	10.0	9/30/2020	< 5	18	18	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SW-10	Farallon	EX04-SW-10-10.0	10.0	9/30/2020	< 5	12	12	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SW-11	Farallon	EX04-SW-11-9.0	9.0	9/30/2020	6.3 X	16	22.3	< 5	< 0.001	< 0.001	< 0.001	< 0.003
EX04-SW-Pipe	Farallon	EX04-SW-PIPE-14.0	14.0	9/22/2020	110 X	120 X	230	**110**	< 0.002	< 0.002	< 0.002	0.0045
2020 Utility Infrastructure Trenching												
SST-ESW-02	Farallon	SST-ESW-02-4.0	4.0	9/16/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
East of Area 6												
2020 UST Decommissioning												
UST01	Farallon	UST01-B-10.0	10.0	8/20/2020	< 5	19	19	< 5	< 0.0010	< 0.0010	< 0.0010	< 0.0030
UST01	Farallon	UST01-E-7.0	7.0	8/20/2020	23 X	94	117	< 5	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	Farallon	UST01-N-7.0	7.0	8/20/2020	20 X	62	82	< 5	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	Farallon	UST01-S-7.0	7.0	8/20/2020	15 X	68	83	< 5	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	Farallon	UST01-W-7.0	7.0	8/20/2020	170	100	270	9.8	< 0.0010	< 0.0010	< 0.0010	< 0.0030
UST02	Farallon	UST02-B-7.0	7.0	8/20/2020	19 X	79	98	< 5	< 0.0010	< 0.0010	< 0.0010	< 0.0030
	Farallon	UST02-N-5.0	5.0	8/20/2020	18	40	58	< 5	---	---	---	---
	Farallon	UST02-S-5.0	5.0	8/20/2020	49	100	149	< 5	---	---	---	---
UST03	Farallon	UST03-02-5.0	5.0	10/2/2020	**22,000 J**	**5,300 J**	**27,300**	**620**	**0.066**	**0.95**	**0.69**	**4.8**
	Farallon	UST03-B-01-8.0	8.0	10/8/2020	41 X	180	221	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-B-02-9.0	9.0	10/8/2020	18	48	66	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-B-03-10.0	10.0	10/8/2020	< 5	37	37	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-SW-01-7.0	7.0	10/8/2020	31 X	150	181	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-SW-02-7.0	7.0	10/8/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-SW-03-7.0	7.0	10/8/2020	28 X	130	158	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-SW-04-7.0	7.0	10/8/2020	200 X	170	370	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-SW-05-7.0	7.0	10/8/2020	38 X	190	228	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-SW-06-7.0	7.0	10/8/2020	50 X	230	280	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST03-SW-07-7.0	7.0	10/8/2020	29 X	130	159	< 5	< 0.001	< 0.001	< 0.001	< 0.003
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Area 7: Former Automobile Service Stations												
2001 and 2008 Subsurface Investigation												
P7-4	DOF	Probe 7-4	4 - 6	7/25/2001	< 64	< 130	< 130	< 26	---	---	---	---
P7-4	DOF	Probe 7-4	6 - 8	7/25/2001	< 76	< 150	< 150	< 140	---	---	---	---
P7-5	DOF	Probe 7-5	4 - 6	7/25/2001	< 70	< 140	< 140	< 28	---	---	---	---
SS-1	DOF	SS-1	0.3-1.3	10/29/2008	110	870	980	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
SS-2	DOF	SS-2	0.3-1.3	10/29/2008	160	980	1,140	< 5.9	< 0.015	< 0.015	< 0.015	< 0.029
SS-3	DOF	SS-3	0.3-1.3	10/29/2008	200	1,300	1,500	9	< 0.014	< 0.014	< 0.014	< 0.028
SS-4	DOF	SS-4	0.3-1.3	10/29/2008	140	930	1,070	7.1	< 0.015	< 0.015	< 0.015	< 0.029
SS-5	DOF	SS-5	0.3-1.3	10/29/2008	220	1,300	1,520	< 5.3	< 0.013	< 0.013	< 0.013	< 0.027
2019 Subsurface Investigation												
FMW-01	Farallon	FMW-01-5.0	5.0	6/26/2019	< 6.27	< 12.5	< 12.5	< 8.02	0.00497	0.00189	< 0.00117	0.00085
	Farallon	FMW-01-10.0	10.0	6/26/2019	68.4	< 13.2	68.4	**5,360**	< 1.64	< 1.64	**3.5**	**13.4**
	Farallon	FMW-01-14.0	14.0	6/26/2019	< 6.3	< 12.6	< 12.6	**4,700**	< 1.49	< 1.49	**5.84**	**27**
	Farallon	FMW-01-19.0	19.0	6/26/2019	< 5.99	< 12.0	< 12.0	< 6.5	< 0.00113	< 0.00113	< 0.00113	< 0.00339
2020 Interim Action Excavation												
B-01	Farallon	B-01-16.0	16.0	6/11/2020	16.4	157	173.4	100	< 0.0894	< 0.0894	**0.0658 J**	**0.209**
B-03	Farallon	B-03-18.0	18.0	6/18/2020	---	---	---	< 6.83	< 0.00118	0.00022 J	< 0.00118	0.00074 J
FTP-01	Farallon	FTP-01-5.0	5.0	6/5/2020	---	---	---	21.7 D	< 0.00137	< 0.00137	< 0.00137	< 0.00411
	Farallon	FTP-01-10.0	10.0	6/5/2020	< 6.99	< 14	< 14	< 9.39 D	**0.00078 J**	< 0.00142	< 0.00142	< 0.00427
	Farallon	FTP-01-15.0	15.0	6/5/2020	< 6.3	< 12.6	< 12.6	< 7.43 D	< 0.00112	< 0.00112	< 0.00112	< 0.00337
FTP-02	Farallon	FTP-02-5.0	5.0	6/5/2020	---	---	---	33.2 D	0.00072 J	0.00047 J	< 0.00135	< 0.00405
	Farallon	FTP-02-10.0	10.0	6/5/2020	---	---	---	26.7 D	< 0.00123	< 0.00123	< 0.00123	< 0.00368
	Farallon	FTP-02-15.0	15.0	6/5/2020	---	---	---	< 10.6 D	< 0.00136	< 0.00136	< 0.00136	< 0.00407
FTP-03	Farallon	FTP-03-5.0	5.0	6/5/2020	---	---	---	35.6 D	< 0.00097	< 0.00097	< 0.00097	< 0.0029
	Farallon	FTP-03-10.0	10.0	6/5/2020	< 6.7	< 13.4	< 13.4	< 8.33 D	0.00049 J	< 0.00132	< 0.00132	< 0.00395
	Farallon	FTP-03-15.0	15.0	6/5/2020	< 6.19	< 12.4	< 12.4	50.3 D	< 0.00121	< 0.00121	< 0.00121	< 0.00363
FTP-05	Farallon	FTP-05-5.0	5.0	6/5/2020	---	---	---	< 6.93 D	0.00046 J	< 0.00117	< 0.00117	< 0.00351
	Farallon	FTP-05-10.0	10.0	6/5/2020	< 6.66	40.7	40.7	< 8.17 D	**0.00057 J**	< 0.00123	< 0.00123	< 0.00369
	Farallon	FTP-05-15.0	15.0	6/5/2020	13.4	115	128.4	< 7 D	**0.00078 J**	< 0.00103	< 0.00103	< 0.00308
FTP-06	Farallon	FTP-06-5.0	5.0	6/5/2020	---	---	---	32.8 D	0.00074 J	0.00056 J	0.00118 J	0.01024 J
	Farallon	FTP-06-10.0	10.0	6/5/2020	23.9	< 13.2	23.9	**2,620 D**	< 0.0694 D	< 0.0694 D	< 0.0694 D	< 0.2084 D
	Farallon	FTP-06-15.0	15.0	6/5/2020	< 6.06	< 12.1	< 12.1	97.9 D	0.00033 J	< 0.00091	**0.0116**	0.02771 J
FTP-07	Farallon	FTP-07-5.0	5.0	6/5/2020	69.1	101	170.1	21.5 D	0.00528	0.00208	0.00153	0.00189 J
	Farallon	FTP-07-10.0	10.0	6/5/2020	**2,450 D**	677 D	**3,127**	**5,590 D**	< 1.29 D	< 1.29 D	**3.75 D**	**19.4 D**
	Farallon	FTP-07-15.0	15.0	6/5/2020	281	93.2	374.2	**1,760 D**	< 1.31 D	< 1.31 D	**3.69 D**	**13.5 D**
	Farallon	FTP-07-16.0	16.0	6/5/2020	< 6.24	< 12.5	< 12.5	< 7.52 D	< 0.00136	< 0.00136	< 0.00136	< 0.00408
NSW-01	Farallon	NSW-01-7.0	7.0	6/11/2020	< 6.9	20.0	20.0	< 9.73	0.00201	0.00057 J	< 0.00135	< 0.00405
	Farallon	NSW-01-15.0	15.0	6/11/2020	8.53	15.0	23.53	< 7.98	**0.00057 J**	< 0.00126	< 0.00126	< 0.00378
SSW-01	Farallon	SSW-01-7.0	7.0	6/18/2020	---	---	---	< 8.35	0.00073 J	0.00071 J	< 0.0018	< 0.0054
	Farallon	SSW-01-15.0	15.0	6/18/2020	---	---	---	< 7.39	< 0.00117	0.00022 J	< 0.00117	< 0.0035
WSW-01	Farallon	WSW-01-7.0	7.0	6/11/2020	70.4	61.6	132	**4,880 D**	< 1.91	< 1.91	**2.79 D**	**9.735 D J**
	Farallon	WSW-01-15.0	15.0	6/11/2020	118	23.9	141.9	**11,900 D**	< 1.41	< 1.41	**31 D**	**130.47 D J**
2021 Right-of-Way Subsurface Investigation												
F-34	Farallon	F-34-8	8.0	4/28/2021	5.0 X	< 10	5.0	6.9	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	F-34-14	14.0	4/28/2021	< 5	< 10	< 10	9.2	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	F-34-18	18.0	4/28/2021	< 5	< 10	< 10	6.8	< 0.001	< 0.001	< 0.001	< 0.003
F-35	Farallon	F-35-9	9.0	4/28/2021	8.7 X	< 10	8.7	20	**0.0011**	< 0.002	< 0.002	0.018
	Farallon	F-35-13	13.0	4/28/2021	1,700 X	< 10	1,700	**8,200**	**0.11**	< 0.5	**23**	**28**
	Farallon	F-35-20	20.0	4/28/2021	< 5	< 10	< 10	7.2	< 0.001	< 0.001	< 0.001	< 0.003
F-36	Farallon	F-36-8	8.0	4/28/2021	< 5	< 10	< 10	7.7	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	F-36-14	14.0	4/28/2021	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	F-36-20	20.0	4/28/2021	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
F-37	Farallon	F-37-8	8.0	4/28/2021	6.1 X	< 10	6.1	17	< 0.001	< 0.001	< 0.001	0.0034
	Farallon	F-37-14.5	14.5	4/28/2021	770 X	< 10	770	**11,000**	< 0.3	< 0.5	**0.87**	**11**
	Farallon	F-37-20	20.0	4/28/2021	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
F-38	Farallon	F-38-8.5	8.5	4/28/2021	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	F-38-12	12.0	4/28/2021	380 X	< 10	380	**3,400**	< 0.005	< 0.005	< 0.006	< 0.016
	Farallon	F-38-14.5	14.5	4/28/2021	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
2022 Right-of-Way Well Installation												
FMW-04	Farallon	FMW-4-10.0	10.0	10/20/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
2022 Utility Infrastructure Trenching												
SST01-ESW	Farallon	SST01-ESW	2.0	11/10/2022	130 X	1,100	1,230	< 5	< 0.001	< 0.001	0.0015	0.0051
SST01-WSW-3.0	Farallon	SST01-WSW-3.0	3.0	11/16/2022	75 X	820	895	< 5	< 0.03	< 0.05	< 0.05	< 0.15
SST01-B	Farallon	SST01-B	9.0	11/10/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
2024 Utility Infrastructure Trench Samples												
WSW-02	Farallon	WSW-02-3.0	3.0	4/17/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
WSW-03	Farallon	WSW-03-4.0	4.0	4/17/2024	< 50	420	420	< 5	< 0.001	< 0.001	< 0.001	< 0.003
Stockpile Samples												
STP01-111022	Farallon	STP01-111022	NA	11/10/2022	710 X	**4,900**	**5,610**	< 5	< 0.001	< 0.001	< 0.001	< 0.003
SP-01-041724	Farallon	SP-01-041724	NA	4/17/2024	< 50	420	420	**460**	< 0.001	< 0.001	**0.55**	0.601
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Area 11: Former South Maintenance Shop												
1996 UST Decommissioning												
B-1	Global	B-1@4.5'	4.5	April 1996	---	---	---	---	---	< 23	< 23	< 46
	Global	B-1@9'	9.0	April 1996	---	---	---	---	---	< 21	< 21	< 42
B-2	Global	B-2@4.5'	4.5	April 1996	---	---	---	---	---	< 23	< 23	< 46
	Global	B-2@6'	6.0	April 1996	---	---	---	---	---	**32**	**4 J**	**30 J**
	Global	B-2@15'	15.0	April 1996	---	---	---	---	---	< 24	< 24	< 48
B-3	Global	B-3@4.5'	4.5	April 1996	---	---	---	---	---	< 25	< 25	< 50
	Global	B-3@7.5'	7.5	April 1996	---	---	---	---	---	< 23	**4 J**	< 46
	Global	B-3@10'	10.0	April 1996	---	---	---	---	---	< 20	**51**	**135 J**
2016 Subsurface Investigation												
F-20	Farallon	F-20-7.0	7.0	10/18/2016	< 34	< 68	< 68	< 8.8	< 0.0015	< 0.0074	< 0.0015	< 0.0045
F-22	Farallon	F-22-7.0	7.0	10/19/2016	< 32	< 63	< 63	< 6.6	< 0.0010	< 0.0050	< 0.0010	< 0.0030
2019 Subsurface Investigation												
FMW-03	Farallon	FMW-03-6.0	6.0	6/26/2019	< 6.48	< 13	< 13	< 8.46	< 0.0014	< 0.0014	< 0.0014	< 0.0028
	Farallon	FMW-03-13.0	13.0	6/26/2019	14.8	89.5	104.3	< 10.8	0.00047 J	< 0.0014	< 0.0014	< 0.0028
	Farallon	FMW-03-18.0	18.0	6/26/2019	< 5.9	< 11.8	< 11.8	< 6.91	< 0.0012	< 0.0012	< 0.0012	< 0.00241
2020 Utility Infrastructure Trenching												
DWT-B-01	Farallon	DWT-B-01-3.0	3.0	7/16/2020	47.2	248	295.2	38.8 D	0.00041 J	0.00039 J	< 0.00138	< 0.00414
DWT-NSW-01	Farallon	DWT-NSW-01-1.5	1.5	7/16/2020	16.4	88.6	105	< 5.55 D	< 0.00104	< 0.00104	< 0.00104	< 0.00311
DWT-SSW-01	Farallon	DWT-SSW-01-1.5	1.5	7/16/2020	341 D	56.9 D	397.9	54.5 D	< 0.00108	< 0.00108	< 0.00108	< 0.00325
SWT-B-01	Farallon	SWT-B-01-2.0	2.0	8/27/2020	34	11	45	< 5	---	---	---	---
SWT-B-02	Farallon	SWT-B-02-8.0	8.0	8/27/2020	< 5	10	10	< 5	---	---	---	---
SWT-B-03	Farallon	SWT-B-03-8.0	8.0	8/28/2020	< 5	19	19	< 5	---	---	---	---
SWT-B-04	Farallon	SWT-B-04-7.0	7.0	8/28/2020	< 5	40	40	< 5	---	---	---	---
SWT-B-05	Farallon	SWT-B-05-7.0	7.0	8/28/2020	< 5	< 10	< 10	< 5	---	---	---	---
SWT-B-SSW-01	Farallon	SWT-B-SSW-01-2.0	2.0	8/27/2020	18 X	110	128	< 5	---	---	---	---
SWT-NSW-01	Farallon	SWT-NSW-01-2.0	2.0	8/27/2020	< 5	23	23	< 5	---	---	---	---
SWT-NSW-02	Farallon	SWT-NSW-02-2.0	2.0	8/28/2020	9.2 X	96	105.2	< 5	---	---	---	---
SWT-NSW-03	Farallon	SWT-NSW-03-3.0	3.0	8/28/2020	< 5	24	24	< 5	---	---	---	---
SWT-NSW-04	Farallon	SWT-NSW-04-3.0	3.0	8/28/2020	25 X	280	305	< 5	---	---	---	---
SWT-SSW-02	Farallon	SWT-SSW-02-2.0	2.0	8/28/2020	56 X	450	506	< 5	---	---	---	---
SWT-SSW-03	Farallon	SWT-SSW-03-3.0	3.0	8/28/2020	13 X	130	143	< 5	---	---	---	---
SWT-SSW-04	Farallon	SWT-SSW-04-3.0	3.0	8/28/2020	< 5	28	28	< 5	---	---	---	---
SWT02-B-01	Farallon	SWT02-B-01-5.0	5.0	10/26/2020	6.4 X	68	74.4	< 5	< 0.001	< 0.001	< 0.001	< 0.003
Stockpile-01	Farallon	TOCKPILE-01-01-2020071	NA	7/14/2020	13.6	68.2	81.8	< 8.55 D	0.00039 J	< 0.00105	< 0.00105	< 0.00315
	Farallon	TOCKPILE-01-02-2020071	NA	7/14/2020	9.58	57.7	67.28	< 5.96 D	0.00075 J	0.00024 J	< 0.0011	< 0.00330
	Farallon	TOCKPILE-01-03-2020071	NA	7/14/2020	106 D	537 D	643	32.6 D	0.00062 J	0.00035 J	< 0.00099	< 0.00298
Stockpile-04	Farallon	STOCKPILE-04-20200716	NA	7/16/2020	317	**2,150**	**2,467**	23.7 D	< 0.00105	< 0.00105	< 0.00105	< 0.00315
STP03-01	Farallon	STP03-01-100820	NA	10/8/2020	120	870	990	35	---	---	---	---
2020 UST Decommissioning												
UST04	Farallon	UST04-B-01-8.0	8.0	10/21/2020	590	150	740	**370**	0.0022	0.040	0.026	0.317
	Farallon	UST04-B-02-14.0	14.0	10/21/2020	< 5	< 10	< 10	< 5	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST04-ESW-01-10.0	10.0	10/21/2020	19 X	180	199	23	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST04-NSW-01-10.0	10.0	10/21/2020	89 X	230	319	**200**	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST04-SSW-01-8.0	8.0	10/21/2020	9.5 X	110	119.5	7.6	< 0.001	< 0.001	< 0.001	< 0.003
	Farallon	UST04-WSW-01-8.0	8.0	10/21/2020	18 X	240	258	13	< 0.001	< 0.001	< 0.001	0.0039
Area 12: Former Old Humble Oil Service Station												
P-1	Terra	P-1@6-8 feet	6 - 8	11/23/1998	< 37	< 75	< 75	---	---	---	---	---
	Terra	P-1@8-10 feet	8 - 10	11/23/1998	< 33	< 67	< 67	---	---	---	---	---
P-2	Terra	P-2@6-8 feet	6 - 8	11/23/1998	< 36	< 71	< 71	---	---	---	---	---
	Terra	P-2@8-10 feet	8 - 10	11/23/1998	< 33	< 67	< 67	---	---	---	---	---
P-3	Terra	P-3@6-8 feet	6 - 8	11/23/1998	< 38	< 76	< 76	---	---	---	---	---
	Terra	P-3@8-10 feet	8 - 10	11/23/1998	< 34	< 68	< 68	---	---	---	---	---
2023 Utility Infrastructure Trenching												
SST02-NSW-6.0	Farallon	SST02-NSW-6.0	6.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-NSW-10.0	Farallon	SST02-NSW-10.0	10.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-ESW-6.0	Farallon	SST02-ESW-6.0	6.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-ESW-10.0	Farallon	SST02-ESW-10.0	10.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-SSW-7.0	Farallon	SST02-SSW-7.0	7.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-SSW01-10.0	Farallon	SST02-SSW01-10.0	10.0	1/30/2023	< 50	< 250	< 250	97	< 0.02 J	< 0.1	< 0.1	< 0.3
SST02-WSW-6.0	Farallon	SST02-WSW-6.0	6.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-WSW-10.0	Farallon	SST02-WSW-10.0	10.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-WSW-11.0	Farallon	SST02-WSW-11.0	11.0	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST02-Trench Box	Farallon	SST02-TRENCH BOX -11.5	11.5	2/3/2023	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
SST03-W	Farallon	SST03-W-6.0	6.0	3/14/2023	76	< 250	76	< 5	< 0.03	< 0.05	< 0.05	< 0.15
SST03-E	Farallon	SST03-E-5.0	5.0	3/14/2023	< 50	< 250	< 250	< 5	< 0.03	< 0.05	< 0.05	< 0.15
Stockpile Samples												
Stockpile	Farallon	STP-01-031423	NA	3/14/2023	< 50	< 250	< 250	< 5	< 0.03	< 0.05	< 0.05	< 0.15
Stockpile 01	Farallon	STP-01-013023	NA	1/30/2023	< 50	< 250	< 250	**160**	< 0.02	0.029	< 0.02	0.26
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Area 13: Former Northwest Auto Wrecking Property												
1996 Subsurface Investigation												
B-1	Geotech	96068-B1-2	6.0	3/4/1996	ND < 50[5]	ND < 100[5]	< 100	ND < 20[5]	---	---	---	---
B-2	Geotech	96068-B2-2	6.0	3/4/1996	ND < 50[5]	ND < 100[5]	< 100	ND < 20[5]	---	---	---	---
B-4	Geotech	96068-B4-2	6.0	3/4/1996	ND < 50[5]	ND < 100[5]	< 100	ND < 20[5]	---	---	---	---
2007 Subsurface Investigation												
B01	SES	B01	2.0	1/19/2007	< 50	< 250	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
B02	SES	B02	3.0	1/19/2007	< 50	< 250	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
B03	SES	B03	0.3	1/19/2007	< 50	< 250	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-10	SES	TP-10	2.5	1/11/2007	< 50	< 250	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-11	SES	TP-11	3.5	1/11/2007	610	< 250	610	71	< 0.020	0.10	0.13	0.49
	SES	TP-11	8.0	1/11/2007	< 50	< 250	< 250	4	< 0.020	< 0.020	< 0.020	< 0.060
TP-12	SES	TP-12	2.5	1/12/2007	< 50	< 250	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-18	SES	TP-18	2.5	1/12/2007	< 50	< 250	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-21	SES	TP-21	6.5	1/12/2007	< 50	< 250	< 250	< 2	---	---	---	---
2007 Subsurface Investigation												
P02	SES	P02	9.0	1/10/2007	< 50	< 250	< 250	< 2	---	---	---	---
P04	SES	P04	8.5	1/10/2007	< 50	< 250	< 250	< 2	---	---	---	---
P05	SES	P05	10.0	1/10/2007	< 50	< 250	< 250	< 2	---	---	---	---
P06	SES	P06	7.0	1/11/2007	< 50	< 250	< 250	< 2	---	---	---	---
P07	SES	P07-8.5	8.5	1/11/2007	< 50	< 250	< 250	< 2	---	---	---	---
P08	SES	P08-6	6.0	1/11/2007	< 50	< 250	< 250	< 2	---	---	---	---
	SES	P08-12	12.0	1/11/2007	< 50	< 250	< 250	< 2	---	---	---	---
2007 - 2008 Site-Wide Surface Soil Excavation												
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	6/27/2008	< 5.6	< 11	< 11	< 6.5	< 0.016	< 0.016	< 0.016	< 0.032
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	11/1/2007	< 7	15	15	< 10	< 0.026	< 0.026	< 0.026	< 0.053
PR-PV3	DOF	PR-PV3	0 - 0.5	7/27/2007	56	270	326	< 6.9	< 0.017	< 0.017	< 0.017	0.040
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	6/28/2008	< 6.0	< 12	< 12	< 7.9	< 0.020	< 0.020	< 0.020	< 0.039
PR-PV5	DOF	PR-PV5	0 - 0.5	2/11/2008	11	54	65	---	---	---	---	---
PR-PV6	DOF	PR-PV6	0 - 0.5	2/11/2008	< 6	24	24	---	---	---	---	---
R-SE10	DOF	R-SE10	0 - 0.5	7/17/2008	< 20	< 50	< 50	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
R-SE11	DOF	R-SE11	0 - 0.5	7/17/2008	< 20	< 50	< 50	< 6.2	< 0.016	< 0.016	< 0.016	< 0.031
R-SE12	DOF	R-SE12	0 - 0.5	7/17/2008	< 20	< 50	< 50	< 6.2	< 0.016	< 0.016	< 0.016	< 0.031
R-SE13	DOF	R-SE13	0 - 0.5	7/17/2008	< 20	< 50	< 50	< 6.8	< 0.017	< 0.017	< 0.017	< 0.034
R-SE14	DOF	R-SE14	0 - 0.5	7/17/2008	< 20	< 50	< 50	< 6.4	< 0.016	< 0.016	< 0.016	< 0.032
R-SE15	DOF	R-SE15	0 - 0.5	7/17/2008	< 20	< 50	< 50	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
R-SE16	DOF	R-SE16	0 - 0.5	7/17/2008	< 20	< 50	< 50	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
PR-DP1	DOF	PR-DP1	0 - 0.5	7/25/2007	300	1,600	1,900	< 13	< 0.032	< 0.032	< 0.032	< 0.064
PR-DP-2	DOF	PR-DP-2	0 - 0.5	7/25/2007	300	1,600	1,900	64	< 0.032	0.049	0.049	< 0.064
PR-DP3	DOF	PR-DP3	0 - 0.5	7/25/2007	72	890	962	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
PR-DP4	DOF	PR-DP4	0 - 0.5	7/25/2007	100	980	1,080	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
Scrape-N2	DOF	Scrape-N2	0 - 0.5	2/18/2008	< 5.7	19	19	---	---	---	---	---
2008 Petroleum-Contaminated Soil Excavation - Northeastern Portion of Area 3												
R-PCS-1(R2)	DOF	R-PCS-1(R2)	3.5	7/30/2008	---	---	---	< 9.4	< 0.024	< 0.024	< 0.024	< 0.047
R-PCS-2	DOF	R-PCS-2	6.0	6/19/2008	< 6.5	< 13	< 13	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
R-PCS-3	DOF	R-PCS-3	3.0	6/19/2008	9.4	15	24.4	< 11	< 0.028	< 0.028	< 0.028	< 0.057
R-PCS-4	DOF	R-PCS-4	6.0	7/23/2008	---	---	---	< 8.4	< 0.021	< 0.021	**0.29**	< 0.042
R-PCS-6	DOF	R-PCS-6	mid-slope	7/23/2008	---	---	---	14	< 0.027	< 0.027	< 0.027	< 0.054
R-PCS-7	DOF	R-PCS-7	3.0	7/23/2008	---	---	---	64	**0.030 J**	< 0.035	< 0.035	< 0.069
R-PCS-8	DOF	R-PCS-8	2.0	7/23/2008	---	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.054
2008 UST Decommissioning												
NUST-NSW(R)	DOF	NUST-NSW(R)	9.0	7/10/2008	---	---	---	< 9.9	< 0.025	< 0.025	< 0.025	< 0.050
NUST-ESW	DOF	NUST-ESW	9.0	7/2/2008	---	---	---	< 11	< 0.028	< 0.028	< 0.028	< 0.057
SUST-ESW	DOF	SUST-ESW	9.0	7/2/2008	---	---	---	< 11	< 0.028	< 0.028	< 0.028	< 0.056
SUST-SSW	DOF	SUST-SSW	8.0	7/10/2008	---	---	---	20	< 0.029	< 0.029	< 0.029	0.044
UST-PI	DOF	UST-PI	4.0	7/11/2008	---	---	---	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
NUST-WSW	DOF	NUST-WSW	8.0	7/11/2008	---	---	---	< 5.8	< 0.015	< 0.015	< 0.015	< 0.029
SUST-WSW	DOF	SUST-WSW	8.0	7/11/2008	---	---	---	< 5.6	< 0.014	< 0.014	< 0.014	< 0.028
NUST-B1	DOF	NUST-B1	14.0	7/2/2008	---	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.053
SUST-B3	DOF	SUST-B3	14.0	7/10/2008	---	---	---	12	< 0.022	< 0.022	< 0.022	< 0.044
2008 Hoist Excavations												
R-EHOIST	DOF	R-EHOIST-SW	3.0	6/25/2008	< 7.7	25	25	---	---	---	---	---
	DOF	R-EHOIST-BOT	8.0	6/25/2008	< 6.2	< 12	< 12	---	---	---	---	---
R-WHOIST	DOF	R-WHOIST-SW	3.0	6/25/2008	< 7.2	33	33	---	---	---	---	---
	DOF	R-WHOIST-BOT	8.0	6/25/2008	< 6.1	< 12	< 12	---	---	---	---	---
2008 Storm Drain Investigation												
TP-SD-1	DOF	TP-SD-1	2.0	7/24/2008	< 20	< 50	< 50	< 10	< 0.026	< 0.026	< 0.026	< 0.052
TP-SD-2	DOF	TP-SD-2	2.0	7/24/2008	< 20	< 50	< 50	< 11	< 0.026	< 0.026	< 0.026	< 0.053
2008 Former Parts Shop Investigation												
TP-P08	DOF	TP-P08-1	1.0	7/24/2008	< 20	< 50	< 50	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
	DOF	TP-P08-8	8.0	7/24/2008	< 20	< 50	< 50	< 10	< 0.025	< 0.025	< 0.025	< 0.051
	DOF	TP-P08-12	12.0	7/24/2008	< 20	< 50	< 50	< 9.9	< 0.025	< 0.025	< 0.025	< 0.050
TP-P08A	DOF	TP-P08A-1	1.0	7/24/2008	< 20	< 50	< 50	< 8.2	< 0.020	< 0.020	< 0.020	< 0.041
	DOF	TP-P08A-8	8.0	7/24/2008	< 20	< 50	< 50	< 8.6	< 0.022	< 0.022	< 0.022	< 0.043
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Area 13: Former Northwest Auto Wrecking Property (continued)												
2008 Former Waste Oil Aboveground Storage Tank Investigation												
TP-WO-1	DOF	TP-WO-1	1.0	7/24/2008	< 20	< 50	< 50	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
2008 Former UST Investigation												
TP-P01	DOF	TP-P01-SW	6.0	7/24/2008	< 20	< 50	< 50	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
	DOF	TP-P01-B	12.0	7/24/2008	< 20	< 50	< 50	< 8.8	< 0.022	< 0.022	< 0.022	< 0.044
TP-P04-1	DOF	TP-P04-1	3.0	7/24/2008	< 20	< 50	< 50	< 6.7	< 0.017	< 0.017	< 0.017	< 0.034
2008 Septic Drain Field Investigation												
TP-Septic-1	DOF	TP-SEPTIC-1	7.0	7/24/2008	< 20	< 50	< 50	< 10	< 0.025	< 0.025	< 0.025	< 0.050
2008 Investigation - Northeastern Portion of Area 3												
Scrape-N6	DOF	Scrape-N6	3.0	2/21/2008	< 10	46	46	---	---	---	---	---
Scrape-N7	DOF	Scrape-N7	3.0	2/21/2008	50	< 14	50	60	< 0.027	< 0.027	< 0.027	< 0.054
2009 Investigation Along Boundary Between Associated Grocer's Property and Area 3												
P1	DOF	UNI-P1-9	9.0	8/31/2009	---	---	---	< 12	< 0.030	< 0.030	< 0.030	< 0.060
	DOF	UNI-P1-14	14.0	8/31/2009	---	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.055
	DOF	UNI-P1-19	19.0	8/31/2009	---	---	---	< 8.7	< 0.022	< 0.022	< 0.022	< 0.044
P2	DOF	UNI-P2-9	9.0	8/31/2009	---	---	---	< 12	< 0.031	< 0.031	< 0.031	< 0.062
	DOF	UNI-P2-14	14.0	8/31/2009	---	---	---	< 9.3	< 0.023	< 0.023	< 0.023	< 0.046
	DOF	UNI-P2-19	19.0	8/31/2009	---	---	---	< 8.9	< 0.022	< 0.022	< 0.022	< 0.044
P3	DOF	UNI-P3-9	9.0	8/31/2009	---	---	---	< 13	< 0.034	< 0.034	< 0.034	< 0.067
	DOF	UNI-P3-14	14.0	8/31/2009	---	---	---	< 8.8	< 0.022	< 0.022	< 0.022	< 0.044
	DOF	UNI-P3-19	19.0	8/31/2009	---	---	---	< 8.9	< 0.022	< 0.022	< 0.022	< 0.044
2009 Excavation Along Boundary Between Associated Grocer's Property and Area 3												
R-PCS-50	DOF	R-PCS-50	9.0	5/20/2010	< 6.5	38	38	< 11	< 0.027	< 0.027	< 0.027	< 0.054
R-PCS-51	DOF	R-PCS-51	12.0	5/20/2010	< 5.9	< 12	< 12	75	< 0.019	< 0.019	**0.12**	< 0.038
R-PCS-52	DOF	R-PCS-52 R	13.0	5/24/2010	---	---	---	< 6.2	< 0.016	< 0.016	**0.028**	< 0.016
R-PCS-53	DOF	R-PCS-53	9.0	5/20/2010	< 6.9	16	16	< 12	< 0.029	< 0.029	< 0.029	< 0.059
R-PCS-54	DOF	R-PCS-54	9.0	5/20/2010	8.1	65	73.1	< 7.4	< 0.018	< 0.018	< 0.018	< 0.037
2022 UST Excavation												
TRENCH-01	Farallon	TRENCH-01-7.0	7.0	6/13/2022	**7,500**	**18,000**	**25,500**	**340**	< 0.001	< 0.02	0.0086	0.038
TRENCH-02	Farallon	TRENCH-02-7.0	7.0	6/13/2022	< 50	< 250	< 250	< 5	**0.0010**	< 0.02	0.0012	0.0040
TRENCH-03	Farallon	TRENCH-03-7.0	7.0	6/13/2022	< 50	< 250	< 250	14	**0.11**	< 0.02	0.085	0.61
FTP-18	Farallon	FTP-18-7.0	7.0	6/15/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-18-12.0	12.0	6/15/2022	1,900 X	**13,000**	**14,900**	25	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-18-17.0	17.0	6/15/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
FTP-19	Farallon	FTP-19-7.0	7.0	6/15/2022	**2,400 X**	**16,000**	**18,400**	36	< 0.001	< 0.02	0.0035	0.0167
	Farallon	FTP-19-11.0	11.0	6/15/2022	330 X	**3,800**	**4,130**	48	< 0.001	< 0.02	0.010	0.043
	Farallon	FTP-19-16.0	16.0	6/15/2022	360 X	**3,100**	**3,460**	34	< 0.001	< 0.02	0.0091	0.0344
FTP-21	Farallon	FTP-21-7.0	7.0	6/15/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-21-12.0	12.0	6/15/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	**0.0064**
	Farallon	FTP-21-17.0	17.0	6/15/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
FTP-22	Farallon	FTP-22-12.0	12.0	6/15/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
FTP-23	Farallon	FTP-23-7.0	7.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-23-12.0	12.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-23-17.0	17.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
FTP-24	Farallon	FTP-24-8.0	8.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-24-12.0	12.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-24-17.0	17.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
FTP-25	Farallon	FTP-25-7.0	7.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-25-12.0	12.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
	Farallon	FTP-25-17.0	17.0	6/16/2022	< 50	< 250	< 250	< 5	< 0.001	< 0.02	< 0.001	< 0.003
UST-05-WSW01-5.5	Farallon	UST-05-WSW01-5.5	5.5	8/26/2022	**5,300 X**	730 X	**6,030**	**1,200**	**1.6**	**22**	**11**	**214**
UST-05-BOT01-7.0	Farallon	UST-05-BOT01-7.0	7.0	8/26/2022	**15,000 X**	**4,400 X**	**19,400**	**2,500**	**110**	**770**	**190**	**1,520**
EX05-NSW-12.0	Farallon	EX05-NSW-12.0	12.0	8/29/2022	< 2.5	< 12	< 12	< 5	< 0.001	0.0029	0.0013	< 0.003
EX05-NSW-02-7.0	Farallon	EX05-NSW-02-7.0	7.0	8/30/2022	< 2.5	36	36	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-ESW-01-12.0	Farallon	EX05-ESW-01-12.0	12.0	8/30/2022	< 2.5	< 12	< 12	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-ESW-02-7.0	Farallon	EX05-ESW-02-7.0	7.0	8/30/2022	22 X	170	192	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-ESW-03-7.0	Farallon	EX05-ESW-03-7.0	7.0	8/31/2022	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-ESW-04-12.0	Farallon	EX05-ESW-04-12.0	12.0	8/31/2022	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-SSW-01-12.0	Farallon	EX05-SSW-01-12.0	12.0	8/30/2022	< 2.5	< 12	< 12	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-SSW-02-7.0	Farallon	EX05-SSW-02-7.0	7.0	8/31/2022	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-SSW-03-12.0	Farallon	EX05-SSW-03-12.0	12.0	8/31/2022	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-WSW-01-8.0	Farallon	EX05-WSW-01-8.0	8.0	8/29/2022	< 2.5	< 12	< 12	< 5	< 0.001	0.0078	0.0069	0.0069
EX05-WSW-03-12.0	Farallon	EX05-WSW-03-12.0	12.0	8/30/2022	< 2.5	< 12	< 12	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-B-01-16	Farallon	EX05-B-01-16	16.0	8/29/2022	< 2.5	< 12	< 12	< 5	< 0.001	0.0093	0.0043	0.0263
EX05-B-02-18.0	Farallon	EX05-B-02-18.0	18.0	8/29/2022	53 X	430	483	< 5	< 0.001	0.0025	0.0011	< 0.003
EX05-B-03-18.0	Farallon	EX05-B-03-18.0	18.0	8/30/2022	< 2.5	< 12	< 12	< 5	< 0.02	< 0.02	< 0.02	< 0.06
EX05-B-04-18.0	Farallon	EX05-B-04-18.0	18.0	8/30/2022	< 2.5	< 12	< 12	< 5	< 0.02	< 0.02	< 0.02	< 0.06
Stockpile Samples												
SP-01-082922	Farallon	SP-01-082922	NA	8/29/2022	29 X	210	239	< 5	< 0.001	0.0052	0.0051	0.115
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

Table 1
Soil Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)							
					DRO[2]	ORO[2]	DRO + ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethyl-benzene[4]	Xylenes[4]
Area 13: Former Northwest Auto Wrecking Property (continued)												
2022-2024 Stormwater Pond Investigation and Excavation												
Pond-01-SED01	Farallon	POND-01-SED01-0.5	0.5	4/27/2022	31 X	190	221	< 3	< 0.0010	0.0011	0.0012	0.0023
Pond-01-SED02	Farallon	POND-01-SED02-0.5	0.5	4/27/2022	60 X	710	770	< 3	< 0.0010	0.0012	0.0013	0.0025
Pond-01-01	Farallon	POND-01-01-0.5	8.5	5/10/2022	< 5	< 25	< 25	---	---	---	---	---
Pond-01-02	Farallon	POND-01-02-0.5	8.5	5/10/2022	< 5	< 25	< 25	---	---	---	---	---
Pond-01-03	Farallon	POND-01-03-0.5	8.5	5/10/2022	< 5	< 25	< 25	---	---	---	---	---
Pond-03-04	Farallon	POND-03-04-0.5	6.5	9/6/2023	870 X	< 250	870	**2,000**	< 0.3	< 0.5	**15**	**5.1**
	Farallon	POND-03-04-4.0	10.0	9/6/2023	< 50	< 250	< 250	10	**0.011**	0.0014	**0.017**	0.0059
FTP-33	Farallon	FTP-33-1.0	7.0	9/6/2023	140 X	< 250	140	**880**	< 0.03 J	< 0.5	**4.4**	< 1.5
	Farallon	FTP-33-4.0	10.0	9/6/2023	< 50	< 250	< 250	23	**0.036**	0.0012	**0.022**	0.0072
FTP-34	Farallon	FTP-34-1.0	7.0	9/6/2023	< 50	< 250	< 250	24	< 0.001	0.0019	0.0065	< 0.003
FTP-35	Farallon	FTP-35-1.0	7.0	9/6/2023	< 50	< 250	< 250	10	< 0.001	< 0.001	< 0.001	< 0.003
FTP-36	Farallon	FTP-36-1.0	7.0	9/6/2023	< 50	< 250	< 250	12	< 0.001	< 0.001	< 0.001	**0.0076**
FTP-37	Farallon	FTP-37-1.0	7.0	9/8/2023	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
FTP-40	Farallon	FTP-40-7.0	7.0	1/8/2024	< 50	< 250	< 250	41	< 0.02	0.29	0.11	0.55
	Farallon	FTP-40-10.0	10.0	1/8/2024	< 50	< 250	< 250	< 5	< 0.02	< 0.02	< 0.02	< 0.06
FTP-41	Farallon	FTP-41-6.0	6.0	1/8/2024	< 50	< 250	< 250	44	< 0.02	0.25	**0.20**	0.32
	Farallon	FTP-41-9.0	9.0	1/8/2024	< 50	< 250	< 250	41	< 0.02	**0.17**	**0.16**	< 0.06
Stockpile Samples - Various Areas												
PEG3-PL-01	Farallon	PEG3-PL-01-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-02	Farallon	PEG3-PL-02-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-03	Farallon	PEG3-PL-03-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-04	Farallon	PEG3-PL-04-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-05	Farallon	PEG3-PL-05-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-06	Farallon	PEG3-PL-06-032624	NA	3/26/2024	< 50	350	350	< 5	< 0.001	< 0.001	< 0.001	0.0028
PEG3-PL-07	Farallon	PEG3-PL-07-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-08	Farallon	PEG3-PL-08-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-09	Farallon	PEG3-PL-09-032624	NA	3/26/2024	< 50	320	320	< 5	< 0.001	< 0.001	< 0.001	< 0.003
PEG3-PL-10	Farallon	PEG3-PL-10-032624	NA	3/26/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-01-031324	Farallon	STP-01-031324	NA	3/13/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-02-031324	Farallon	STP-02-031324	NA	3/13/2024	< 50	730	730	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-03-031324	Farallon	STP-03-031324	NA	3/13/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-04-031324	Farallon	STP-04-031324	NA	3/13/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	0.0039
STP-05-031324	Farallon	STP-05-031324	NA	3/13/2024	< 50	710	710	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-06-031324	Farallon	STP-06-031324	NA	3/13/2024	< 50	350	350	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-07-031324	Farallon	STP-07-031324	NA	3/13/2024	< 50	< 250	< 250	< 5	< 0.001	0.0015	< 0.001	0.0012
STP-08-031324	Farallon	STP-08-031324	NA	3/13/2024	< 50	350	350	< 5	< 0.001	< 0.001	< 0.001	0.0013
STP-09-031324	Farallon	STP-09-031324	NA	3/13/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-10-031324	Farallon	STP-10-031324	NA	3/13/2024	< 50	340	340	< 5	< 0.001	< 0.001	< 0.001	< 0.003
STP-11-031324	Farallon	STP-11-031324	NA	3/13/2024	< 50	< 250	< 250	< 5	< 0.001	0.0058	< 0.001	0.0037
STP-12-031324	Farallon	STP-12-031324	NA	3/13/2024	< 50	< 250	< 250	< 5	< 0.001	< 0.001	< 0.001	< 0.003
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[6]					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.0088**	**0.72**	**0.18**	**0.94**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zon					**2,000**	**2,000**	**2,000**	**30/100[7]**	**0.00056**	**0.044**	**0.01**	**0.055**

NOTES:

Results in **bold** denote concentrations exceeding most stringed PCULs.

Results in **bold** and highlighted yellow denote concentrations exceeding one or more PCULs left in place following the interim action.

Results highlighted gray denote sample was overexcavated during interim action activities.

< denotes analyte not detected at or exceeding the laboratory reporting limit listed.

— denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Analyzed by Northwest Method NWTPH-Dx. DRO+ORO is the sum of DRO and ORO; where both results are non-detect, the highest reporting limit is reported as the

[3]Analyzed by Northwest Method NWTPH-Gx.

[4]Analyzed by U.S. Environmental Protection Agency Method 8021 or 8260.

[5]Analyzed by Northwest Method NWTPH-HCID (hydrocarbon identification).

[6]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent soil Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways except SL-9.

[7]The GRO cleanup level is 30 milligrams per kilogram (mg/kg) for "fresh" gasoline and 100 mg/kg for "weathered" gasoline.

BTEX = benzene, toluene, ethylbenzene, and xylenes

D = the reported value is from a dilution.

DOF = Dalton, Olmsted & Fuglevand, Inc.

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

Farallon = Farallon Consulting, L.L.C.

Geotech = Geotech Consultants, Inc.

Global = Global Environmental

GRO = TPH as gasoline-range organics

J = result is an estimate.

N = hydrocarbons in the oil range are impacting the diesel range result.

NA = not applicable

ND = not detected exceeding the laboratory reporting limit

ORO = TPH as oil-range organics

SES = SoundEarth Strategies, Inc.

SW = southwestern

Terra = Terra Associates, Inc.

UST = underground storage tank

X = The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

Table 2
Soil Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2] Non-Carcinogenic PAHs											Analytical Results (milligrams per kilogram)[2] Carcinogenic PAHs											Total LPAHs	Total HPAHs
					Naphthalene[3]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Benzo(j)Fluoranthene	Benzo(k)Fluoranthene	Total Benzofluoranthenes	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[5,6]		
Area 2: Perishables Warehouse																												
F-1	Farallon	F-1-5.7	5.7	10/20/2016	**2.0**	9.5	**9.1**	0.50	0.37	0.44	< 0.0076	0.11	**3.2**	**5.4**	0.53	< 0.0076	0.0080	< 0.0076	< 0.0076	---	---	---	0.046	< 0.0076	< 0.0076	**0.007**	**11.91**	0.6940
2020 Interim Action Excavation																												
EX03-B-01	Farallon	EX03-B-01-14.5	14.5	6/22/2020	< 0.00496	0.00278 J	0.00375 J	< 0.00496	< 0.00496	< 0.00496	< 0.00496	< 0.00496	< 0.00496	< 0.00496	< 0.00496	< 0.00496	< 0.00496	< 0.00496	---	< 0.00496	< 0.00496	< 0.00992	< 0.00496	< 0.00496	< 0.00496	< 0.00399	0.0028	< 0.0546
EX03-B-02	Farallon	EX03-B-02-14.0	14.0	6/22/2020	< 0.00495	0.0145	0.024	0.00086 J	< 0.00495	< 0.00495	< 0.00495	< 0.00495	0.00122 J	0.00218 J	< 0.00495	< 0.00495	< 0.00495	< 0.00495	---	< 0.00495	< 0.00495	< 0.00989	< 0.00495	< 0.00495	< 0.00495	< 0.00398	0.0145	0.0034
EX03-ESW-01	Farallon	EX03-ESW-01-7.0	7.0	6/22/2020	**0.106 J D**	**21.8 D**	**34.5 D**	**0.713 D**	0.604 D	0.231 D	< 0.049 D	0.0644 D	**2.27 D**	**3.82 D**	0.142 D	< 0.049 D	< 0.049 D	< 0.049 D	---	< 0.049 D	< 0.049 D	< 0.0981 D	0.0331 D J	< 0.049 D	< 0.049 D	**0.0395**	**22.2**	6.12
	Farallon	EX03-ESW-01-11.0	11.0	6/22/2020	**0.0106**	0.274	**0.477**	0.0074	0.00342 J	0.00117 J	< 0.00491	0.00082 J	0.0242	0.038	0.00289 J	< 0.00491	< 0.00491	< 0.00491	---	< 0.00491	< 0.00491	< 0.00983	< 0.00491	< 0.00491	< 0.00491	< 0.00395	0.2789	0.0622
EX03-NSW-01	Farallon	EX03-NSW-01-8.0	8.0	6/22/2020	0.00197 J	0.00506	0.00785	0.00063 J	< 0.0049	< 0.0049	0.0022 J	0.00349 J	< 0.0049	0.00328 J	0.00432 J	**0.00179 J**	0.00203 J	0.00217 J	---	0.00117 J	0.00112 J	0.00455 J	0.00344 J	< 0.0049	0.00165 J	**0.00288**	0.0169	0.0194
EX03-SSW-01	Farallon	EX03-SSW-01-7.0	7.0	6/22/2020	0.0075	0.157	0.103	0.0115	0.00625	0.00472 J	0.0015 J	0.00471 J	0.0457	0.068	0.00514	**0.00128 J**	0.00144 J	0.00195 J	---	0.00068 J	0.00079 J	0.00354 J	0.00278 J	< 0.00483	0.00113 J	**0.00215**	0.1744	0.1260
	Farallon	EX03-SSW-01-12.0	12.0	6/22/2020	**0.0132**	0.558 D	**0.785 D**	0.00966	0.00164 J	0.00143 J	< 0.00486	0.00169 J	0.0168	0.0218	0.00192 J	< 0.00486	< 0.00486	< 0.00486	---	< 0.00486	< 0.00486	< 0.00972	< 0.00486	< 0.00486	< 0.00486	< 0.00391	0.5630	0.0386
EX03-WSW-01	Farallon	EX03-WSW-01-11.0	11.0	6/22/2020	**0.0136 M**	3.04 D	**4.78 D**	**0.365**	0.127	**0.0532**	0.00137 J	0.0251	**0.759 D**	1.39 D	0.0446	< 0.00493	0.00211 J	< 0.00493	---	< 0.00493	< 0.00493	< 0.00986	0.00899	< 0.00493	< 0.00493	**0.004**	3.16	2.16
EX03-WSW-02	Farallon	EX03-WSW-02-8.0	8.0	6/22/2020	0.0128	0.0159	0.0219	0.003 J	0.0041 J	0.00417 J	0.0256	0.0356	0.00111 J	0.0248	0.0489	**0.0248**	0.0263	0.0214	---	0.0147	0.0132	0.0501	0.0327	0.00513	0.0186	**0.0351**	0.155	0.208
EX03-WSW-03	Farallon	EX03-WSW-03-8.0	8.0	6/22/2020	< 0.00494	0.0147	0.0233	0.00117 J	< 0.00494	< 0.00494	< 0.00494	< 0.00494	0.00208 J	0.00192 J	0.0008 J	< 0.00494	< 0.00494	< 0.00494	---	< 0.00494	< 0.00494	< 0.00987	< 0.00494	< 0.00494	< 0.00494	< 0.00398	0.0155	0.00400
	Farallon	EX03-WSW-03-12.0	12.0	6/22/2020	< 0.00494	0.00166 J	0.0026 J	< 0.00494	< 0.00494	< 0.00494	0.00114 J	0.00124 J	< 0.00494	0.00164 J	0.00136 J	< 0.00494	< 0.00494	< 0.00494	---	0.00108 J	0.001 J	< 0.00988	0.00115 J	< 0.00494	< 0.00494	**0.00368**	0.0054	0.0049
Area 4: Former Fueling Area																												
F-9	Farallon	F-9-8.0	8.0	10/26/2016	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	---	---	---	< 0.0096	< 0.0096	< 0.0096	< 0.0072	0	0
DI	Farallon	DI-1-3.5-040819	3.5	4/8/2019	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	0.035	0.029	< 0.0072	0.014	0.031	**0.025**	0.015	0.029	< 0.0072	---	---	---	0.029	0.0078	0.02	**0.033**	0.014	0.221
	Farallon	DI-2-3.5-040819	3.5	4/8/2019	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	< 0.0070	---	---	---	< 0.0070	< 0.0070	< 0.0070	< 0.0053	0	0
	Farallon	DI-PIPING-3.5-040819	3.5	4/8/2019	< 0.0090	< 0.0090	0.014	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	0.016	< 0.0090	< 0.0090	< 0.0090	< 0.0090	< 0.0090	---	---	---	< 0.0090	< 0.0090	< 0.0090	< 0.0068	0.016	0
UST	Farallon	UST-1-B-13.0	13.0	4/5/2019	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	< 0.0086	---	---	---	< 0.0086	< 0.0086	< 0.0086	< 0.0065	0	0
	Farallon	UST-2-B-13.0	13.0	4/5/2019	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	---	---	---	< 0.0088	< 0.0088	< 0.0088	< 0.0066	0	0
	Farallon	UST-E-SW-11.0	11.0	4/5/2019	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	< 0.0071	---	---	---	< 0.0071	< 0.0071	< 0.0071	< 0.0054	0	0
	Farallon	UST-N-SW-11.0	11.0	4/5/2019	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	< 0.0072	---	---	---	< 0.0072	< 0.0072	< 0.0072	< 0.0054	0	0
	Farallon	UST-S-SW-11.0	11.0	4/5/2019	< 0.0097	0.67	**0.14**	0.023	0.014	< 0.0097	< 0.0097	< 0.0097	**0.07**	0.043	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	---	---	---	< 0.0097	< 0.0097	< 0.0097	< 0.0073	0.15	0
	Farallon	UST-W-SW-11.0	11.0	4/5/2019	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	---	---	---	< 0.0098	< 0.0098	< 0.0098	< 0.0074	0	0
Area 5: Former Trailer Maintenance Shop																												
F-11	Farallon	F-11-8.0	8.0	10/18/2016	< 0.0011	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	---	---	---	< 0.0084	< 0.0084	< 0.0084	< 0.0063	0	0
F-12	Farallon	F-12-6.7	6.7	10/17/2016	< 0.0081	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
F-13	Farallon	F-13-2.5	2.5	10/18/2016	< 0.0011	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
F-14	Farallon	F-14-6.0	6.0	10/18/2016	< 0.056	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[4]					**0.039**	**20**	**0.67**	**0.5**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.00031**	**5.2**	**12**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zo					**0.0021**	**20**	**0.039**	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.000016**	**5.2**	**12**

Table 2
Soil Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2] Non-Carcinogenic PAHs											Analytical Results (milligrams per kilogram)[2] Carcinogenic PAHs												
					Naphthalene[3]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Benzo(j)Fluoranthene	Benzo(k)Fluoranthene	Total Benzofluoranthenes	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[5,6]	Total LPAHs	Total HPAHs
East of Area 6																											
2020 Interim Action Excavation																											
UST01	Farallon	UST01-B-10.0	10.0	8/20/2020	---	---	---	---	---	---	---	---	---	---	---	**0.0022**	0.0020	< 0.002	---	---	< 0.002	< 0.004	0.0026	< 0.002	< 0.002	**0.0028**	---	0.0068
	Farallon	UST01-E-7.0	7.0	8/20/2020	---	---	---	---	---	---	---	---	---	---	---	**0.0054**	0.0051	< 0.002	---	---	< 0.002	< 0.004	0.0066	< 0.002	0.0041	**0.0067**	---	0.0212
	Farallon	UST01-N-7.0	7.0	8/20/2020	---	---	---	---	---	---	---	---	---	---	---	**0.0050**	0.0048	< 0.002	---	---	< 0.002	< 0.004	0.0065	< 0.002	0.0037	**0.0062**	---	0.020
	Farallon	UST01-S-7.0	7.0	8/20/2020	---	---	---	---	---	---	---	---	---	---	---	**0.0056**	0.0048	< 0.002	---	---	< 0.002	< 0.004	0.0063	< 0.002	0.0034	**0.0068**	---	0.0201
	Farallon	UST01-W-7.0	7.0	8/20/2020	---	---	---	---	---	---	---	---	---	---	---	**0.0045**	0.0046	< 0.002	---	---	< 0.002	< 0.004	0.0071	< 0.002	0.0038	**0.0057**	---	0.020
UST02	Farallon	UST02-B-7.0	7.0	8/20/2020	---	---	---	---	---	---	---	---	---	---	---	**0.0044**	0.0049	< 0.002	---	---	< 0.002	< 0.004	0.0068	< 0.002	0.0024	**0.0055**	---	0.0185
UST03	Farallon	UST03-02-5.0	5.0	10/2/2020	**64**	**230**	**360**	**41**	< 1	**49**	< 1	**6.7**	**51**	**180**	**31**	**2.4**	**5.1**	**1.3**	---	---	< 1	1.3	**11**	< 1	< 1	**3.3**	**385**	**57.5**
UST03	Farallon	UST03-B-01-8.0	8.0	10/8/2020	0.0057	0.0047	0.0055	0.0035	< 0.002	0.0038	0.0058	0.031	0.0055	0.018	0.028	**0.011**	0.0095	0.017	---	---	0.0060	0.023	0.013	< 0.002	0.0062	**0.0151**	0.037	0.1275
	Farallon	UST03-B-02-9.0	9.0	10/8/2020	< 0.002	< 0.002	< 0.002	0.014	< 0.002	< 0.002	< 0.002	< 0.002	**0.064**	0.0050	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0.083	0
	Farallon	UST03-B-03-10.0	10.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
	Farallon	UST03-SW-01-7.0	7.0	10/8/2020	0.0068	0.0041	0.0049	0.0028	< 0.002	0.0035	0.0078	0.024	0.0046	0.017	0.025	**0.010**	0.0084	0.011	---	---	0.0042	0.0152	0.010	< 0.002	0.0076	**0.0133**	0.035	0.108
	Farallon	UST03-SW-02-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.0020	< 0.0015	0	0
	Farallon	UST03-SW-03-7.0	7.0	10/8/2020	0.0047	0.0043	0.0045	0.0023	< 0.002	0.0028	0.0050	0.022	0.0042	0.016	0.020	**0.0075**	0.0068	0.012	---	---	0.0035	0.0155	0.0096	< 0.002	0.0051	**0.0104**	0.030	0.092
	Farallon	UST03-SW-04-7.0	7.0	10/8/2020	**0.16**	0.13	0.18	0.015	< 0.002	0.0053	0.0051	0.028	0.063	0.030	0.028	**0.012**	0.0096	0.019	---	---	0.0060	0.025	0.012	< 0.002	0.0055	**0.0162**	0.27	0.1252
	Farallon	UST03-SW-05-7.0	7.0	10/8/2020	0.012	0.0041	0.0045	0.0024	< 0.002	0.0030	0.0033	0.020	0.0042	0.016	0.019	**0.0088**	0.0069	0.012	---	---	0.0043	0.0163	0.0087	< 0.002	0.0039	**0.0117**	0.038	0.087
	Farallon	UST03-SW-06-7.0	7.0	10/8/2020	0.0055	0.0049	0.0057	0.0028	< 0.002	0.0038	0.0040	0.024	0.0049	0.017	0.023	**0.0096**	0.0079	0.016	---	---	0.0060	0.022	0.011	< 0.002	0.0043	**0.0132**	0.034	0.1058
	Farallon	UST03-SW-07-7.0	7.0	10/8/2020	0.0052	0.0049	0.0055	0.0027	< 0.002	0.0033	0.0041	0.020	0.0050	0.018	0.022	**0.0089**	0.0078	0.013	---	---	0.0042	0.0172	0.010	< 0.002	0.0045	**0.0121**	0.034	0.095
Area 7: Former Automobile Service Stations																											
FMW-01	Farallon	FMW-01-10.0	10.0	6/26/2019	**0.00595 J**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**---**	---
2020 Interim Action Excavation																											
B-01	Farallon	B-01-16.0	16.0	6/11/2020	**0.0421**	0.0164	0.0246	0.011	0.00137 J	0.0252	0.0381	0.0805	0.0131	0.115	0.134	**0.0512**	0.0538	0.0283	---	0.0205	0.0171	0.0653	0.0566	0.00793	0.0239	**0.0669**	0.345	0.402
B-03	Farallon	B-03-18.0	18.0	6/18/2020	0.00136 J	0.00132 J	0.00177 J	0.00133 J	< 0.005	< 0.005	< 0.005	0.00064 J	< 0.005	0.0019 J	0.00088 J	< 0.005	< 0.005	< 0.005	---	< 0.005	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.00403	0.00284	0.00190
FTP-01	Farallon	FTP-01-10.0	10.0	6/5/2020	< 0.00489	0.000400 J	< 0.00489	< 0.00489	< 0.00489	< 0.00489	< 0.00489	< 0.00489	< 0.00489	0.00103 J	< 0.00489	< 0.00489	< 0.00489	< 0.00489	---	< 0.00489	< 0.00489	< 0.00978	< 0.00489	< 0.00489	< 0.00489	< 0.00394	0.00040	0.00103
	Farallon	FTP-01-15.0	15.0	6/5/2020	< 0.00443	0.00054 J	< 0.00443	< 0.00443	< 0.00443	< 0.00443	< 0.00443	< 0.00443	< 0.00443	0.00103 J	0.00059 J	< 0.00443	< 0.00443	< 0.00443	---	< 0.00443	< 0.00443	< 0.00886	< 0.00443	< 0.00443	< 0.00443	< 0.00357	0.00113	0.00103
FTP-03	Farallon	FTP-03-10.0	10.0	6/5/2020	< 0.00469	0.00092 J	0.00179 J	< 0.00469	< 0.00469	< 0.00469	< 0.00469	< 0.00469	< 0.00469	0.00183 J	0.0006 J	< 0.00469	< 0.00469	< 0.00469	---	< 0.00469	< 0.00469	< 0.00938	< 0.00469	< 0.00469	< 0.00469	< 0.00378	0.00152	0.00183
	Farallon	FTP-03-15.0	15.0	6/5/2020	< 0.00433	< 0.00433	0.00097 J	< 0.00433	< 0.00433	< 0.00433	< 0.00433	< 0.00433	< 0.00433	< 0.00433	< 0.00433	< 0.00433	< 0.00433	< 0.00433	---	< 0.00433	< 0.00433	< 0.00866	< 0.00433	< 0.00433	< 0.00433	< 0.00349	0	0
FTP-05	Farallon	FTP-05-15.0	15.0	6/5/2020	**0.00343 J**	0.00117 J	0.00214 J	0.00126 J	< 0.00416	0.00111 J	0.0118	0.00822	< 0.00416	0.00505	0.0112	**0.00672**	0.00645	0.00595	---	0.00317 J	0.00374 J	0.0131	0.00877	0.00213 J	0.00655	**0.00961**	0.00228	0.0141
FTP-06	Farallon	FTP-06-15.0	15.0	6/5/2020	**0.0203**	0.00602	0.0134	< 0.00426	0.00098 J	0.00096 J	< 0.00426	0.00051 J	< 0.00426	< 0.00426	0.00129 J	< 0.00426	< 0.00426	< 0.00426	---	< 0.00426	< 0.00426	< 0.00851	0.00105 J	< 0.00426	< 0.00426	**0.00342**	0.00878	0.00105
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone					**0.039**	**20**	**0.67**	**0.5**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.00031**	**5.2**	**12**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zor					**0.0021**	**20**	**0.039**	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.000016**	**5.2**	**12**

Table 2
Soil Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

					Analytical Results (milligrams per kilogram)[2]											Analytical Results (milligrams per kilogram)[2]												
					Non-Carcinogenic PAHs											Carcinogenic PAHs												
Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Naphthalene[3]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Benzo(j)Fluoranthene	Benzo(k)Fluoranthene	Total Benzofluoranthenes	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[5,6]	Total LPAHs	Total HPAHs
Area 7: Former Automobile Service Stations (continued)																												
2020 Interim Action Excavation (continued)																												
FTP-07	Farallon	FTP-07-5.0	5.0	6/5/2020	**0.073**	0.0313	0.0442	< 0.0051	0.00186 J	0.00165 J	0.0106	0.00375 J	0.00113 J	0.0089	0.00531	**0.00342 J**	0.00327 J	0.00412 J	---	0.00282 J	0.00185 J	0.00914 J	0.0133	0.00238 J	0.00671	**0.0179**	0.0401	0.0336
	Farallon	FTP-07-10.0	10.0	6/5/2020	**6.58 D**	6.59 D	**11 D**	**0.429**	0.14	**0.152**	0.00934	0.0643	**1.15 D**	1.4 D	0.121	**0.0124**	0.0245	0.0121	---	0.0034 J	0.0025 J	0.0215	0.0634	0.00215 J	0.00361 J	**0.00469**	**6.59**	2.56
	Farallon	FTP-07-15.0	15.0	6/5/2020	**1.03 D**	0.858 D	**1.06 D**	**0.0408**	0.0102	0.0356	0.00182 J	0.0143	**0.156**	0.243	0.0286	**0.00297 J**	0.00652	0.00328 J	---	0.00161 J	0.00074 J	0.00572 J	0.016	< 0.00463	0.00112 J	**0.00353**	0.863	0.411
	Farallon	FTP-07-16.0	16.0	6/5/2020	0.00126 J	0.00082 J	0.00172 J	0.00074 J	< 0.00438	< 0.00438	< 0.00438	< 0.00438	< 0.00438	0.00074 J	0.00062 J	< 0.00438	< 0.00438	< 0.00438	---	< 0.00438	< 0.00438	< 0.00875	< 0.00438	< 0.00438	< 0.00438	< 0.00567	0.00144	0.000740
NSW-01	Farallon	NSW-01-7.0	7.0	6/11/2020	0.00281 J	0.00091 J	0.0018 J	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.00207 J	0.00063 J	< 0.005	< 0.005	< 0.005	---	< 0.005	< 0.005	< 0.01	< 0.005	< 0.005	< 0.005	< 0.00403	0.00154	0.00207
	Farallon	NSW-01-15.0	15.0	6/11/2020	**0.00523**	0.00361 J	0.00392 J	0.00346 J	< 0.00494	< 0.00494	< 0.00494	0.00048 J	0.00515	0.00215 J	0.00103 J	< 0.00494	< 0.00494	< 0.00494	---	< 0.00494	< 0.00494	< 0.00988	< 0.00494	< 0.00494	< 0.00494	< 0.00398	0.00512	0.00730
SSW-01	Farallon	SSW-01-7.0	7.0	6/18/2020	0.00145 J	0.0012 J	0.0015 J	< 0.00499	< 0.00499	< 0.00499	< 0.00499	0.00136 J	< 0.00499	0.00548	0.00224 J	< 0.00499	< 0.00499	< 0.00499	---	< 0.00499	< 0.00499	< 0.00998	0.0024 J	< 0.00499	< 0.00499	**0.00402**	0.0048	0.0079
	Farallon	SSW-01-15.0	15.0	6/18/2020	< 0.00499	< 0.00499	< 0.00499	< 0.00499	< 0.00499	< 0.00499	< 0.00499	0.00089 J	< 0.00499	0.00178 J	0.00144 J	< 0.00499	< 0.00499	< 0.00499	---	< 0.00499	< 0.00499	< 0.00999	< 0.00499	< 0.00499	< 0.00499	< 0.00402	0.0023	0.0018
WSW-01	Farallon	WSW-01-7.0	7.0	6/11/2020	**5.43 D**	1.15 D	**2.56 D**	0.00468 J	< 0.005	0.00164 J	0.00305 J	0.00311 J	0.00584	0.00969	0.00502	**0.00138 J**	0.00176 J	0.00186 J	---	0.00109 J	0.0009 J	0.0039 J	0.00344 J	0.00122 J	0.00189 J	**0.00229**	1.16	0.032
	Farallon	WSW-01-15.0	15.0	6/11/2020	**3.75 D**	0.871 D	**2.25 D**	0.00439 J	0.00304 J	0.00321 J	0.00181 J	0.00391 J	0.0113	0.0161	0.00871	< 0.00497	0.0016 J	0.00144 J	---	0.00068 J	< 0.00497	< 0.00993	0.0036 J	< 0.00497	< 0.00497	**0.00364**	0.889	0.0347
2021 Right-of-Way Investigation																												
F-34	Farallon	F-34-8	8.0	4/28/2021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
F-35	Farallon	F-35-9	9.0	4/28/2021	< 0.002	0.0022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
F-36	Farallon	F-36-8	8.0	4/28/2021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
F-37	Farallon	F-37-8	8.0	4/28/2021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
F-38	Farallon	F-38-8.5	8.5	4/28/2021	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
2022 Utility Infrastructure Trenching																												
SST01-NSW01-2.5	Farallon	SST01-NSW01-2.5	2.5	12/7/2022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
SST01-ESW02-2.5	Farallon	SST01-ESW02-2.5	2.5	12/7/2022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
SST01-SSW01-2.5	Farallon	SST01-SSW01-2.5	2.5	12/7/2022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
SST01-WSW-3.0	Farallon	SST01-WSW-3.0	3.0	11/16/2022	---	---	---	---	---	---	---	---	---	---	---	**0.083**	< 0.05	0.12	---	---	< 0.05	0.12	0.099	< 0.05	< 0.05	**0.11**	0	0.302
SST01-B2-4.5	Farallon	SST01-B2-4.5	4.5	12/7/2022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	---	---	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
Area 11: Former South Maintenance Shop																												
F-20	Farallon	F-20-7.0	7.0	10/18/2016	< 0.0015	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	---	---	---	< 0.0091	< 0.0091	< 0.0091	< 0.0069	0	0
F-22	Farallon	F-22-7.0	7.0	10/19/2016	< 0.0010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2020 Utility Infrastructure Trenching																												
SWT-B-01	Farallon	SWT-B-01-2.0	2.0	8/27/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
SWT-B-02	Farallon	SWT-B-02-8.0	8.0	8/27/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
SST-ESW-02	Farallon	SST-ESW-02-4.0	4.0	9/16/2020	---	---	---	---	---	---	---	---	---	---	---	< 0.002	< 0.002	**0.0021**	---	---	< 0.002	**0.0021**	< 0.002	< 0.002	< 0.002	**0.0016**	---	0.0021
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone					**0.039**	**20**	**0.67**	**0.5**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.00031**	**5.2**	**12**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zo					**0.0021**	**20**	**0.039**	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.000016**	**5.2**	**12**

Table 2
Soil Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]																							
					Non-Carcinogenic PAHs										Carcinogenic PAHs												Total LPAHs	Total HPAHs
					Naphthalene[3]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Benzo(j)Fluoranthene	Benzo(k)Fluoranthene	Total Benzofluoranthenes	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[5,6]		
Area 12: Former Old Humble Oil Service Station																												
2023 Utility Infrastructure Trenching																												
SST02-SSW01-10.0	Farallon	SST02-SSW01-10.0	10.0	1/30/2023	---	---	---	---	---	---	---	---	---	---	---	< 0.01	< 0.01	< 0.01	---	---	< 0.01	< 0.02	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
Stockpile Samples																												
Stockpile 01	Farallon	STP-01-013023	NA	1/30/2023	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	---	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05	< 0.038	0	0
Area 13: Former Northwest Auto Wrecking Property																												
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	6/27/2008	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	< 0.060	---	---	---	< 0.060	< 0.060	< 0.060	< 0.045	0	0
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	11/1/2007	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	---	---	---	< 0.06	< 0.06	< 0.06	< 0.045	0	0
PR-PV3	DOF	PR-PV3	0 - 0.5	7/27/2007	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	---	---	---	< 0.06	< 0.06	< 0.06	< 0.045	0	0
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	6/28/2008	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	---	---	---	< 0.056	< 0.056	< 0.056	< 0.042	0	0
PR-PV6	DOF	PR-PV6	0 - 0.5	2/11/2008	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07	---	---	---	< 0.07	< 0.07	< 0.07	< 0.053	0	0
R-SE15	DOF	R-SE15	0 - 0.5	7/17/2008	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	---	---	---	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
R-SE16	DOF	R-SE16	0 - 0.5	7/17/2008	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	---	---	---	< 0.01	< 0.01	< 0.01	< 0.0076	0	0
Scrape-N2	DOF	Scrape-N2	0 - 0.5	2/18/2008	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	< 0.064	---	---	---	< 0.064	< 0.064	< 0.064	< 0.048	0	0
2022 UST Excavation																												
TRENCH-01	Farallon	TRENCH-01-7.0	7.0	6/13/2022	---	---	---	---	---	---	---	---	---	---	---	**0.086 J**	0.16	0.11 J	---	---	< 0.05 J	0.11 J	0.24	< 0.05 J	< 0.05 J	**0.12 J**	0	0.596 J
FTP-18	Farallon	FTP-18-12.0	12.0	6/15/2022	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1 J	**0.21**	**0.13**	< 0.1	**0.54**	< 0.1 J	< 0.1	< 0.1 J	---	---	< 0.1 J	< 0.2	0.26	< 0.1 J	< 0.1 J	**0.0780**	1.01	0.13
	Farallon	FTP-18-17.0	17.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
FTP-19	Farallon	FTP-19-11.0	11.0	6/15/2022	< 0.002	0.045	0.022	**0.031**	< 0.002	0.027	0.028 J	0.059	**0.073**	0.012	**0.57 J**	**0.040 J**	0.036 J	< 0.002 J	---	---	< 0.002 J	< 0.004	0.078 J	< 0.002 J	0.013 J	**0.0460**	0.824	0.143
	Farallon	FTP-19-16.0	16.0	6/15/2022	< 0.002	0.37	0.020	**0.070**	< 0.002	0.018	0.012 J	0.040	**0.12**	0.070	**0.22 J**	**0.024 J**	0.016 J	< 0.002 J	---	---	< 0.002 J	< 0.004	0.027 J	< 0.002 J	0.0057 J	**0.0270**	0.3447	0.278
FTP-21	Farallon	FTP-21-7.0	7.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	**0.0025**	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0.0025
	Farallon	FTP-21-12.0	12.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
FTP-22	Farallon	FTP-22-12.0	12.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
FTP-23	Farallon	FTP-23-12.0	12.0	6/16/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
FTP-24	Farallon	FTP-24-12.0	12.0	6/16/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
FTP-25	Farallon	FTP-25-12.0	12.0	6/16/2022	**0.0032**	0.0021	0.0027	< 0.002	< 0.002	< 0.002	0.0059	0.013	< 0.002	0.0047	0.016	**0.0085**	0.0060	0.014	---	---	0.0039	0.0179	0.0097	< 0.002	0.0066	**0.0120**	0.0836	0.0079
UST-05-WSW01-5.5	Farallon	UST-05-WSW01-5.5	5.5	8/26/2022	**21**	7.7	**15**	0.14	0.056	0.34	0.17	0.88	**0.75**	**2.4**	1.7	**0.44**	0.59	0.35	---	---	0.11	0.46	0.73	0.057	0.15	**0.57**	**24.686**	5.177
UST-05-BOT01-7.0	Farallon	UST-05-BOT01-7.0	7.0	8/26/2022	**67**	**24**	**43**	**2.1**	0.46	**3.7**	**1.9**	**10**	**4.0**	**21**	**18**	**5.6**	**7.0**	4.3	---	---	1.5	**5.8**	**8.8**	**0.69**	**2.1**	**7.2**	**98.26**	**59.89**
EX05-NSW-12.0	Farallon	EX05-NSW-12.0	12.0	8/29/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0037 J	0.011	< 0.002	0.0076	0.016	**0.0083 J**	0.0069	0.010 J	---	---	0.0037 J	0.0137	0.0082	< 0.002 J	0.0034 J	**0.011 J**	0.0076	0.0712
EX05-NSW-02-7.0	Farallon	EX05-NSW-02-7.0	7.0	8/30/2022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.012	< 0.01	< 0.01	0.015	**0.010**	< 0.01	0.014	---	---	< 0.01	0.014	< 0.01	< 0.01	< 0.01	**0.013**	0	0.051
EX05-ESW-01-12.0	Farallon	EX05-ESW-01-12.0	12.0	8/30/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone					**0.039**	**20**	**0.67**	**0.5**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.00031**	**5.2**	**12**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zo					**0.0021**	**20**	**0.039**	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.000016**	**5.2**	**12**

Table 2
Soil Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2] Non-Carcinogenic PAHs: Naphthalene[3]	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Carcinogenic PAHs: Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Benzo(j)Fluoranthene	Benzo(k)Fluoranthene	Total Benzofluoranthenes	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[5,6]	Total LPAHs	Total HPAHs
Area 13: Former Northwest Auto Wrecking Property (continued)																												
2022 UST Excavation (continued)																												
EX05-ESW-02-7.0	Farallon	EX05-ESW-02-7.0	7.0	8/30/2022	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.012 J	0.034	< 0.01	0.015	0.047	**0.021 J**	0.019	0.029 J	---	---	< 0.01 J	0.029	0.028	< 0.01 J	< 0.01 J	**0.028 J**	0.015	0.19
EX05-ESW-03-7.0	Farallon	EX05-ESW-03-7.0	7.0	8/31/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0022	< 0.002	< 0.002	0.0028	< 0.002	< 0.002	0.0025	---	---	< 0.002	0.0025	< 0.002	< 0.002	< 0.002	**0.0017**	0	0.0075
EX05-ESW-04-12.0	Farallon	EX05-ESW-04-12.0	12.0	8/31/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
EX05-SSW-01-12.0	Farallon	EX05-SSW-01-12.0	12.0	8/30/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
EX05-SSW-02-7.0	Farallon	EX05-SSW-02-7.0	7.0	8/31/2022	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.029	< 0.02	< 0.02	0.044	**0.022**	< 0.02	0.025	---	---	< 0.02	0.025	0.023	< 0.02	< 0.02	**0.029**	0	0.143
EX05-SSW-03-12.0	Farallon	EX05-SSW-03-12.0	12.0	8/31/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
EX05-WSW-01-8.0	Farallon	EX05-WSW-01-8.0	8.0	8/29/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
EX05-WSW-03-12.0	Farallon	EX05-WSW-03-12.0	12.0	8/30/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
EX05-B-01-16	Farallon	EX05-B-01-16	16.0	8/29/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
EX05-B-02-18.0	Farallon	EX05-B-02-18.0	18.0	8/29/2022	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.059	**0.17**	< 0.05	0.084	**0.21**	**0.11**	0.083	0.12	---	---	< 0.05	0.12	0.11	< 0.05	0.058	**0.14**	0.084	0.92
EX05-B-03-18.0	Farallon	EX05-B-03-18.0	18.0	8/30/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
EX05-B-04-18.0	Farallon	EX05-B-04-18.0	18.0	8/30/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
Soil Stockpile																												
SP-01-082922	Farallon	SP-01-082922	NA	8/29/2022	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.12	< 0.05	0.086	0.17	**0.081**	0.067	0.093	---	---	< 0.05	0.093	0.11	< 0.05	< 0.05	**0.11**	0.086	0.641
2022 - 2024 Stormwater Pond Investigation and Excavation																												
Pond-01-SED01	Farallon	POND-01-SED01-0.5	0.5	4/27/2022	< 0.002	< 0.002	< 0.002	---	---	---	---	---	---	---	---	**0.017**	0.013	0.020	---	---	0.0066	0.0266	0.017	< 0.002	0.0082	**0.021**	0	0.0818
Pond-01-SED02	Farallon	POND-01-SED02-0.5	0.5	4/27/2022	< 0.05	< 0.05	< 0.05	---	---	---	---	---	---	---	---	**0.54**	0.46	0.51	---	---	0.15	0.66	0.47	0.052	0.25	**0.64**	0	2.432
Pond-01-01	Farallon	POND-01-01-0.5	8.5	5/10/2022	---	---	---	---	---	---	---	---	---	---	---	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
Pond-01-02	Farallon	POND-01-02-0.5	8.5	5/10/2022	---	---	---	---	---	---	---	---	---	---	---	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
Pond-01-03	Farallon	POND-01-03-0.5	8.5	5/10/2022	---	---	---	---	---	---	---	---	---	---	---	< 0.002	< 0.002	< 0.002	---	---	< 0.002	< 0.004	< 0.002	< 0.002	< 0.002	< 0.0015	0	0
Pond-03-04	Farallon	POND-03-04-0.5	0.5	9/6/2023	**13**	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	---	< 0.05	< 0.10	< 0.05	< 0.05	< 0.05	< 0.038	**13**	0
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[7]					**0.039**	**20**	**0.67**	**0.5**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.00031**	**5.2**	**12**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zo					**0.0021**	**20**	**0.039**	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**1.3**	**NE**	**NE**	**NE**	**NE**	**3.2**	**1.4**	**0.23**	**0.6**	**0.000016**	**5.2**	**12**

NOTES:

Results in **bold** denote concentrations exceeding most-stringent PCULs.

Results in **bold** and highlighted yellow denote concentrations exceeding most-stringent PCULs left in place following the interim action.

Results highlighted gray denote sample was overexcavated during interim action activities.

< denotes analyte not detected at or exceeding the reporting limit listed.

— denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8270, 8270D/SIM, or 8270E, unless otherwise noted.

[3]Analyzed by U.S. Environmental Protection Agency Method 8270, 8270D/SIM, or 8260C.

[5]Total cPAHs derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

[6]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

[7]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent soil Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways except SL-9.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

D = the reported value is from a dilution.

DOF = Dalton, Olmsted & Fuglevand, Inc.

Farallon = Farallon Consulting, L.L.C.

HPAH = high molecular weight polycyclic aromatic hydrocarbons

J = result is an estimate

LPAH = low molecular weight polycyclic aromatic hydrocarbons

NA = not applicable

NE = not established

PAHs = polycyclic aromatic hydrocarbons

TEC = toxic equivalent concentration

UST = Underground Storage Tank

Table 3
Soil Analytical Results for Select VOCs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]								
					Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Chloroform
Area 7: Former Automobile Service Stations													
FMW-01	Farallon	FMW-01-10.0	10.0	6/26/2019	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164	< 0.00164
Area 5: Former Trailer Maintenance Shop													
F-11	Farallon	F-11-8.0	8.0	10/18/2016	0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
F-12	Farallon	F-12-6.7	6.7	10/17/2016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016
F-13	Farallon	F-13-2.5	2.5	10/18/2016	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
F-14	Farallon	F-14-6.0	6.0	10/18/2016	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.056	< 0.056	< 0.056	< 0.00093
Area 11: Former South Maintenance Shop													
B-1	Global	B-1@4.5'	4.5	April 1996	---	---	---	---	---	< 23	< 23	< 23	< 23
	Global	B-1@9'	9.0	April 1996	---	---	---	---	---	< 21	< 21	< 21	< 21
B-2	Global	B-2@4.5'	4.5	April 1996	---	---	---	---	---	< 23	< 23	< 23	< 23
	Global	B-2@6'	6.0	April 1996	---	---	---	---	---	< 23	< 23	< 23	< 23
	Global	B-2@15'	15.0	April 1996	---	---	---	---	---	< 24	< 24	< 24	< 24
B-3	Global	B-3@4.5'	4.5	April 1996	---	---	---	---	---	< 25	< 25	< 25	**6** J
	Global	B-3@7.5'	7.5	April 1996	---	---	---	---	---	**65**	**6** J	**5** J	< 23
	Global	B-3@10'	10.0	April 1996	---	---	---	---	---	**91**	< 20	**6** J	< 20
F-20	Farallon	F-20-7.0	7.0	10/18/2016	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
F-22	Farallon	F-22-7.0	7.0	10/19/2016	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
FMW-03	Farallon	FMW-03-6.0	6.0	6/26/2019	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	FMW-03-13.0	13.0	6/26/2019	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014
	Farallon	FMW-03-18.0	18.0	6/26/2019	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012	< 0.0012
Area 13: Former Northwest Auto Wrecking Property													
B-1	Geotech	96068-B1-2	6.0	3/4/1996	< 0.34	< 0.34	< 0.34	---	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34 B
B-2	Geotech	96068-B2-2	6.0	3/4/1996	< 0.34	< 0.34	< 0.34	---	< 0.34	<0.34	< 0.34	< 0.34	< 0.34 B
B-4	Geotech	96068-B4-2	6.0	3/4/1996	< 0.33	< 0.33	< 0.33	---	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33 B
TP-21	SES	TP-21	6.5	1/12/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
P02	SES	P02	9.0	1/10/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
P04	SES	P04	8.5	1/10/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
P05	SES	P05	10.0	1/10/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**0.029**	**0.0044**	**160**	**5.2**	**0.0011**	**0.035**	**0.023**	**0.11**	**0.81**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone					**0.0016**	**0.00027**	**160**	**0.32**	**0.000056**	**0.003**	**0.0013**	**0.0081**	**0.052**

Table 3
Soil Analytical Results for Select VOCs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]								
					Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Chloroform
Area 13: Former Northwest Auto Wrecking Property (continued)													
P06	SES	P06	7.0	1/11/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
P07	SES	P07-8.5	8.5	1/11/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
P08	SES	P08-6	6.0	1/11/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
	SES	P08-12	12.0	1/11/2007	< 0.05	< 0.05	< 0.05	---	< 0.05	---	---	---	---
2022 Stormwater Pond Investigation and Excavation													
Pond-01-SED01	Farallon	POND-01-SED01-0.5	0.5	4/27/2022	0.0018	0.0012	0.0047 J	< 0.002	**0.0022**	< 0.05	< 0.05	< 0.05	< 0.05
Pond-01-SED02	Farallon	POND-01-SED02-0.5	0.5	4/27/2022	0.0019	0.0015	0.0019 J	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
2022 Underground Storage Tank and Test Pit Investigation													
FTP-18	Farallon	FTP-18-12.0	12.0	6/15/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
	Farallon	FTP-18-17.0	17.0	6/15/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
FTP-19	Farallon	FTP-19-16.0	16.0	6/15/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
FTP-21	Farallon	FTP-21-12.0	12.0	6/15/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
	Farallon	FTP-21-17.0	17.0	6/15/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
FTP-22	Farallon	FTP-22-12.0	12.0	6/15/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
FTP-23	Farallon	FTP-23-12.0	12.0	6/16/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
FTP-24	Farallon	FTP-24-12.0	12.0	6/16/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
FTP-25	Farallon	FTP-25-12.0	12.0	6/16/2022	< 0.001	< 0.001	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
TRENCH-01	Farallon	TRENCH-01-7.0	7.0	6/13/2022	0.0031	0.0014	< 0.001	< 0.002	< 0.001	< 0.05	< 0.05	< 0.05	< 0.05
Excavation No. 5													
UST-05-WSW01-5.5	Farallon	UST-05-WSW01-5.5	5.5	8/26/2022	< 0.025	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
UST-05-BOT01-7.0	Farallon	UST-05-BOT01-7.0	7.0	8/26/2022	< 0.025	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**0.029**	**0.0044**	**160**	**5.2**	**0.0011**	**0.035**	**0.023**	**0.11**	**0.81**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone					**0.0016**	**0.00027**	**160**	**0.32**	**0.000056**	**0.003**	**0.0013**	**0.0081**	**0.052**

NOTES:

Results in **bold** denote concentrations exceeding most-stringent PCULs.
Results in **bold** and highlighted yellow denote concentrations exceeding most-stringent PCULs left in place following the interim action.
Results highlighted gray denote sample was overexcavated during interim action activities.
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
— denotes sample not analyzed or result not reported.
[1]Depth in feet below ground surface.
[2]Analyzed by U.S. Environmental Protection Agency Method 8260.
[3]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025.
Most stringent soil Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways except SL-9.

Geotech = Geotech Consultants, Inc.
Global = Global Environmental
Farallon = Farallon Consulting, L.L.C.
J = result is an estimate
PCE = tetrachloroethene
SES = SoundEarth Strategies, Inc.
TCE = trichloroethene
VOCs = volatile organic compounds

Table 4
Soil Analytical Results for PCBs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]									
					Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Northern Property Boundary														
F-27	Farallon	F-27-2.5	2.5	6/27/2019	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.178
	Farallon	F-27-10.0	10.0	6/27/2019	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.180
F-28	Farallon	F-28-2.5	2.5	6/27/2019	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	0.0269	< 0.0199	< 0.0199	**0.0269**
	Farallon	F-28-8.5	8.5	6/28/2019	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.179
Transformers														
F-30	Farallon	F-30-1.0	1.0	6/27/2019	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.178
F-32	Farallon	F-32-1.0	1.0	6/27/2019	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.178
F-33	Farallon	F-33-1.0	1.0	6/27/2019	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 0.180
Area 6: Former Truck Repair Shop														
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	2/2007	---	---	---	---	---	---	---	---	---	< 0.055
East of Area 6														
2020 Underground Storage Tank Decommissioning														
UST01	Farallon	UST01-B-10.0	10.0	8/20/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0041	< 0.002	< 0.002	**0.0041**
	Farallon	UST01-E-7.0	7.0	8/20/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.022	< 0.002	< 0.002	**0.022**
	Farallon	UST01-N-7.0	7.0	8/20/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.036	< 0.002	< 0.002	**0.036**
	Farallon	UST01-S-7.0	7.0	8/20/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.034	< 0.002	< 0.002	**0.034**
	Farallon	UST01-W-7.0	7.0	8/20/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.028	< 0.002	< 0.002	**0.028**
UST02	Farallon	UST02-B-7.0	7.0	8/20/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0038	< 0.002	< 0.002	**0.0038**
UST03	Farallon	UST03-02-5.0	5.0	10/2/2020	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.9
	Farallon	UST03-B-02-9.0	9.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0180
UST03	Farallon	UST03-B-01-8.0	8.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.028	< 0.002	**0.028**
	Farallon	UST03-B-03-10.0	10.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0180
	Farallon	UST03-SW-01-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.022	< 0.002	**0.022**
	Farallon	UST03-SW-02-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0180
	Farallon	UST03-SW-03-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.012	< 0.002	**0.012**
	Farallon	UST03-SW-04-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0080	< 0.002	**0.0080**
	Farallon	UST03-SW-05-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0075	< 0.002	**0.0075**
	Farallon	UST03-SW-06-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.022	< 0.002	**0.022**
	Farallon	UST03-SW-07-7.0	7.0	10/8/2020	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.017	< 0.002	**0.017**
Area 7: Former Automobile Service Stations														
2020 Interim Action Excavation														
B-01	Farallon	B-01-16.0	16.0	6/11/2020	< 0.0198	< 0.0198	< 0.0198	< 0.0198	< 0.0198	0.0106 J	< 0.0198	< 0.0198	< 0.0198	**0.0106 J**
FTP-01	Farallon	FTP-01-10.0	10.0	6/5/2020	< 0.0196	< 0.0196	< 0.0196	< 0.0196	< 0.0196	< 0.0196	< 0.0196	< 0.0196	< 0.0196	< 0.176
NSW-01	Farallon	NSW-01-15.0	15.0	6/11/2020	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.0199	< 0.179
Stockpile Samples														
SP-01-041724	Farallon	SP-01-041724	NA	4/17/2024	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.11	0.046	< 0.02	< 0.02	**0.156**
Area 13: Former Northwest Auto Wrecking Property														
2007 - 2008 Site-Wide Surface Soil Excavation														
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	6/27/2008	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	---	---	< 0.231
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	11/1/2007	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	---	---	< 0.21
PR-PV3	DOF	PR-PV3	0 - 0.5	7/27/2007	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	---	---	< 0.21
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	6/28/2008	< 0.032	< 0.032	< 0.032	< 0.032	< 0.032	< 0.032	< 0.032	---	---	< 0.224
PR-PV6	DOF	PR-PV6	0 - 0.5	2/11/2008	< 0.03	< 0.03	< 0.03	< 0.03	0.038	0.037	< 0.03	---	---	**0.075**
R-SE15	DOF	R-SE15	0 - 0.5	7/17/2008	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	---	---	< 1.4
R-SE16	DOF	R-SE16	0 - 0.5	7/17/2008	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	---	---	< 1.4
Scrape-N2	DOF	Scrape-N2	0 - 0.5	2/18/2008	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	< 0.033	---	---	< 0.231
2008 Former Waste Oil Aboveground Storage Tank Investigation														
TP-WO-1	DOF	TP-WO-1	1.0	7/24/2008	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	---	---	< 3.5
2020 Construction Stormwater Pond Excavation														
EX02-B-01	Farallon	EX02-B-01-2.0	2.0	6/18/2020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.18
EX02-B-02	Farallon	EX02-B-02-2.0	2.0	6/18/2020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.18
2022 UST Excavation														
TRENCH-01	Farallon	TRENCH-01-7.0	7.0	6/13/2022	< 0.002	< 0.002	< 0.002	< 0.002	0.31	< 0.002	< 0.05	< 0.002	< 0.002	**0.31**
FTP-18	Farallon	FTP-18-12.0	12.0	6/15/2022	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.049	0.059	< 0.02	< 0.02	**0.108**
	Farallon	FTP-18-17.0	17.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-19	Farallon	FTP-19-11.0	11.0	6/15/2022	< 0.002	< 0.002	< 0.002	0.027	< 0.002	< 0.002	0.016	< 0.002	< 0.002	**0.043**
	Farallon	FTP-19-16.0	16.0	6/15/2022	< 0.002	< 0.002	< 0.002	0.012	< 0.002	< 0.002	0.0066	< 0.002	< 0.002	**0.0186**
FTP-21	Farallon	FTP-21-7.0	7.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0066	0.0038	< 0.002	< 0.002	**0.0104**
	Farallon	FTP-21-12.0	12.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-22	Farallon	FTP-22-12.0	12.0	6/15/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-23	Farallon	FTP-23-12.0	12.0	6/16/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-24	Farallon	FTP-24-12.0	12.0	6/16/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-25	Farallon	FTP-25-12.0	12.0	6/16/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.0027	< 0.002	< 0.0187
JST-05-WSW01-5.5	Farallon	UST-05-WSW01-5.5	5.5	8/26/2022	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.18
UST-05-BOT01-7.0	Farallon	UST-05-BOT01-7.0	7.0	8/26/2022	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.18
2022 - 2024 Stormwater Pond Investigation and Excavation														
Pond-01-SED01	Farallon	POND-01-SED01-0.5	0.5	4/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0070	0.0052	< 0.002	< 0.002	**0.0122**
Pond-01-SED02	Farallon	POND-01-SED02-0.5	0.5	4/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.036	0.028	< 0.002	< 0.002	**0.064**
FTP-26	Farallon	FTP-26-10.0	10.0	7/7/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-27	Farallon	FTP-27-8.0	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-28	Farallon	FTP-28-8.0	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	0.032	< 0.002	0.0055	< 0.002	< 0.002	< 0.002	**0.038**
FTP-29	Farallon	FTP-29-2.5	2.5	7/7/2022	< 0.002	< 0.002	< 0.002	0.064	< 0.002	0.11	< 0.002	< 0.002	< 0.002	**0.17**
	Farallon	FTP-29-2.5-SIEVE	2.5	7/7/2022	< 0.002	< 0.002	< 0.002	0.014	< 0.002	0.025	< 0.002	< 0.002	< 0.002	**0.039**
	Farallon	FTP-29-8.0	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	0.069	< 0.002	0.17	< 0.002	< 0.002	< 0.002	**0.24**
	Farallon	FTP-29-8.0-SIEVE	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	0.0093	< 0.002	0.017	< 0.002	< 0.002	< 0.002	**0.026**
Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**0.000011**
Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone[3]					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**0.00000055**

Table 4
Soil Analytical Results for PCBs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]									
					Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
Area 13: Former Northwest Auto Wrecking Property (continued)														
2022 - 2024 Stormwater Pond Investigation and Excavation (continued)														
FTP-30	Farallon	FTP-30-8.0	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	0.069	< 0.002	0.10	< 0.002	< 0.002	< 0.002	**0.17**
	Farallon	FTP-30-8.0-SIEVE	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	0.010	< 0.002	0.018	< 0.002	< 0.002	< 0.002	**0.028**
FTP-31	Farallon	FTP-31-8.0	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
FTP-32	Farallon	FTP-32-8.0	8.0	7/7/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018
Pond-01-04	Farallon	POND-01-04-0.0	8.0	5/10/2022	< 0.004	< 0.004	< 0.004	0.20	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	**0.20**
	Farallon	POND-01-04-0.0-SIEVE	8.0	5/10/2022	< 0.002	< 0.002	< 0.002	2.1	< 0.002	< 0.002	< 0.01	< 0.002	< 0.002	**2.1**
Pond-02-Deb	Farallon	POND-02-DEB	2.0	5/9/2022	< 0.002	< 0.002	< 0.002	0.040	< 0.002	0.078	< 0.002	< 0.002	< 0.002	**0.118**
	Farallon	POND-02-DEB-SIEVE	2.0	5/9/2022	< 0.002	< 0.002	< 0.002	0.029	< 0.002	0.042	0.018	< 0.002	< 0.002	**0.089**
Pond-03-01	Farallon	POND-03-01-2.0	2.0	5/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.053	0.043	< 0.002	< 0.002	**0.096**
	Farallon	POND-03-01-2.0-SIEVE	2.0	5/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.061	0.038	< 0.002	< 0.002	**0.099**
Pond-03-02	Farallon	POND-03-02-3.5	3.5	5/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.090	0.058	< 0.002	< 0.002	**0.148**
	Farallon	POND-03-02-3.5-SIEVE	3.5	5/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.11	0.051	< 0.002	< 0.002	**0.161**
Pond-03-03	Farallon	POND-03-03-2.5	2.5	5/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.067	0.056	< 0.002	< 0.002	**0.123**
	Farallon	POND-03-03-2.5-SIEVE	2.5	5/27/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.085	0.041	< 0.002	< 0.002	**0.126**
Pond-03-04	Farallon	POND-03-04-0.5	0.5	9/6/2023	< 0.02	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.02	< 0.27
FTP-46	Farallon	FTP-46-8.0	8.0	1/10/2024	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.03	< 0.02	< 0.02	< 0.02	< 0.19
FTP-48	Farallon	FTP-48-8.0	8.0	1/10/2024	< 0.02	< 0.02	< 0.02	< 0.02	0.17	< 0.08	0.036	< 0.02	< 0.02	**0.206**
FTP-50	Farallon	FTP-50-8.0	8.0	1/16/2024	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.025	< 0.02	< 0.02	< 0.02	< 0.185
Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**0.000011**
Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone[3]					**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**0.00000055**

NOTES:

Results in **bold** denote concentrations exceeding most-stringent PCULs.

Results in **bold** and highlighted yellow denote concentrations exceeding most-stringent PCULs left in place following the interim action.

Results highlighted gray denote sample was overexcavated during interim action activities.

< denotes analyte not detected at or exceeding the reporting limit listed.

--- denotes sample not analyzed.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method 8082/8082A.

[3]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent soil Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways except SL-9.

DOF = Dalton, Olmsted & Fuglevand, Inc.

Farallon = Farallon Consulting, L.L.C.

NA = not applicable

NE = not established

PCB = polychlorinated biphenyl

UST = Underground Storage Tank

Table 5
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]											
					Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
Former Detention Pond																
F-29	Farallon	F-29-2.5	2.5	6/27/2019	**7.64**	---	0.64	---	**60.6**	45.1	290	**0.357**	**---**	---	---	64.3
	Farallon	F-29-8.5	8.5	6/28/2019	2.63	---	< 0.11	---	27.3	1.58	33.0	0.0142 J	---	---	---	11.6
Area 2: Perishables Warehouse																
F-1	Farallon	F-1-5.7	5.7	10/20/2016	---	---	---	---	---	< 5.7	---	---	---	---	---	---
Area 4: Former Fueling Area																
F-9	Farallon	F-9-8.0	8.0	10/26/2016	---	---	---	---	---	< 7.2	---	---	---	---	---	---
Area 6: Former Truck Repair Shop																
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	2/2007	2.58	37.6	< 0.55	10.3	---	1.96	---	< 0.11	---	< 0.55	< 0.55	---
East of Area 6																
2020 UST Decommissioning																
UST01	Farallon	UST01-B-10.0	10.0	8/20/2020	3.85	28.2	< 1	9.01	13.2	5.9	---	< 1	---	< 1	< 1	---
	Farallon	UST01-E-7.0	7.0	8/20/2020	**15.2**	76.7	**2.58**	24.2	**40.9**	21.8	---	< 1	---	< 1	< 1	---
	Farallon	UST01-N-7.0	7.0	8/20/2020	**15.7**	83.8	**2.42**	23.8	**41.9**	21.4	---	< 0.4	---	0.594	0.403	---
	Farallon	UST01-S-7.0	7.0	8/20/2020	**13.7**	73.5	**2.18**	20.9	33.9	16.6	---	< 0.4	---	< 0.4	< 0.4	---
	Farallon	UST01-W-7.0	7.0	8/20/2020	**10.7**	60.9	**4.07**	19.8	34.3	19.1	---	< 1	---	< 1	< 1	---
UST02	Farallon	UST02-B-7.0	7.0	8/20/2020	7.15	49.9	< 1	11.4	18.8	8.01	---	< 1	---	< 1	< 1	---
Area 7: Former Automobile Service Stations																
SS-1	DOF	SS-1	0.3 - 1.3	10/29/2008	6	---	0.2	---	---	13	---	---	---	---	---	---
SS-2	DOF	SS-2	0.3 - 1.3	10/29/2008	5	---	0.3	---	---	15	---	---	---	---	---	---
SS-3	DOF	SS-3	0.3 - 1.3	10/29/2008	< 5	---	0.3	---	---	7	---	---	---	---	---	---
SS-4	DOF	SS-4	0.3 - 1.3	10/29/2008	< 5	---	0.3	---	---	11	---	---	---	---	---	---
SS-5	DOF	SS-5	0.3 - 1.3	10/29/2008	< 5	---	0.2	---	---	4	---	---	---	---	---	---
Stockpile Samples																
SP-01-041724	Farallon	SP-01-041724	NA	4/17/2024	7.2	94	< 1	15	28	67	---	< 1 J	13	< 1	< 1	95
Area 12: Former Old Humble Oil Service Station																
2023 Excavation																
Stockpile 01	Farallon	STP-01-013023	NA	1/30/2023	---	---	---	---	---	10.3	---	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property																
2007 - 2008 Site-Wide Surface Soil Excavation																
TP06	SES	TP-06	0.5	1/11/2007	**12.4**	54.9	< 1	10.7	---	27.3	---	< 0.2	---	< 1	< 1	59.2
TP19	SES	TP-19	0.5	1/12/2007	5.67	35.4	**1.38**	5.28	---	21.7	---	< 0.2	---	< 1	< 1	42
PR-C1(R)	DOF	PR-C1(R)	0 - 0.5	6/24/2008	---	---	---	13.5	16.5	3.0	---	---	---	---	---	---
PR-C2(R)	DOF	PR-C2(R)	0 - 0.5	6/24/2008	---	---	---	13.5	12.4	3.0	---	---	---	---	---	---
PR-C3(R)	DOF	PR-C3(R)	0 - 0.5	6/25/2008	---	---	---	10.2	11.9	10.0	---	---	---	---	---	---
PR-C4(R)	DOF	PR-C4(R)	0 - 0.5	6/26/2008	---	---	---	13.6	**54.6**	18.0	---	---	---	---	---	---
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	6/27/2008	**14**	---	< 0.2	12.7	17.4	12.0	---	---	---	---	---	---
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	11/1/2007	< 6	54.9	< 0.3	19.6	---	3	---	< 0.06	---	< 6.0	< 0.4	---
PR-PV3	DOF	PR-PV3	0 - 0.5	7/27/2007	5	---	0.7	10.6	23.2	13	---	---	---	---	---	**183**
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	6/28/2008	< 6	---	< 0.2	16.1	20.3	3.0	---	---	---	---	---	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**7.3**	**250**	**0.77**	**550**	**36**	**250**	**1,100**	**0.07**	**48**	**7.4**	**0.61**	**100**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone[3]					**7.3**	**250**	**0.77**	**48**	**36**	**81**	**1,100**	**0.07**	**48**	**0.78**	**0.61**	**85**

Table 5
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]											
					Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
Area 13: Former Northwest Auto Wrecking Property (continued)																
2007 - 2008 Site-Wide Surface Soil Excavation (continued)																
PR-PV5	DOF	PR-PV5	0 - 0.5	2/11/2008	**8**	---	0.3	16.9	**55.9**	59	---	---	---	---	---	89
PR-PV6	DOF	PR-PV6	0 - 0.5	2/11/2008	**8**	---	0.3	17.4	**37.2**	30	---	---	---	---	---	64
PR-SE1(R)	DOF	PR-SE1(R)	0 - 0.5	6/12/2008	**9**	---	0.4	---	---	36	---	---	---	---	---	---
PR-SE2	DOF	PR-SE2	0 - 0.5	7/25/2007	**8**	---	**1.4**	---	---	150	---	---	---	---	---	---
PR-SE3	DOF	PR-SE3	0 - 0.5	7/25/2007	< 5	---	0.3	---	---	88	---	---	---	---	---	---
PR-SE4	DOF	PR-SE4	0 - 0.5	7/25/2007	7	---	0.5	---	---	75	---	---	---	---	---	---
PR-SE5	DOF	PR-SE5	0 - 0.5	7/25/2007	7	---	0.3	---	---	66	---	---	---	---	---	---
PR-SE6(R)	DOF	PR-SE6(R)	0.5	9/7/2007	5	---	< 0.2	---	---	12	---	---	---	---	---	---
PR-SE7	DOF	PR-SE7	0 - 0.5	7/25/2007	**8**	---	0.4	---	---	47	---	---	---	---	---	---
PR-SE8	DOF	PR-SE8	0 - 0.5	7/25/2007	**8**	---	0.4	12.6	16.7	51	---	---	---	---	---	52
PR-SE9(R)	DOF	PR-SE9(R)	0.5	10/23/2007	7	76.8	< 0.2	21.6	---	7	---	0.07	---	< 6.0	< 0.4	---
PR-SE10	DOF	PR-SE10	0 - 0.5	7/25/2007	6	---	0.3	---	---	187	---	---	---	---	---	---
PR-SE11(R)	DOF	PR-SE11(R)	0.5	9/7/2007	**9**	---	< 0.2	---	---	16	---	---	---	---	---	---
PR-SE12(R)	DOF	PR-SE12(R)	0.5	9/7/2007	5	---	< 0.2	---	---	13	---	---	---	---	---	---
PR-SE13	DOF	PR-SE13	0 - 0.5	7/26/2007	**12**	---	0.7	---	---	220	---	---	---	---	---	---
PR-SE14(R)	DOF	PR-SE14(R)	0 - 0.5	7/10/2008	< 2.0	---	< 2.0	---	---	3.5	---	---	---	---	---	---
PR-SE15	DOF	PR-SE15	0 - 0.5	7/26/2007	6	---	0.3	14.4	19	31	---	---	---	---	---	48
PR-SE16	DOF	PR-SE16	0 - 0.5	7/25/2007	6	---	0.7	---	---	67	---	---	---	---	---	---
PR-SE17	DOF	PR-SE17	0 - 0.5	7/25/2007	7	---	0.3	---	---	13	---	---	---	---	---	---
PR-SE18	DOF	PR-SE18	0 - 0.5	7/25/2007	**11**	---	0.2	---	---	150	---	---	---	---	---	---
PR-SE19	DOF	PR-SE19	0 - 0.5	7/25/2007	**8**	---	0.3	---	---	40	---	---	---	---	---	---
PR-SE20(R	DOF	PR-SE20(R	0 - 0.5	10/23/2007	**9**	35.1	< 0.2	13	---	6	---	< 0.04	---	< 5.0	< 0.3	---
PR-SE21	DOF	PR-SE21	0 - 0.5	7/25/2007	**8**	---	**1.0**	---	---	89	---	---	---	---	---	---
PR-SE22(R	DOF	PR-SE22(R	0 - 0.5	9/7/2007	< 5.0	---	< 0.2	---	---	5	---	---	---	---	---	---
PR-SE23(R)	DOF	PR-SE23(R)	0 - 0.5	7/10/2008	3.6	---	< 2.0	---	---	8.2	---	---	---	---	---	---
PR-SE24	DOF	PR-SE24	0 - 0.5	7/24/2007	5	---	0.4	---	---	151	---	---	---	---	---	---
PR-SE25	DOF	PR-SE25	0 - 0.5	7/26/2007	7	---	**0.9**	---	---	120	---	---	---	---	---	---
PR-SE26	DOF	PR-SE26	0 - 0.5	7/25/2007	7	---	**0.9**	---	---	167	---	---	---	---	---	---
PR-SE27	DOF	PR-SE27	0 - 0.5	7/25/2007	7	---	**0.9**	---	---	113	---	---	---	---	---	---
PR-SE28	DOF	PR-SE28	0 - 0.5	7/25/2007	7	---	0.3	13.3	20.1	49	---	---	---	---	---	56
PR-SE29	DOF	PR-SE29	0 - 0.5	7/25/2007	7	---	0.6	---	---	40	---	---	---	---	---	---
PR-SE30	DOF	PR-SE30	0 - 0.5	7/25/2007	**9**	---	< 0.2	---	---	24	---	---	---	---	---	---
PR-SE31	DOF	PR-SE31	0 - 0.5	7/25/2007	< 5	---	0.3	8.8	11.2	64	---	---	---	---	---	40
PR-SE32	DOF	PR-SE32	0 - 0.5	7/25/2007	< 5	---	0.3	---	---	26	---	---	---	---	---	---
PR-SE33(R)	DOF	PR-SE33(R)	0 - 0.5	7/10/2008	3.0	---	< 2.0	---	---	11	---	---	---	---	---	---
PR-SE34(R)	DOF	PR-SE34(R)	0 - 0.5	7/10/2008	4.3	---	< 2.0	---	---	48	---	---	---	---	---	---
PR-SE35(R)	DOF	PR-SE35(R)	0 - 0.5	7/10/2008	4.8	---	< 2.0	---	---	14	---	---	---	---	---	---
PR-SE36(R)	DOF	PR-SE36(R)	0 - 0.5	7/10/2008	5.9	---	< 2.0	---	---	70	---	---	---	---	---	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**7.3**	**250**	**0.77**	**550**	**36**	**250**	**1,100**	**0.07**	**48**	**7.4**	**0.61**	**100**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone[3]					**7.3**	**250**	**0.77**	**48**	**36**	**81**	**1,100**	**0.07**	**48**	**0.78**	**0.61**	**85**

Table 5
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]											
					Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
Area 13: Former Northwest Auto Wrecking Property (continued)																
2007 - 2008 Site-Wide Surface Soil Excavation (continued)																
PR-SE-37(R)	DOF	PR-SE-37(R)	0 - 0.5	6/12/2008	< 5	---	0.2	---	---	5	---	---	---	---	---	---
R-SE1	DOF	R-SE1	0 - 0.5	6/12/2008	7	---	0.5	---	---	19	---	---	---	---	---	---
R-SE2	DOF	R-SE2	0 - 0.5	6/12/2008	6	---	< 0.2	---	---	9	---	---	---	---	---	---
R-SE3	DOF	R-SE3	0 - 0.5	6/12/2008	< 5	---	0.3	---	---	3	---	---	---	---	---	---
R-SE4	DOF	R-SE4	0 - 0.5	7/10/2008	3.3	---	< 2.0	---	---	2.6	---	---	---	---	---	---
R-SE5	DOF	R-SE5	0 - 0.5	7/10/2008	4.9	---	< 2.0	---	---	8.4	---	---	---	---	---	---
R-SE6	DOF	R-SE6	0 - 0.5	7/10/2008	3.4	---	< 2.0	---	---	5.3	---	---	---	---	---	---
R-SE7	DOF	R-SE7	0 - 0.5	7/10/2008	2.5	---	< 2.0	---	---	3.6	---	---	---	---	---	---
R-SE8	DOF	R-SE8	0 - 0.5	7/10/2008	3.3	---	< 2.0	---	---	7.4	---	---	---	---	---	---
R-SE9	DOF	R-SE9	0 - 0.5	7/10/2008	4.9	---	< 2.0	---	---	22	---	---	---	---	---	---
R-SE10	DOF	R-SE10	0 - 0.5	7/17/2008	2.9	---	< 2.0	---	---	24	---	---	---	---	---	---
R-SE11	DOF	R-SE11	0 - 0.5	7/17/2008	5.3	---	**2.0**	---	---	160	---	---	---	---	---	---
R-SE12	DOF	R-SE12	0 - 0.5	7/17/2008	4.7	---	< 2.0	---	---	16	---	---	---	---	---	---
R-SE13	DOF	R-SE13	0 - 0.5	7/17/2008	< 2.0	---	< 2.0	---	---	4.2	---	---	---	---	---	---
R-SE14	DOF	R-SE14	0 - 0.5	7/17/2008	6.2	---	< 2.0	---	---	74	---	---	---	---	---	---
R-SE15	DOF	R-SE15	0 - 0.5	7/17/2008	4.1	---	< 2.0	---	---	30	---	---	---	---	---	---
R-SE16	DOF	R-SE16	0 - 0.5	7/17/2008	7.1	---	< 2.0	---	---	33	---	---	---	---	---	---
PR-DP1	DOF	PR-DP1	0 - 0.5	7/25/2007	**8**	---	0.5	29.6	30	91	---	---	---	---	---	**109**
PR-DP-2	DOF	PR-DP-2	0 - 0.5	7/25/2007	< 7	---	0.4	---	---	83	---	---	---	---	---	---
PR-DP3	DOF	PR-DP3	0 - 0.5	7/25/2007	7	---	0.6	---	---	162	---	---	---	---	---	---
PR-DP4	DOF	PR-DP4	0 - 0.5	7/25/2007	6	---	0.5	---	---	144	---	---	---	---	---	---
Scrape-N1	DOF	Scrape-N1	0 - 0.5	2/18/2008	7	---	< 0.2	---	---	18	---	---	---	---	---	---
Scrape-N2	DOF	Scrape-N2	0 - 0.5	2/18/2008	7	---	0.3	---	---	51	---	---	---	---	---	---
Scrape-N3	DOF	Scrape-N3	0 - 0.5	2/18/2008	7	---	0.3	---	---	21	---	---	---	---	---	---
Scrape-N4	DOF	Scrape-N4	0 - 0.5	2/20/2008	**8**	---	0.5	---	---	78	---	---	---	---	---	---
Scrape-N5	DOF	Scrape-N5	0 - 0.5	2/20/2008	< 6	---	0.3	---	---	24	---	---	---	---	---	---
Scrape-N8	DOF	Scrape-N8	0 - 0.5	2/21/2008	< 6.0	---	< 0.2	---	---	11	---	---	---	---	---	---
Underground Storage Tank (UST) Removal Excavation																
NUST-ESW	DOF	NUST-ESW	9.0	7/2/2008	---	---	---	---	---	4.0	---	---	---	---	---	---
SUST-ESW	DOF	SUST-ESW	9.0	7/2/2008	---	---	---	---	---	4.6	---	---	---	---	---	---
SUST-SSW	DOF	SUST-SSW	8.0	7/10/2008	---	---	---	---	---	7.0	---	---	---	---	---	---
UST-PI	DOF	UST-PI	4.0	7/11/2008	---	---	---	---	---	4.0	---	---	---	---	---	---
NUST-WSW	DOF	NUST-WSW	8.0	7/11/2008	---	---	---	---	---	< 4.0	---	---	---	---	---	---
SUST-WSW	DOF	SUST-WSW	8.0	7/11/2008	---	---	---	---	---	< 4.0	---	---	---	---	---	---
NUST-B1	DOF	NUST-B1	14.0	7/2/2008	---	---	---	---	---	< 4.0	---	---	---	---	---	---
SUST-B3	DOF	SUST-B3	14.0	7/10/2008	---	---	---	---	---	5.0	---	---	---	---	---	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**7.3**	**250**	**0.77**	**550**	**36**	**250**	**1,100**	**0.07**	**48**	**7.4**	**0.61**	**100**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone[3]					**7.3**	**250**	**0.77**	**48**	**36**	**81**	**1,100**	**0.07**	**48**	**0.78**	**0.61**	**85**

Table 5
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]											
					Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
Area 13: Former Northwest Auto Wrecking Property (continued)																
Storm Drains																
TP-SD-1	DOF	TP-SD-1	2.0	7/24/2008	4.6	---	< 2.0	---	---	2.7	---	---	---	---	---	---
TP-SD-2	DOF	TP-SD-2	2.0	7/24/2008	2.8	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
Former Parts Shop Test Pits																
TP-P08	DOF	TP-P08-1	1.0	7/24/2008	2.3	---	< 2.0	---	---	3.6	---	---	---	---	---	---
	DOF	TP-P08-8	8.0	7/24/2008	2.8	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
	DOF	TP-P08-12	12.0	7/24/2008	5.9	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
TP-P08A	DOF	TP-P08A-1	1.0	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
	DOF	TP-P08A-8	8.0	7/24/2008	3.2	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
Former Waste Oil Aboveground Storage Tank																
TP-WO-1	DOF	TP-WO-1	1.0	7/24/2008	**8.6**	---	< 2.0	---	---	15	---	---	---	---	---	---
Former UST Sampling Locations																
TP-P01	DOF	TP-P01-SW	6.0	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
	DOF	TP-P01-B	12.0	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
TP-P04-1	DOF	TP-P04-1	3.0	7/24/2008	**7.4**	---	< 2.0	---	---	4.6	---	---	---	---	---	---
Septic Drain field																
TP-SEPTIC-1	DOF	TP-SEPTIC-1	7.0	7/24/2008	2.9	---	< 2.0	---	---	< 4.0	---	---	---	---	---	---
2020 Construction Stormwater Pond Excavation																
EX02-B-01	Farallon	EX02-B-01-2.0	2.0	6/18/2020	**7.46**	---	---	---	26.1	---	---	---	---	---	---	---
EX02-B-02	Farallon	EX02-B-02-2.0	2.0	6/18/2020	**7.90**	---	---	---	18.7	---	---	---	---	---	---	---
2022 UST Excavation																
TRENCH-01	Farallon	TRENCH-01-7.0	7.0	6/13/2022	---	---	---	---	---	127	---	---	---	---	---	---
FTP-18	Farallon	FTP-18-12.0	12.0	6/15/2022	---	---	---	---	---	51.4	---	---	---	---	---	---
	Farallon	FTP-18-17.0	17.0	6/15/2022	---	---	---	---	---	1.68	---	---	---	---	---	---
FTP-19	Farallon	FTP-19-11.0	11.0	6/15/2022	---	---	---	---	---	9.64	---	---	---	---	---	---
	Farallon	FTP-19-16.0	16.0	6/15/2022	---	---	---	---	---	2.67	---	---	---	---	---	---
FTP-21	Farallon	FTP-21-7.0	7.0	6/15/2022	---	---	---	---	---	2.41	---	---	---	---	---	---
	Farallon	FTP-21-12.0	12.0	6/15/2022	---	---	---	---	---	2.56	---	---	---	---	---	---
FTP-22	Farallon	FTP-22-12.0	12.0	6/15/2022	---	---	---	---	---	6.03	---	---	---	---	---	---
FTP-23	Farallon	FTP-23-12.0	12.0	6/16/2022	---	---	---	---	---	3.20	---	---	---	---	---	---
FTP-24	Farallon	FTP-24-12.0	12.0	6/16/2022	---	---	---	---	---	5.49	---	---	---	---	---	---
FTP-25	Farallon	FTP-25-12.0	12.0	6/16/2022	---	---	---	---	---	8.10	---	---	---	---	---	---
UST-05-WSW01-5.5	Farallon	UST-05-WSW01-5.5	5.5	8/26/2022	3.08	---	---	---	19.0	26.7	---	---	---	---	---	---
UST-05-BOT01-7.0	Farallon	UST-05-BOT01-7.0	7.0	8/26/2022	3.04	---	---	---	25.7	43.0	---	---	---	---	---	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**7.3**	**250**	**0.77**	**550**	**36**	**250**	**1,100**	**0.07**	**48**	**7.4**	**0.61**	**100**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone[3]					**7.3**	**250**	**0.77**	**48**	**36**	**81**	**1,100**	**0.07**	**48**	**0.78**	**0.61**	**85**

Table 5
Soil Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Sample Date	Analytical Results (milligrams per kilogram)[2]											
					Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Zinc
Area 13: Former Northwest Auto Wrecking Property (continued)																
2022 - 2024 Stormwater Pond Investigation and Excavation																
Pond-01-SED01	Farallon	POND-01-SED01-0.5	0.5	4/27/2022	**14.2**	94.6	< 1	14.7	---	41.9	---	< 1	---	< 1	< 1	---
Pond-01-SED02	Farallon	POND-01-SED02-0.5	0.5	4/27/2022	**8.14**	126	< 1	16.1	---	60.7	---	< 1	---	< 1	< 1	---
Pond-01-01	Farallon	POND-01-01-0.5	8.5	5/10/2022	4.99	---	---	---	---	---	---	---	---	---	---	---
Pond-01-02	Farallon	POND-01-02-0.5	8.5	5/10/2022	5.04	---	---	---	---	---	---	---	---	---	---	---
Pond-01-03	Farallon	POND-01-03-0.5	8.5	5/10/2022	3.75	---	---	---	---	---	---	---	---	---	---	---
Pond-01-04	Farallon	POND-01-04-0.0	8.0	5/10/2022	---	---	---	---	---	63.6	---	---	---	---	---	---
	Farallon	POND-01-04-0.0-SIEVE	8.0	5/10/2022	---	---	---	---	---	15.0	---	---	---	---	---	---
Pond-02-Deb	Farallon	POND-02-DEB	2.0	5/9/2022	---	---	---	---	---	179	---	---	---	---	---	---
	Farallon	POND-02-DEB-SIEVE	2.0	5/9/2022	---	---	---	---	---	54.1	---	---	---	---	---	---
Pond-03-01	Farallon	POND-03-01-2.0	2.0	5/27/2022	---	---	---	---	---	196	---	---	---	---	---	---
	Farallon	POND-03-01-2.0-SIEVE	2.0	5/27/2022	---	---	---	---	---	36.8	---	---	---	---	---	---
Pond-03-02	Farallon	POND-03-02-3.5	3.5	5/27/2022	---	---	---	---	---	**289**	---	---	---	---	---	---
	Farallon	POND-03-02-3.5-SIEVE	3.5	5/27/2022	---	---	---	---	---	75.5	---	---	---	---	---	---
Pond-03-03	Farallon	POND-03-03-2.5	2.5	5/27/2022	---	---	---	---	---	**283**	---	---	---	---	---	---
	Farallon	POND-03-03-2.5-SIEVE	2.5	5/27/2022	---	---	---	---	---	65.6	---	---	---	---	---	---
Pond-03-04	Farallon	POND-03-04-0.5	0.5	9/6/2023	---	---	---	---	---	184	---	---	---	---	---	---
Stockpile Samples - Various Areas																
PEG3-PL-01	Farallon	PEG3-PL-01-032624	NA	3/26/2024	6.1	49	< 1	10	---	9.6	---	< 1	---	< 1	< 1	---
PEG3-PL-05	Farallon	PEG3-PL-05-032624	NA	3/26/2024	4.7	51	< 1	10	---	15	---	< 1	---	< 1	< 1	---
PEG3-PL-08	Farallon	PEG3-PL-08-032624	NA	3/26/2024	6.0	54	< 1	11	---	38	---	< 1	---	< 1	< 1	---
STP-01-031324	Farallon	STP-01-031324	NA	3/13/2024	5.2	49	< 1	12	---	17	---	< 1	---	< 1	< 1	---
STP-02-031324	Farallon	STP-02-031324	NA	3/13/2024	4.6	88	< 1	14	---	60	---	< 1	---	< 1	< 1	---
STP-03-031324	Farallon	STP-03-031324	NA	3/13/2024	6.9	59	< 1	16	---	120	---	< 1	---	< 1	< 1	---
STP-04-031324	Farallon	STP-04-031324	NA	3/13/2024	6.2	63	< 1	13	---	7.2	---	< 1	---	< 1	< 1	---
STP-05-031324	Farallon	STP-05-031324	NA	3/13/2024	3.8	63	< 1	12	---	35	---	< 1	---	< 1	< 1	---
STP-06-031324	Farallon	STP-06-031324	NA	3/13/2024	5.2	67	< 1	14	---	28	---	< 1	---	< 1	< 1	---
STP-07-031324	Farallon	STP-07-031324	NA	3/13/2024	7.0	46	< 1	12	---	6.9	---	< 1	---	< 1	< 1	---
STP-08-031324	Farallon	STP-08-031324	NA	3/13/2024	5.5	77	< 1	12	---	37	---	< 1	---	< 1	< 1	---
STP-09-031324	Farallon	STP-09-031324	NA	3/13/2024	4.1	50	< 1	9.5	---	14	---	< 1	---	< 1	< 1	---
STP-10-031324	Farallon	STP-10-031324	NA	3/13/2024	4.7	58	< 1	13	---	10	---	< 1	---	< 1	< 1	---
STP-11-031324	Farallon	STP-11-031324	NA	3/13/2024	5.5	60	< 1	12	---	33	---	< 1	---	< 1	< 1	---
STP-12-031324	Farallon	STP-12-031324	NA	3/13/2024	3.6	45	< 1	14	---	7.7	---	< 1	---	< 1	< 1	---
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Vadose Zone[3]					**7.3**	**250**	**0.77**	**550**	**36**	**250**	**1,100**	**0.07**	**48**	**7.4**	**0.61**	**100**
Most Stringent Soil PCUL Nonpotable Groundwater (w/o SL-9) - Saturated Zone[3]					**7.3**	**250**	**0.77**	**48**	**36**	**81**	**1,100**	**0.07**	**48**	**0.78**	**0.61**	**85**

NOTES:

Results in **bold** denote concentrations exceeding most-stringent PCULs.
Results in **bold** and highlighted yellow denote concentrations exceeding most-stringent PCULs left in place following the interim action.
Results highlighted gray denote sample was overexcavated during interim action activities.
< denotes analyte not detected at or exceeding the laboratory reporting limit listed.
— denotes sample not analyzed.
[1]Depth in feet below ground surface.
[2]Analyzed by U.S. Environmental Protection Agency Methods 6010 or 6020/6020B.
[3]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent soil Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways except SL-9.

DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
J = result is an estimate
LDW = Lower Duwamish Waterway
NA = not applicable
SES = SoundEarth Strategies, Inc.
UST = underground storage tank

Table 6
Soil Analytical Results for VPH and EPH
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Area	Area 2: Perishables Warehouse	Area 7: Former Automobile Service Stations
Sample Location	EX03-ESW-01	WSW-01
Sample Identification	EX03-ESW-01-7.0	WSW-01-15.0
Sample Depth (ft bgs)[1]	7.0	15.0
Sample Date	6/22/2020	6/11/2020
Parameter		
Volatile Petroleum Hydrocarbons[2] (mg/kg)		
C5-C6 Aliphatics	< 33.3	< 63.5
C6-C8 Aliphatics	< 33.3	**985**
C8-C10 Aliphatics	< 33.3	**622**
C10-C12 Aliphatics	**43**	**1,550**
C8-C10 Aromatics	< 33.3	**1,600**
C10-C12 Aromatics	**92.5**	**520**
C12-C13 Aromatics	**396**	< 63.5
Extractable Petroleum Hydrocarbons[3] (mg/kg)		
C8-C10 Aliphatics	**11.9**	**90.1**
C10-C12 Aliphatics	**141**	**107**
C12-C16 Aliphatics	**1,850**	**25.4**
C16-C21 Aliphatics	**1,450**	**4.38**
C21-C34 Aliphatics	**141**	**4.9**
C8-C10 Aromatics	< 2.55	**6.83**
C10-C12 Aromatics	**6.8**	**16.7**
C12-C16 Aromatics	**293**	**8.54**
C16-C21 Aromatics	**545**	**4.05**
C21-C34 Aromatics	**60.8**	**3.62**

NOTES:

Results in **bold** denote analyte detected above the laboratory reporting limit.

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Depth in feet below ground surface.

[2]Analyzed by Northwest Method NWVPH.

[3]Analyzed by Northwest Method NWEPH.

EPH = extractable petroleum hydrocarbons

J = result is an estimate

mg/kg = milligrams per kilogram

VPH = volatile petroleum hydrocarbons

Table 7
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)							
				DRO[1]	ORO[1]	DRO+ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 1: Dry Grocery Warehouse											
Reconnaissance Boring Groundwater Samples											
P1-1	DOF	7/7/2001	Probe 1-1	< 250	< 500	< 500	< 250	---	---	---	---
P1-2	DOF	7/7/2001	Probe 1-2	< 250	< 500	< 500	< 250	---	---	---	---
P1-3	DOF	7/7/2001	Probe 1-3	< 250	< 500	< 500	< 250	---	---	---	---
P1-4	DOF	7/7/2001	Probe 1-4	< 250	< 500	< 500	< 250	---	---	---	---
P1-5	DOF	7/7/2001	Probe 1-5	< 250	< 500	< 500	< 250	---	---	---	---
Area 2: Perishables Warehouse											
Reconnaissance Boring Groundwater Samples											
P2-1	DOF	7/3/2001	Probe 2-1 (b)	**2,400**	< 500	**2,400**	**2,500**	**3.1**	< 1.0	**26**	19
F-1	Farallon	10/20/2016	F-1-GW	< 270	480	480	< 100	< 0.40	< 2.0	< 0.40	< 1.2
F-2	Farallon	10/20/2016	F-2-GW	**610**	**580**	**1,190**	< 100	< 1.0	< 1.0	< 1.0	< 2.0
Monitoring Well Groundwater Samples											
MW-101	DOF	8/12/2001	MW-101	< 250	< 500	< 500	< 100	< 1.0	< 1.0	< 1.0	< 1.0
	Farallon	10/19/2016	MW-101-101916	290	< 410	290	< 100	< 0.40	< 2.0	< 0.40	< 1.2
	Farallon	7/1/2019	MW-101-190701	107	< 200	107	< 100	< 0.2	< 0.2	< 0.2	< 0.60
Area 3: Former Truck Wash											
Reconnaissance Boring Groundwater Samples											
P3-1	DOF	7/2/2001	Probe 3-1	< 250	< 500	< 500	< 250	---	---	---	---
P3-2	DOF	7/2/2001	Probe 3-2	< 250	< 500	< 500	< 250	---	---	---	---
Area 4: Former Fueling Area											
Reconnaissance Boring Groundwater Samples											
P4-1	DOF	7/3/2001	Probe 4-1	< 250	**8,600**	**8,600**	< 250	---	---	---	---
P10-3	DOF	7/7/2001	Probe 10-3	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P-DOF-3	DOF	2/27/2007	P-DOF-3	**619**	**649**	**1,268**	< 238	---	---	---	---
P-DOF-4	DOF	2/27/2007	P-DOF-4	**769**	**948**	**1,717**	< 240	---	---	---	---
F-5	Farallon	10/26/2016	F-5-GW	< 250	< 400	< 400	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-7	Farallon	10/26/2016	F-7-GW	**640**	490	**1,130**	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-8	Farallon	10/26/2016	F-8-GW	**1,200**	**710**	**1,910**	< 100	< 0.20	< 1.0	< 0.20	0.86
F-9	Farallon	10/26/2016	F-9-GW	**600**	440	**1,040**	< 100	< 1.0	< 1.0	< 1.0	1.0
F-10	Farallon	10/26/2016	F-10-GW	**810**	**1,100**	**1,910**	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-31	Farallon	6/27/2019	F-31-190627	**580**	< 200	**580**	---	---	---	---	---
Monitoring Well Groundwater Samples											
MW-2	DOF	5/29/1998	MW-2	< 100	< 100	< 100	< 100	< 1	< 1	< 1	< 1
FMW-02	Farallon	7/2/2019	FMW-02-190702	< 100	< 200	< 200	< 100	< 0.20	< 0.20	< 0.20	0.070 J
Most Stringent Groundwater PCUL: Nonpotable Water[4]				**500**	**500**	**500**	**800**	**1.6**	**102**	**21**	**106**

Table 7
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)							
				DRO[1]	ORO[1]	DRO+ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 5: Former Trailer Maintenance Shop											
Reconnaissance Boring Groundwater Samples											
P5-1	DOF	6/28/2001	Probe 5-1	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-2	DOF	6/28/2001	Probe 5-2	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-3	DOF	6/28/2001	Probe 5-3	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-4	DOF	6/28/2001	Probe 5-4	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-5	DOF	7/2/2001	Probe 5-5	< 500	< 500	< 500	< 250	< 20	< 20	< 20	< 40
F-11	Farallon	10/18/2016	F-11-GW	< 260	< 420	< 420	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-12	Farallon	10/17/2016	F-12-GW	< 260	< 410	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-13	Farallon	10/18/2016	F-13-GW	---	---	---	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-14	Farallon	10/18/2016	F-14-GW	< 270	< 430	< 430	< 100	< 0.40	< 2.0	< 0.40	< 1.2
Area 6: Former Truck Repair Shop											
Reconnaissance Boring Groundwater Samples											
P6-4	DOF	6/29/2001	P6-4	< 500	< 500	< 500	< 250	0.69	< 0.2	< 0.2	< 0.4
P6-5	DOF	6/29/2001	P6-5	< 250	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P6-6	DOF	7/2/2001	P6-6	< 500	< 500	< 500	< 250	---	---	---	---
P6-7	DOF	7/2/2001	P6-7	< 500	< 500	< 500	< 250	---	---	---	---
F-16	Farallon	10/17/2016	F-16-GW	< 260	< 410	< 410	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-17	Farallon	10/17/2016	F-17-GW	**850 M**	< 420	**850**	**1,300**	**90**	< 4.0	**140**	20
F-18	Farallon	10/17/2016	F-18-GW	< 260	< 420	< 420	< 100	< 1.0	< 1.0	< 1.0	< 2.0
Monitoring Well Groundwater Samples											
MW-4	DOF	11/12/2009	MW-4	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-4	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-4	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-4	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-4-102116	< 260	< 410	< 410	< 400	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-4-190701	474	< 200	474	< 100	< 0.20	< 0.20	< 0.20	< 0.60
MW-203	DOF	1/8/2002	MW-203	< 250	< 500	< 500	< 100	< 1.0	< 1.0	< 1.0	< 1.0
	DOF	11/12/2009	MW-203	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-203	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-203	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-203	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-203-102116	< 260	< 410	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-203-190701	< 100	< 200	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
MW-207	DOF	11/12/2009	MW-207	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-207	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-207	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-207	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-207-102116	< 260	< 410	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-207-190701	< 100	< 200	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
Most Stringent Groundwater PCUL: Nonpotable Water[4]				**500**	**500**	**500**	**800**	**1.6**	**102**	**21**	**106**

Table 7
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)							
				DRO[1]	ORO[1]	DRO+ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 6: Former Truck Repair Shop (continued)											
Monitoring Well Groundwater Samples (continued)											
MW-AG1	DOF	11/12/2009	MW-AG1	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-AG1	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-AG1	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-AG1	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-AG1-102116	< 260	< 420	< 420	< 400	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-AG1-190701	< 100	< 200	< 200	< 500	< 1.0	< 1.0	< 1.0	< 3.0
MW-AG2	DOF	11/12/2009	MW-AG2	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-AG2	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-AG2	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-AG2	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/19/2016	MW-AG2-101916	< 250	< 410	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	MW-AG2-190701	< 100	< 200	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
Area 7: Former Automobile Service Stations											
Reconnaissance Boring Groundwater Samples											
P7-1	DOF	7/3/2001	Probe 7-1	< 500	< 500	< 500	700	**42**	3	**39**	102
P7-2	DOF	7/3/2001	Probe 7-2	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-3	DOF	7/7/2001	Probe 7-3	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-4	DOF	7/25/2001	Probe 7-4	< 500	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-5	DOF	7/25/2001	Probe 7-5	< 500	< 500	< 500	< 250	< 0.2	0.49	< 0.2	< 0.4
P-DOF-2	DOF	2/27/2007	P-DOF-2	< 612	< 612	< 612	< 243	< 1.0	< 1.0	< 1.0	< 3.0
Monitoring Well Groundwater Samples											
DOF-1	DOF	11/12/2009	DOF-1	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-1	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	DOF-1	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-1	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-1	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-1	Well Dry							
	DOF	11/26/2014	DOF-1	---	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	10/19/2016	DOF-1-101916	< 260	< 410	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	DOF-1-190701	< 100	< 200	< 200	< 100	< 0.20	< 0.20	< 0.20	< 0.60
FMW-01	Farallon	7/2/2019	FMW-01-190702	< 100	< 200	< 200	563	0.060 J	0.080 J	6.38	29.8 J
2021 Right-of-Way Subsurface Investigation Reconnaissance Boring Groundwater Samples											
F-35	Farallon	4/28/2021	F-35-20210428	250 X	< 250	250	750	0.57	< 1	9.8	15
F-37	Farallon	4/28/2021	F-37-20210428	**1,400 X**	< 250	**1,400**	**1,200**	< 0.35	< 1	< 1	15
2022 Right-of-Way Well Installation											
FMW-04	Farallon	10/24/2022	FMW-4-102422	< 50	< 250	< 250	< 100	< 0.35	< 1	< 1	< 3
Area 8: Returns Building											
Reconnaissance Boring Groundwater Samples											
P8-1	DOF	7/2/2001	Probe 8-1	< 500	< 500	< 500	< 250	---	---	---	---
P8-2	DOF	7/2/2001	Probe 8-2	< 500	< 500	< 500	< 250	---	---	---	---
P8-3	DOF	7/25/2001	Probe 8-3	< 500	< 500	< 500	< 250	---	---	---	---
Most Stringent Groundwater PCUL: Nonpotable Water[4]				**500**	**500**	**500**	**800**	**1.6**	**102**	**21**	**106**

Table 7
Groundwater Analytical Results for TPH and BTEX
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)							
				DRO[1]	ORO[1]	DRO+ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 9: Former Employee Parking Lot											
Reconnaissance Boring Groundwater Samples											
P9-1	DOF	7/2/2001	Probe 9-1	< 500	< 500	< 500	< 250	---	---	---	---
P9-2	DOF	7/7/2001	Probe 9-2	< 500	< 500	< 500	< 250	---	---	---	---
Area 10: Up-Gradient Areas											
Reconnaissance Boring Groundwater Samples											
P10-2	DOF	7/3/2001	Probe 10-2	< 500	< 500	< 500	< 250	< 20.0	< 20.0	< 40.0	< 40.0
P10-4	DOF	7/7/2001	Probe 10-4	< 500	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
P10-5	DOF	7/7/2001	Probe 10-5	< 500	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
Area 11: Former South Maintenance Shop											
Reconnaissance Boring Groundwater Samples											
P-DOF-5	DOF	2/27/2007	P-DOF-5	< 606	< 606	< 606	< 240	< 1.0	< 1.0	< 1.0	< 3.0
F-20	Farallon	10/18/2016	F-20-GW	< 270	< 440	< 440	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-21	Farallon	10/19/2016	F-21-GW	< 270	< 440	< 440	< 100	0.21	< 1.0	< 0.20	< 0.60
F-22	Farallon	10/19/2016	F-22-GW	---	---	---	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-23	Farallon	10/19/2016	F-23-GW	**840**	500	**1,340**	150	< 0.20	< 1.0	< 0.20	< 0.60
Monitoring Well Groundwater Samples											
FMW-03	Farallon	7/1/2019	FMW-03-190701	141	< 200	141	< 100	< 0.20	< 0.20	< 0.20	< 0.60
Area 12: Former Old Humble Oil Service Station											
Reconnaissance Boring Groundwater Samples											
P-DOF-1	DOF	2/28/2007	P-DOF-1	< 618	< 618	< 618	< 245	< 1.0	< 1.0	< 1.0	< 3.0
Area 13: Former Northwest Auto Wrecking Property											
Reconnaissance Boring Groundwater Samples											
P10-1	DOF	7/3/2001	Probe 10-1	< 500	< 500	< 500	< 250	**2.3**	< 1.0	8.6	17.1
NWAW-P1	DOF	10/27/2008	NWAW-P1	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P2	DOF	10/27/2008	NWAW-P2	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P3	DOF	10/27/2008	NWAW-P3	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P4	DOF	10/27/2008	NWAW-P4	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P5	DOF	10/27/2008	NWAW-P5	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P6	DOF	10/27/2008	NWAW-P6	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	3.6
NWAW-P7	DOF	10/27/2008	NWAW-P7	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P8	DOF	10/27/2008	NWAW-P8	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P9	DOF	10/28/2008	NWAW-P9	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
	DOF	10/28/2008	NWAW-P9 (duplicate)	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P10	DOF	10/28/2008	NWAW-P10	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P11	DOF	10/28/2008	NWAW-P11	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P12	DOF	10/28/2008	NWAW-P12	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P13	DOF	10/28/2008	NWAW-P13	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P14	DOF	10/28/2008	NWAW-P14	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P15	DOF	10/28/2008	NWAW-P15	< 250	< 500	< 500	280	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P16	DOF	10/28/2008	NWAW-P16	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
Most Stringent Groundwater PCUL: Nonpotable Water[4]				**500**	**500**	**500**	**800**	**1.6**	**102**	**21**	**106**

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Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)							
				DRO[1]	ORO[1]	DRO+ORO[1]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 13: Former Northwest Auto Wrecking Property (continued)											
Monitoring Well Groundwater Samples											
DOF-2	DOF	11/12/2009	DOF-2	< 250	< 500	< 500	**1,200**	**5.9**	1.2	9.7	1.8
	DOF	3/18/2010	DOF-2	< 250	< 500	< 500	**850**	**3.3**	< 1.0	4.3	1.3
	DOF	10/5/2010	DOF-2	< 100	< 200	< 200	370	1.1	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-2	< 100	< 200	< 200	770	**3.2**	< 1.0	3.4	< 2.0
	DOF	3/23/2012	DOF-2	< 100	< 200	< 200	720	**5.4**	1.1	5	< 2.0
	DOF	8/28/2014	DOF-2	---	---	---	420	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-2	---	---	---	**1,200**	1.5	1.2	1.5	< 3.0
	DOF	6/5/2015	DOF-2	---	---	---	450	0.39	0.43	0.88	0.93
	Farallon	10/24/2016	DOF-2-102416	380	**560**	**940**	180	0.27	< 1.0	0.31	< 0.60
	Farallon	7/1/2019	DOF-2-190701	336	223	**559**	131	0.19 J	0.22	0.26	0.38 J
DOF-3	DOF	11/12/2009	DOF-3	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-3	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-3	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-3	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-3	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-3	---	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-3	---	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	10/21/2016	DOF-3-102116	< 260	< 410	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	DOF-3-190701	125	< 200	125	< 100	< 0.2	< 0.2	< 0.2	< 0.60
DOF-4	DOF	11/12/2009	DOF-4	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-4	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-4	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-4	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-4	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-4	---	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-4	---	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	10/24/2016	DOF-4-102416	< 260	450	450	< 100	< 0.20	< 1.0	< 0.20	< 0.60
	Farallon	7/1/2019	DOF-4-190701	185	< 200	185	< 100	< 0.2	< 0.2	< 0.2	< 0.60
DOF-5	DOF	11/12/2009	DOF-5	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-5	< 250	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-5	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	1.2
	DOF	3/3/2011	DOF-5	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-5	< 100	< 200	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	8/28/2014	DOF-5	---	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	DOF	11/26/2014	DOF-5	---	---	---	< 250	< 1.0	< 1.0	< 1.0	< 3.0
	Farallon	7/1/2019	DOF-5-190701	108	< 200	108	< 100	< 0.2	< 0.2	< 0.2	0.15 J
Most Stringent Groundwater PCUL: Nonpotable Water[4]				**500**	**500**	**500**	**800**	**1.6**	**102**	**21**	**106**

NOTES:
Results in **bold** and highlighted yellow denote concentrations exceeding most stringent PCUL.
< denotes analyte not detected at or exceeding the reporting limit listed.
[1]Analyzed by Northwest Method NWTPH-Dx. DRO+ORO is the sum of DRO and ORO; where both results are non-detect, the highest reporting limit is reported as the DRO+ORO value.
[2]Analyzed by Northwest Method NWTPH-Gx.
[3]Analyzed by U.S. Environmental Protection Agency Method 8021 or 8260/8260D.
[4]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent groundwater Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways.

BTEX = benzene, toluene, ethylbenzene, and xylenes
DOF = Dalton, Olmsted & Fuglevand, Inc.
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
Farallon = Farallon Consulting, L.L.C.
GRO = TPH as gasoline-range organics
J = result is an estimate
M = hydrocarbons in the gasoline-range are impacting the DRO result
ORO = TPH as oil-range organics
X = The sample chromatographic pattern does not resemble the fuel standard used for quantita

Table 8
Groundwater Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]																		
				Non-Carcinogenic PAHs												Carcinogenic PAHs						
				Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[2]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[3,4]
Area 2: Perishables Warehouse																						
Reconnaissance Boring Groundwater Samples																						
F-1	Farallon	10/20/2016	F-1-GW	< 0.19	**1.9**	1.6	3.5	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	0.23	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
Monitoring Well Groundwater Samples																						
MW-101	Farallon	10/19/2016	MW-101-101916	0.10	**3.0**	0.43	3.5	0.20	< 0.094	< 0.094	< 0.0094	< 0.094	0.16	0.17	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	MW-101-190701	0.007 J	0.002 J	0.003 J	0.012	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 4: Former Fueling Area																						
P10-3	DOF	7/7/2001	Probe 10-3	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
Monitoring Well Groundwater Samples																						
FMW-02	Farallon	7/2/2019	FMW-02-190702	0.006 J	0.005 J	0.005 J	0.011	0.016	< 0.010	0.004 J	< 0.010	0.003 J	0.015	0.022	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 5: Former Trailer Maintenance Shop																						
Reconnaissance Boring Groundwater Samples																						
F-11	Farallon	10/18/2016	F-11-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
F-12	Farallon	10/17/2016	F-12-GW	< 0.096	< 0.096	< 0.096	< 0.288	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
F-14	Farallon	10/18/2016	F-14-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
Area 6: Former Truck Repair Shop																						
Reconnaissance Boring Groundwater Samples																						
F-16	Farallon	10/17/2016	F-16-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	0.016	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	**0.014**	**0.014**	**0.009**
F-17	Farallon	10/17/2016	F-17-GW	**42**	**14**	**23**	79	0.20	< 0.096	< 0.096	< 0.0096	< 0.096	0.37	0.38	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
F-18	Farallon	10/17/2016	F-18-GW	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
Monitoring Well Groundwater Samples																						
MW-4	Farallon	10/21/2016	MW-4-102116	< 0.19	< 0.19	< 0.19	< 0.57	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	< 0.19	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
	Farallon	7/1/2019	MW-4-190701	0.003 J	0.005 J	0.003 J	0.011	0.084	< 0.010	< 0.010	< 0.010	< 0.010	0.011	0.012	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
MW-203	Farallon	10/21/2016	MW-203-102116	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
	Farallon	7/1/2019	MW-203-190701	0.002 J	< 0.010	< 0.010	0.002	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
MW-207	Farallon	10/21/2016	MW-207-102116	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
	Farallon	7/1/2019	MW-207-190701	0.002 J	< 0.010	< 0.010	0.002	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	< 0.19	< 0.19	< 0.19	< 0.57	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	< 0.19	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
	Farallon	7/1/2019	MW-AG1-190701	0.002 J	0.002 J	0.001 J	0.005	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.003 J	0.001 J	< 0.010	< 0.010	< 0.010	< 0.010	0.001 J	< 0.010	< 0.010	**0.0075**
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	< 0.094	< 0.094	< 0.094	< 0.282	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.094	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	MW-AG2-190701	0.002 J	0.001 J	0.001 J	0.004	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 7: Former Automobile Service Stations																						
Monitoring Well Groundwater Samples																						
DOF-1	Farallon	10/19/2016	DOF-1-101916	< 0.094	< 0.094	< 0.094	< 0.282	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.094	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	DOF-1-190701	0.002 J	0.001 J	< 0.010	0.003	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.0009 J	< 0.010	< 0.010	**0.0075**
FMW-01	Farallon	7/2/2019	FMW-01-190702	**2.98**	0.152	0.337	3.47	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Most Stringent Groundwater PCUL: Nonpotable Water[5]				**1.4**	**0.17**	**14**	**NE**	**5.3**	**NE**	**2.1**	**NE**	**1.8**	**3.7**	**NE**	**2**	**0.000016**	**0.00016**	**0.00016**	**0.0013**	**0.016**	**1.6E-05**	**0.00016**	**0.000016**

Table 8
Groundwater Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]																			
				Non-Carcinogenic PAHs												Carcinogenic PAHs							
				Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[2]	Acenaphthene	Acenaphthylene	Anthracene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Pyrene	Benzo(a)Pyrene	Benzo(a)Anthracene	Benzo(b)Fluoranthene	Benzo(j,k)Fluoranthene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAHs TEC[3,4]
Area 7: Former Automobile Service Stations (continued)																							
2022 Right-of-Way Well Installation																							
FMW-04	Farallon	10/24/2022	FMW-4-102422	< 1 [6]	---	---	< 1 [6]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 10: Up-Gradient Areas																							
Reconnaissance Boring Groundwater Samples																							
P10-2	DOF	7/3/2001	Probe 10-2	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
P10-4	DOF	7/7/2001	Probe 10-4	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
P10-5	DOF	7/7/2001	Probe 10-5	< 0.50	< 0.50	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.012	< 0.50	< 0.50	< 0.50	< 0.50	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.012	< 0.0091
Area 11: Former South Maintenance Shop																							
Reconnaissance Boring Groundwater Samples																							
F-20	Farallon	10/18/2016	F-20-GW	< 0.11	< 0.11	< 0.11	< 0.33	< 0.11	< 0.11	< 0.11	< 0.011	< 0.11	< 0.11	< 0.11	< 0.11	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.008
F-21	Farallon	10/19/2016	F-21-GW	< 0.096	< 0.096	< 0.096	< 0.288	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
F-23	Farallon	10/19/2016	F-23-GW	< 0.096	< 0.096	< 0.096	< 0.288	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.096	< 0.096	< 0.096	< 0.096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0072
Monitoring Well Groundwater Samples																							
FMW-03	Farallon	7/1/2019	FMW-03-190701	0.025	**1.31**	0.011	1.35	0.096	0.008 J	0.002 J	< 0.010	< 0.010	0.051	0.048	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Area 13: Former Northwest Auto Wrecking Property																							
Reconnaissance Boring Groundwater Samples																							
P-10-1	DOF	7/3/2001	Proble 10-1	**8**	**2.1**	4.3	14.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																							
DOF-2	Farallon	10/24/2016	DOF-2-102416	0.64	**1.8**	< 0.19	2.4	< 0.19	< 0.19	< 0.19	< 0.019	< 0.19	< 0.19	< 0.19	< 0.19	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.019	< 0.014
	Farallon	7/1/2019	DOF-2-190701	0.4	**0.646**	0.609	1.655	0.128	0.004 J	0.004 J	< 0.010	< 0.010	0.147	0.045	0.002 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
DOF-3	Farallon	10/21/2016	DOF-3-102116	< 0.094	< 0.094	< 0.094	< 0.282	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.094	< 0.094	< 0.094	< 0.094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0071
	Farallon	7/1/2019	DOF-3-190701	0.003 J	0.001 J	0.001 J	0.005	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
DOF-4	Farallon	10/24/2016	DOF-4-102416	< 0.095	< 0.095	< 0.095	< 0.285	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.095	< 0.095	< 0.095	< 0.095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0072
	Farallon	7/1/2019	DOF-4-190701	0.002 J	0.001 J	0.001 J	0.004	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
DOF-5	Farallon	7/1/2019	DOF-5-190701	0.008 J	**0.172**	0.009 J	0.189	0.009 J	< 0.010	< 0.010	< 0.010	< 0.010	0.003 J	0.001 J	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.0076
Most Stringent Groundwater PCUL: Nonpotable Water[5]				**1.4**	**0.17**	**14**	**NE**	**5.3**	**NE**	**2.1**	**NE**	**1.8**	**3.7**	**NE**	**2**	**0.000016**	**0.00016**	**0.00016**	**0.0013**	**0.016**	**1.6E-05**	**0.00016**	**0.000016**

NOTES:

Results in **bold** and highlighted yellow denote concentrations exceeding most stringent PCUL.

< denotes analyte not detected at or exceeding the reporting limit listed.

--- denotes sample not analyzed.

[1]Analyzed by U.S. Environmental Protection Agency (EPA) Method 8270 or 8270D/SIM, unless otherwise noted.

[2]Sum of naphthalenes, 1-methylnaphthalene, and 2-methylnaphthalene.

[3]Total cPAHs derived using the total toxicity equivalency method in Section 708(8) of Chapter 173-340 of the Washington Administrative Code.

[4]For concentrations reported at less than the laboratory reporting limit, half the reporting limit was used to calculate the TEC.

[5]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent groundwater Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways.

[6]Analyzed by EPA Method 8260D.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
J = result is an estimate
NE = not established
PAHs = polycyclic aromatic hydrocarbons
TEC = toxic equivalent concentration

Table 9
Groundwater Analytical Results for Select VOCs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]			
				Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	Vinyl Chloride
Area 2: Perishables Warehouse							
Reconnaissance Boring Groundwater Samples							
F-1	Farallon	10/20/2016	F-1-GW	< 0.40	< 0.40	< 0.40	< 0.40
Monitoring Well Groundwater Samples							
MW-101	Farallon	10/19/2016	MW-101-101916	< 0.40	< 0.40	< 0.40	< 0.40
Area 4: Former Fueling Area							
Reconnaissance Boring Groundwater Samples							
F-8	Farallon	10/26/2016	F-8-GW	< 0.40	< 0.20	< 0.20	< 0.20
Area 5: Former Trailer Maintenance Shop							
Reconnaissance Boring Groundwater Samples							
F-11	Farallon	10/18/2016	F-11-GW	0.22	< 0.20	< 0.20	< 0.20
F-12	Farallon	10/17/2016	F-12-GW	< 0.20	< 0.20	< 0.20	< 0.20
F-13	Farallon	10/18/2016	F-13-GW	< 0.20	< 0.20	< 0.20	< 0.20
F-14	Farallon	10/18/2016	F-14-GW	< 0.40	< 0.40	< 0.40	< 0.40
Area 6: Former Truck Repair Shop							
Reconnaissance Boring Groundwater Samples							
P10-3	DOF	7/7/2001	Probe 10-3	< 0.20	< 0.20	< 0.20	< 0.20
P-DOF-6.3	DOF	2/27/2008	P-DOF-6.3	---	---	---	---
Monitoring Well Groundwater Samples							
MW-4	Farallon	10/21/2016	MW-4-102116	< 0.20	< 0.20	< 0.20	< 0.20
MW-203	Farallon	10/21/2016	MW-203-102116	< 0.20	< 0.20	< 0.20	< 0.20
MW-207	Farallon	10/21/2016	MW-207-102116	< 0.20	< 0.20	< 0.20	< 0.20
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	< 0.20	< 0.20	< 0.20	< 0.20
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	< 0.20	< 0.20	< 0.20	< 0.20
Area 7: Former Automobile Service Stations							
Reconnaissance Boring Groundwater Samples							
P7-1	DOF	7/3/2001	P7-1	---	---	---	---
P7-4	DOF	7/3/2001	P7-4	---	---	---	---
P-DOF-2	DOF	2/27/2007	P-DOF-2	< 1.00	< 1.00	< 1.00	< 0.200
Monitoring Well Groundwater Samples							
DOF-1	Farallon	10/19/2016	DOF-1-101916	< 0.20	< 0.20	< 0.20	< 0.20
Most Stringent Groundwater PCUL: Nonpotable Water[2]				**2.9**	**0.7**	**180**	**0.18**

Table 9
Groundwater Analytical Results for Select VOCs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]			
				Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	Vinyl Chloride
Area 10: Up-Gradient Areas							
P10-2	DOF	7/3/2001	Probe 10-2	< 20	< 20	< 20	< 20
P10-4	DOF	7/7/2001	Probe 10-4	< 1.0	< 1.0	< 1.0	< 1.0
P10-5	DOF	7/7/2001	Probe 10-5	< 1.0	< 1.0	< 1.0	< 1.0
Area 11: Former South Maintenance Shop							
Reconnaissance Boring Groundwater Samples							
F-20	Farallon	10/18/2016	F-20-GW	< 0.20	< 0.20	< 0.20	< 0.20
F-21	Farallon	10/19/2016	F-21-GW	< 0.20	< 0.20	< 0.20	< 0.20
F-22	Farallon	10/19/2016	F-22-GW	< 0.20	< 0.20	0.24	< 0.20
F-23	Farallon	10/19/2016	F-23-GW	< 0.20	< 0.20	< 0.20	< 0.20
Monitoring Well Groundwater Samples							
FMW-03	Farallon	7/1/2019	FMW-03-190701	< 0.20	< 0.20	< 0.20	< 0.20
Area 12: Former Old Humble Oil Service Station							
Reconnaissance Boring Groundwater Samples							
P-DOF-1	DOF	2/28/2007	P-DOF-1	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property							
Reconnaissance Boring Groundwater Samples							
P10-1	DOF	7/3/2001	P10-1	---	---	---	---
Monitoring Well Groundwater Samples							
DOF-2	Farallon	10/24/2016	DOF-2-102416	< 0.20	< 0.20	< 0.20	< 0.20
DOF-3	Farallon	10/21/2016	DOF-3-102116	< 0.20	< 0.20	< 0.20	< 0.20
DOF-4	Farallon	10/24/2016	DOF-4-102416	< 0.20	< 0.20	< 0.20	< 0.20
Most Stringent Groundwater PCUL: Nonpotable Water[2]				**2.9**	**0.7**	**180**	**0.18**

NOTES:
< denotes analyte not detected at or exceeding the reporting limit listed.
— denotes sample not analyzed or reporting limit unknown for non-detected analytes.
[1]Analyzed by U.S. Environmental Protection Agency Method 8260.
[2]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent groundwater Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways.

DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
VOCs = volatile organic compounds.

Table 10
Groundwater Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]													
				Total Arsenic	Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Copper	Dissolved Copper	Total Lead	Dissolved Lead	Manganese	Manganese	Total Mercury	Dissolved Mercury	Total Zinc	Dissolved Zinc
Area 2: Perishables Warehouse																	
Reconnaissance Boring Groundwater Samples																	
F-1	Farallon	10/20/2016	F-1-GW	---	**11**	**---**	---	---	---	---	---	---	---	---	---	---	---
F-2	Farallon	10/20/2016	F-2-GW	---	**9.6**	**---**	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
MW-101	Farallon	10/19/2016	MW-101-101916	---	**48**	**---**	---	**---**	**---**	---	< 1.0	---	**---**	**---**	**---**	**---**	**---**
	Farallon	7/1/2019	MW-101-190701	**49.2**	**50.1**	< 0.1	< 0.1	< 0.5	< 0.5	< 0.1	< 0.1	**4,130**	**4,060**	< 0.02	< 0.02	7.22 B	2.59 J
Area 4: Former Fueling Area																	
Monitoring Well Groundwater Samples																	
FMW-02	Farallon	7/2/2019	FMW-02-190702	7.14	6.75	< 0.1	< 0.1	1.03	0.536	< 0.1	< 0.1	**723**	**685**	0.016 J	0.015 J	8.2	2.44 J
Area 5: Former Trailer Maintenance Shop																	
Reconnaissance Boring Groundwater Samples																	
F-11	Farallon	10/18/2016	F-11-GW	---	3.1	**---**	---	---	---	---	---	---	---	---	---	---	---
F-12	Farallon	10/17/2016	F-12-GW	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
F-14	Farallon	10/18/2016	F-14-GW	---	**9.9**	**---**	---	---	---	---	---	---	---	---	---	---	---
Area 6: Former Truck Repair Shop																	
Reconnaissance Boring Groundwater Samples																	
F-16	Farallon	10/17/2016	F-16-GW	---	< 3.0	---	---	---	---	---	< 1.0	---	---	---	---	---	---
F-17	Farallon	10/17/2016	F-17-GW	---	3.2	**---**	---	---	---	---	< 1.0	---	---	---	---	---	---
F-18	Farallon	10/17/2016	F-18-GW	---	**24**	**---**	---	---	---	---	< 1.0	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
MW-4	Farallon	10/21/2016	MW-4-102116	---	**38**	**---**	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-4-190701	**12.3**	**11.6**	< 0.2	< 0.2	2.21	1.07	0.216	< 0.2	**904**	**937**	0.015 J	0.014 J	3.56 J	3.11 J
MW-203	Farallon	10/21/2016	MW-203-102116	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-203-190701	0.629	0.476	< 0.1	< 0.1	2.09	2.03	< 0.1	< 0.1	**483**	**481**	0.019 J	0.017 J	3.97 J	4.43
MW-207	Farallon	10/21/2016	MW-207-102116	---	**27**	---	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-207-190701	**8.5**	2.96	0.073 J	0.061 J	1.64	0.905	0.466	< 0.1	**140**	**137**	0.019 J	0.018 J	7.04	4.86
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	---	4.8	**---**	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-AG1-190701	7.57	5.74	< 0.2	< 0.1	**30.2**	**7.75**	2.22	0.4	94.3	74.6	**0.029**	0.018 J	20.6	3.05 J
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	---	5.8	**---**	---	---	---	---	---	---	---	---	---	---	---
	Farallon	7/1/2019	MW-AG2-190701	**15.9**	**14.8**	< 0.1	< 0.1	**5.79**	2.11	0.576	0.223	59.6	60.6	0.018 J	0.017 J	3.33 J	2.17 J
Most Stringent Groundwater PCUL: Nonpotable Water[2]				**8**		**1.2**		**3.1**		**8.1**		**100**		**0.025**		**81**	

Table 10
Groundwater Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]													
				Total Arsenic	Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Copper	Dissolved Copper	Total Lead	Dissolved Lead	Manganese	Manganese	Total Mercury	Dissolved Mercury	Total Zinc	Dissolved Zinc
Area 7: Former Automobile Service Stations																	
Monitoring Well Groundwater Samples																	
DOF-1	DOF	11/12/2009	DOF-1	2.1	1.8	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-1	1.0	1.0	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/4/2010	DOF-1	1.8	2.1	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-1	0.5	0.5	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-1	1.5	0.3	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-1	Well Dry													
	DOF	11/26/2014	DOF-1	0.5	0.4	---	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-1	0.7	0.3	---	---	---	---	0.2	< 0.1	---	---	---	---	---	---
	Farallon	10/19/2016	DOF-1-101916	---	< 3.0	---	---	---	---	---	< 1.0	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-1-190701	1.32	1.29	0.084 J	0.044 J	< 0.5	0.363 J	< 0.1	< 0.1	**928**	**931**	0.016 J	0.015 J	5.03	4.98
FMW-01	Farallon	7/2/2019	FMW-01-190702	0.996	0.882	< 0.1	< 0.1	0.75	0.374 J	0.126	0.074 J	**528**	**526**	0.019 J	0.017 J	22.5	2.17 J
Area 11: Former South Maintenance Shop																	
Reconnaissance Boring Groundwater Samples																	
F-21	Farallon	10/19/2016	F-21-GW	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
F-23	Farallon	10/19/2016	F-23-GW	---	< 3.0	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
FMW-03	Farallon	7/1/2019	FMW-03-190701	0.45	0.435	< 0.1	< 0.1	< 0.5	< 0.5	< 0.1	< 0.1	**612**	**628**	0.011 J	0.016 J	3.07 J	3.1 J
Area 13: Former Northwest Auto Wrecking Property																	
Reconnaissance Boring Groundwater Samples																	
NWAW-P1	DOF	10/27/2008	NWAW-P1	---	6.2	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P2	DOF	10/27/2008	NWAW-P2	---	0.8	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P3	DOF	10/27/2008	NWAW-P3	---	3.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P4	DOF	10/27/2008	NWAW-P4	---	1.0	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P5	DOF	10/27/2008	NWAW-P5	---	0.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P6	DOF	10/27/2008	NWAW-P6	---	1.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P7	DOF	10/27/2008	NWAW-P7	---	1.0	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P8	DOF	10/27/2008	NWAW-P8	---	1.4	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P9	DOF	10/28/2008	NWAW-P9	---	6.1	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
	DOF	10/28/2008	NWAW-P9 (duplicate)	---	2.6	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P10	DOF	10/28/2008	NWAW-P10	---	1.0	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P11	DOF	10/28/2008	NWAW-P11	---	2.3	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P12	DOF	10/28/2008	NWAW-P12	---	3.9	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P13	DOF	10/28/2008	NWAW-P13	---	**10.3**	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
Most Stringent Groundwater PCUL: Nonpotable Water[2]				**8**		**1.2**		**3.1**		**8.1**		**100**		**0.025**		**81**	

Table 10
Groundwater Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]													
				Total Arsenic	Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Copper	Dissolved Copper	Total Lead	Dissolved Lead	Manganese	Manganese	Total Mercury	Dissolved Mercury	Total Zinc	Dissolved Zinc
Area 13: Former Northwest Auto Wrecking Property (continued)																	
Reconnaissance Boring Groundwater Samples (continued)																	
NWAW-P14	DOF	10/28/2008	NWAW-P14	---	0.7	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P15	DOF	10/28/2008	NWAW-P15	---	0.9	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
NWAW-P16	DOF	10/28/2008	NWAW-P16	---	2.1	---	< 1	---	---	---	< 0.2	---	---	---	---	---	---
Monitoring Well Groundwater Samples																	
DOF-2	DOF	11/12/2009	DOF-2	**9.0**	**8.9**	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-2	**15.7**	**13.7**	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-2	**14.2**	**12.6**	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-2	**24.5**	**19.7**	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-2	**19.0**	**17.1**	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-2	**35.1**	**35.7**	**---**	---	---	---	1.8	0.7	**1,620**	---	---	---	---	---
	DOF	11/26/2014	DOF-2	**25.3**	**28.2**	**---**	---	---	---	1.0	0.3	---	---	---	---	---	---
	DOF	6/5/2015	DOF-2	**20.5**	**20.2**	**---**	---	---	---	1.9	0.6	---	---	---	---	---	---
	Farallon	10/24/2016	DOF-2-102416	---	6.1	**---**	---	---	---	---	< 1.0	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-2-190701	**10.1**	**9.87**	< 0.1	< 0.1	2.95	2.38	0.44	0.479	18.4	19.1	0.024	0.022	3.56 J	5.35
DOF-3	DOF	11/12/2009	DOF-3	**9.1**	**8.6**	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-3	5.2	5.2	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-3	2.0	1.8	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-3	1.6	1.3	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-3	1.5	0.9	**---**	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-3	3.4	1.2	**---**	---	---	---	1.6	0.5	**15,700**	---	---	---	---	---
	DOF	11/26/2014	DOF-3	1.0	1.0	**---**	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-3	0.9	0.9	**---**	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	Farallon	10/21/2016	DOF-3-102116	---	< 3.0	---	---	---	---	---	<1.0	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-3-190701	0.857	0.776	0.053 J	0.062 J	**9.43**	**8.87**	< 0.1	< 0.1	**991**	**953**	**0.031**	**0.026**	7.8	7.52
Most Stringent Groundwater PCUL: Nonpotable Water[2]				**8**		**1.2**		**3.1**		**8.1**		**100**		**0.025**		**81**	

Table 10
Groundwater Analytical Results for Metals
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]													
				Total Arsenic	Dissolved Arsenic	Total Cadmium	Dissolved Cadmium	Total Copper	Dissolved Copper	Total Lead	Dissolved Lead	Manganese	Manganese	Total Mercury	Dissolved Mercury	Total Zinc	Dissolved Zinc
Area 13: Former Northwest Auto Wrecking Property (continued)																	
Monitoring Well Groundwater Samples (continued)																	
DOF-4	DOF	11/12/2009	DOF-4	7.5	7.9	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-4	5.7	6.5	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-4	**11.5**	**9.4**	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-4	5.5	6.0	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-4	5.8	6.4	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-4	**8.2**	**9.3**	---	---	---	---	< 0.1	< 0.1	**10,100**	---	---	---	---	---
	DOF	11/26/2014	DOF-4	**11.0**	**11.3**	---	---	---	---	0.1	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-4	7.4	7.4	---	---	---	---	< 0.1	< 0.1	---	---	---	---	---	---
	Farallon	10/24/2016	DOF-4-102416	---	< 3.0	---	---	---	---	---	<1.0	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-4-190701	2.17	2	< 0.1	< 0.1	0.426 J	< 0.5	< 0.1	< 0.1	**675**	**702**	< 0.02	< 0.02	10.2	2.92 J
DOF-5	DOF	11/12/2009	DOF-5	1.1	1.1	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/18/2010	DOF-5	1.1	0.9	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	10/5/2010	DOF-5	1.1	1.2	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/3/2011	DOF-5	1.0	0.9	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	3/23/2012	DOF-5	1.1	0.8	---	---	---	---	---	---	---	---	---	---	---	---
	DOF	8/28/2014	DOF-5	1.2	1.1	---	---	---	---	0.2	< 0.1	**14,400**	---	---	---	---	---
	DOF	11/26/2014	DOF-5	1.2	0.9	---	---	---	---	0.4	< 0.1	---	---	---	---	---	---
	DOF	6/5/2015	DOF-5	0.8	0.7	---	---	---	---	0.1	< 0.1	---	---	---	---	---	---
	Farallon	7/1/2019	DOF-5-190701	0.893	0.812	< 0.1	< 0.1	1.45	1.14	2.27	0.14	**210**	**216**	0.013 J	0.016 J	**159**	3.2 J
Most Stringent Groundwater PCUL: Nonpotable Water[2]				**8**		**1.2**		**3.1**		**8.1**		**100**		**0.025**		**81**	

NOTES:

Results in **bold** and highlighted yellow denote concentrations exceeding most stringent PCUL.
< denotes analyte not detected at or exceeding the reporting limit listed.
— denotes sample not analyzed.

[1]Analyzed by U.S. Environmental Protection Agency Method 200.8/6010 Series.
[2]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent groundwater Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways.

DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
J = result is an estimate

Table 11
Groundwater Analytical Results for PCB Aroclors
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)[1]									
				Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs[2]
Northern Property Boundary													
Reconnaissance Boring Groundwater Samples													
F-27	Farallon	6/27/2019	F-27-190627	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.90
F-28	Farallon	6/28/2019	F-28-190628	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.90
Area 2: Perishables Warehouse													
MW-101	Farallon	7/1/2019	MW-101-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 4: Former Fueling Area													
FMW-02	Farallon	7/2/2019	FMW-02-190702	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 6: Former Truck Shop Building													
MW-4	Farallon	7/1/2019	MW-4-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-203	Farallon	7/1/2019	MW-203-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-207	Farallon	7/1/2019	MW-207-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-AG1	Farallon	7/1/2019	MW-AG1-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
MW-AG2	Farallon	7/1/2019	MW-AG2-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 7: Former Automobile Service Stations													
DOF-1	Farallon	7/1/2019	DOF-1-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
FMW-01	Farallon	7/2/2019	FMW-01-190702	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 11: Former South Maintenance Shop													
FMW-03	Farallon	7/1/2019	FMW-03-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Area 13: Former Northwest Auto Wrecking Property													
DOF-2	Farallon	7/1/2019	DOF-2-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
DOF-3	Farallon	7/1/2019	DOF-3-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
DOF-4	Farallon	7/1/2019	DOF-4-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
DOF-5	Farallon	7/1/2019	DOF-5-190701	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.090
Most Stringent Groundwater PCUL: Nonpotable Water[3]				**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**0.000007**

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

[1]Analyzed by U.S. Environmental Protection Agency Method 8082A.

[2]Where all Aroclors were non-detect in a specific sample, half the reporting limit for each Aroclor was used to calculate total PCBs.

[3]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent groundwater Preliminary Cleanup Level (PCUL) for nonpotable water for all pathways.

NE = not established

PCB = polychlorinated biphenyl

Table 12
Soil Gas Analytical Results for Select VOCs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Sample Depth (feet)[1]	Analytical Results (micrograms per cubic meter)[2]																	
					1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	Carbon Tetrachloride	Chloroethane	Chloroform	Ethylbenzene	Hexane	Methylene Chloride	Naphthalene	Tetrachloroethene (PCE)	Toluene	Trichloroethene (TCE)	m,p-Xylenes	o-Xylene
Area 6: Former Truck Repair Shop																						
F-15	Farallon	10/19/2016	SG-F15-101916	5.0	< 0.0273	< 0.109	< 0.0324	1.43	< 0.0809	2.36	0.126	< 0.259	0.293	1.74	2.26	0.556 B	< 1.57	46.7	9.95	< 0.0914	5.38	2.00
F-16	Farallon	10/19/2016	SG-F16-101916	5.0	0.109	< 0.109	< 0.0324	0.393	< 0.0809	0.447	< 0.126	< 0.259	1.07	0.304	0.529	0.556 B	< 1.57	14.2	1.21	< 0.0914	0.825	0.347
F-17	Farallon	10/19/2016	SG-F17-101916	5.0	< 0.0273	0.164	1.01	10.3	0.364	**21.5**	< 0.126	< 0.259	0.342	9.94	349	0.486 B	**6.34**	0.882	2.45	0.269	3.56	1.82
F-18	Farallon	10/19/2016	SG-F18-101916	5.0	0.655	< 0.109	< 0.0324	2.75	0.405	1.57	0.189	0.607	**20.3**	3.17	3.28	1.08 B	< 1.57	1.15	20.0	< 0.0914	4.99	2.34
Most Stringent Soil Gas PCUL: Protect Indoor Air[3]					**76,000**	**3.0**	**52**	**910**	**3.2**	**11**	**14**	**150,000**	**3.6**	**15,000**	**11,000**	**2,200**	**2.5**	**320**	**76,000**	**11**	**1,500**	

NOTES:

Results in **bold** denote concentrations exceeding most-stringent PCULs.

Results highlighted gray denote sample location was overexcavated during interim action activities.

Results in **bold** denote analyte detected above the laboratory reporting limit.

< denotes analyte not detected at or exceeding the reporting limit listed.

B = analyte detected in associated method blank

Farallon = Farallon Consulting, L.L.C.

[1]Depth in feet below ground surface.

[2]Analyzed by U.S. Environmental Protection Agency Method TO-15/SIM.

[3]Values from Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025. Most stringent soil gas Preliminary Cleanup Level (PCUL) -- protect indoor air.

Table 13
Catch Basin Solids Analytical Results for PCBs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sample Identification	Sample Date	Analytical Results (milligrams per kilogram)[1]									
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs
CB-23	CB-23-042822	4/28/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.015	0.020	< 0.002	< 0.002	0.035
CB-24	CB-24-042822	4/28/2022	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.018

NOTES:

< denotes analyte not detected at or exceeding the reporting limit listed.

PCB = polychlorinated biphenyl

[1]Analyzed by U.S. Environmental Protection Agency Method 8082A.

Table 14
Summary of COPCs in Soil
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Number of Results	Number of Detects	Frequency of Detection (%)	LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable GW (w/o SL-9)[1]	LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable GW (w/o SL-9)[1]	Number of Detects Exceeding the PCUL	Number of Detects Exceeding 2x the PCUL	Number of Non-Detects Exceeding the PCUL	Number of Non-Detects Exceeding 10x the PCUL	Exceedance Frequency of Detects (%)	Exceedance Frequency of Detects > 2x PCUL (%)	Exceedance Frequency of Non-Detects (%)	Exceedance Frequency of Non-Detects > 10x PCUL (%)	Median Reporting Limit for Non-Detects	Maximum Detected Concentration (mg/kg)	Maximum Exceedance Factor	Eliminated	Elimination Rationale	Retained as COPC
Total Petroleum Hydrocarbons and BTEX																			
DRO	332	94	28%	2000	2000	3	2	0	0	1%	1%	0%	0%	20	5900	3.0			Yes
ORO	332	116	35%	2000	2000	0	0	0	0	0%	0%	0%	0%	54.5	1600	0.80	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
GRO	342	76	22%	30	30	37	21	2	0	11%	6%	1%	0%	5.9	11900	400			Yes
Benzene	292	23	8%	0.0088	0.00056	12	7	228	79	4%	2%	78%	27%	0.018	4.8	8600			Yes
Toluene	300	29	10%	0.72	0.044	3	2	26	14	1%	1%	9%	5%	0.02	32	44			Yes
Ethylbenzene	300	37	12%	0.18	0.01	23	19	71	6	8%	6%	24%	2%	0.016	51	5100			Yes
Xylenes	300	41	14%	0.94	0.055	17	15	42	6	6%	5%	14%	2%	0.032	135	2500			Yes
Polycyclic Aromatic Hydrocarbons (PAHs)																			
Naphthalene	17	1	6%	0.039	0.0021	1	1	10	0	6%	6%	59%	0%	0.005	0.00595	2.8			Yes
1-Methylnaphthalene	86	35	41%	20	20	1	0	0	0	1%	0%	0%	0%	0.00499	21.8	1.1	X	FOE < 10%; no exceedances >2x PCUL	
2-Methylnaphthalene	86	34	40%	0.67	0.039	9	9	1	0	10%	10%	1%	0%	0.00466	34.5	280			Yes
Acenaphthene	86	25	29%	0.5	0.028	3	1	1	0	3%	1%	1%	0%	0.00494	0.713	15			Yes
Acenaphthylene	86	11	13%	1.3	1.3	0	0	0	0	0%	0%	0%	0%	0.00469	0.604	0.46	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Anthracene	86	19	22%	0.96	0.051	1	1	0	0	1%	1%	0%	0%	0.00494	0.44	3.0			Yes
Benzo(g,h,i)Perylene	86	22	26%	0.67	0.67	0	0	0	0	0%	0%	0%	0%	0.00494	0.059	0.088	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Fluoranthene	86	33	38%	1.7	0.09	1	0	0	0	1%	0%	0%	0%	0.00469	0.17	1.9	X	FOE < 10%; no exceedances >2x PCUL	
Fluorene	86	22	26%	0.54	0.029	5	5	1	0	6%	6%	1%	0%	0.004895	3.2	40			Yes
Phenanthrene	86	40	47%	1.5	1.5	2	2	0	0	2%	2%	0%	0%	0.003165	5.4	3.6			Yes
Pyrene	86	38	44%	2.6	0.14	1	0	0	0	1%	0%	0%	0%	0.00461	0.53	1.5	X	FOE < 10%; no exceedances >2x PCUL	
Benzo(a)Pyrene	93	24	26%	0.00031	0.000016	24	24	69	60	26%	26%	74%	65%	0.00491	0.11	6900			Yes
Benzo(a)Anthracene	93	23	25%	1.3	1.3	0	0	0	0	0%	0%	0%	0%	0.004925	0.083	0.064	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Benzo(b)Fluoranthene	93	26	28%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.00491	0.12	---	X	No Ecology-provided PCUL	
Benzo(j,k)Fluoranthene	19	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0091	---	---	X	FOD = 0%; No Ecology-provided PCUL	
Benzo(k)Fluoranthene	74	18	24%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	0.0132	---	X	No Ecology-provided PCUL	
Total Benzofluoranthenes	74	24	32%	3.2	3.2	0	0	0	0	0%	0%	0%	0%	0.004	0.12	0.038	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Chrysene	93	28	30%	1.4	1.4	0	0	0	0	0%	0%	0%	0%	0.00486	0.11	0.079	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Dibenzo(a,h)Anthracene	93	6	6%	0.23	0.23	0	0	0	0	0%	0%	0%	0%	0.00483	0.0078	0.034	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Indeno(1,2,3-cd)Pyrene	93	19	20%	0.6	0.6	0	0	0	0	0%	0%	0%	0%	0.00494	0.058	0.097	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Total cPAHs TEC	93	31	33%	0.00031	0.000016	31	31	62	55	33%	33%	67%	59%	0.003945	0.14	8800			Yes
Total LPAHs	91	91	100%	5.2	5.2	3	2	0	0	3%	2%	0%	0%	---	22.2374	4.3			Yes
Total HPAHs	93	92	99%	12	12	0	0	0	0	0%	0%	0%	0%	---	6.1231	0.51	X	Detects/NDs never exceeded most stringent PCUL;RLs<PCULS	
Volatile Organic Compounds																			
1,1,1,2-Tetrachloroethane	17	0	0%	38	38	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
1,1,1-Trichloroethane	17	0	0%	370	21	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
1,1,2,2-Tetrachloroethane	17	0	0%	0.0017	0.00011	0	0	11	11	0%	0%	65%	65%	0.00164	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
1,1,2-Trichloroethane	17	0	0%	0.005	0.00033	0	0	10	7	0%	0%	59%	41%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
1,1-Dichloroethane	17	0	0%	180	180	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
1,1-Dichloroethene	17	0	0%	26	1.4	0	0	0	0	0%	0%	0%	0%	0.001	---	---	X	FOD = 0%; all RLs < PCUL	
1,1-Dichloropropene	17	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	No Ecology-provided PCUL	
1,2,3-Trichlorobenzene	17	0	0%	64	64	0	0	0	0	0%	0%	0%	0%	0.0082	---	---	X	FOD = 0%; all RLs < PCUL	
1,2,3-Trichloropropane	17	0	0%	0.0063	0.0063	0	0	8	0	0%	0%	47%	0%	0.00328	---	---	X	FOD = 0%; max RL < 10x PCUL	
1,2,4-Trichlorobenzene	17	0	0%	0.0014	0.000072	0	0	14	11	0%	0%	82%	65%	0.0082	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.25 mg/kg	
1,2,4-Trimethylbenzene	25	5	20%	800	800	1	0	0	0	4%	0%	0%	0%	0.05	1600	2	X	FOE < 10%; no exceedances > 2x PCUL	
1,2-Dibromo-3-chloropropane	17	0	0%	0.23	0.23	0	0	8	0	0%	0%	47%	0%	0.0082	---	---	X	FOD = 0%; max RL < 10x PCUL	
1,2-Dibromoethane	17	0	0%	0.5	0.5	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
1,2-Dichlorobenzene	28	2	7%	0.035	0.003	2	2	17	13	7%	7%	61%	46%	0.05	91	30000			Yes
1,2-Dichloroethane	17	0	0%	0.35	0.024	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
1,2-Dichloropropane	17	0	0%	0.016	0.001	0	0	10	7	0%	0%	59%	41%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
1,3,5-Trimethylbenzene	25	2	8%	800	800	0	0	0	0	0%	0%	0%	0%	0.05	410	0.51	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
1,3-Dichlorobenzene	28	1	4%	0.023	0.0013	1	1	20	17	4%	4%	71%	61%	0.05	6	260			Yes
1,3-Dichloropropane	17	0	0%	0.0066	0.00043	0	0	10	7	0%	0%	59%	41%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
1,4-Dichlorobenzene	28	2	7%	0.11	0.0081	2	2	16	6	7%	7%	57%	21%	0.05	6	740			Yes
2,2-Dichloropropane	17	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	No Ecology-provided PCUL	
2-Butanone (MEK)	25	6	24%	48000	48000	0	0	0	0	0%	0%	0%	0%	1	120	0.0025	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
2-Chloroethyl Vinyl Ether	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.00651	---	---	X	No Ecology-provided PCUL	
2-Chlorotoluene	17	0	0%	1600	1600	0	0	0	0	0%	0%	0%	0%	0.00164	---	---	X	FOD = 0%; all RLs < PCUL	
2-Hexanone	17	0	0%	400	400	0	0	0	0	0%	0%	0%	0%	0.0081	---	---	X	FOD = 0%; all RLs < PCUL	
2-Pentanone	4	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.007	---	---	X	No Ecology-provided PCUL	
4-Chlorotoluene	17	0	0%	1600	1600	0	0	0	0	0%	0%	0%	0%	0.00164	---	---	X	FOD = 0%; all RLs < PCUL	
4-Methyl-2-Pentanone (MIBK)	17	0	0%	6400	6400	0	0	0	0	0%	0%	0%	0%	0.0081	---	---	X	FOD = 0%; all RLs < PCUL	
Acetone	17	5	29%	72000	72000	0	0	0	0	0%	0%	0%	0%	5	0.13	0.0000018	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Acrolein	4	0	0%	0.0044	0.00032	0	0	4	3	0%	0%	100%	75%	0.007	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
Acrylonitrile	4	0	0%	0.00012	0.0000083	0	0	4	4	0%	0%	100%	100%	0.007	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
Bromobenzene	17	0	0%	640	640	0	0	0	0	0%	0%	0%	0%	0.00164	---	---	X	FOD = 0%; all RLs < PCUL	
Bromochloromethane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0013	---	---	X	No Ecology-provided PCUL	
Bromodichloromethane	17	0	0%	0.013	0.00089	0	0	10	7	0%	0%	59%	41%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
Bromoform	17	0	0%	0.078	0.005	0	0	7	0	0%	0%	41%	0%	0.0016	---	---	X	FOD = 0%; max RL < 10x PCUL	
Bromomethane	17	0	0%	1.2	0.079	0	0	7	0	0%	0%	41%	0%	0.0016	---	---	X	FOD = 0%; max RL < 10x PCUL	
Carbon Disulfide	10	4	40%	8000	8000	0	0	0	0	0%	0%	0%	0%	0.00125	0.002	0.00000025	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Carbon Tetrachloride	17	0	0%	0.0029	0.00015	0	0	10	8	0%	0%	59%	47%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
Chlorobenzene	17	0	0%	1.7	0.1	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
Chloroethane	17	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0074	---	---	X	No Ecology-provided PCUL	
Chloroform	28	1	4%	0.81	0.052	1	1	7	7	4%	4%	25%	25%	0.05	6	7.4			Yes
Chloromethane	17	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0074	---	---	X	No Ecology-provided PCUL	
cis-1,3-Dichloropropene	17	0	0%	0.0056	0.00038	0	0	10	7	0%	0%	59%	41%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
Dibromochloromethane	17	0	0%	0.01	0.0007	0	0	10	7	0%	0%	59%	41%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
Dibromomethane	17	0	0%	800	800	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	

Table 14
Summary of COPCs in Soil
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Number of Results	Number of Detects	Frequency of Detection (%)	LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable GW (w/o SL-9)[1]	LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable GW (w/o SL-9)[1]	Number of Detects Exceeding the PCUL	Number of Detects Exceeding 2x the PCUL	Number of Non-Detects Exceeding the PCUL	Number of Non-Detects Exceeding 10x the PCUL	Exceedance Frequency of Detects (%)	Exceedance Frequency of Detects > 2x PCUL (%)	Exceedance Frequency of Non-Detects (%)	Exceedance Frequency of Non-Detects > 10x PCUL (%)	Median Reporting Limit for Non-Detects	Maximum Detected Concentration (mg/kg)	Maximum Exceedance Factor	Eliminated	Elimination Rationale	Retained as COPC
Volatile Organic Compounds (continued)																			
Dichlorodifluoromethane	16	0	0%	16000	16000	0	0	0	0	0%	0%	0%	0%	0.00155	---	---	X	FOD = 0%; all RLs < PCUL	
Ethyl Bromide (Bromoethane)	4	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0028	---	---	X	No Ecology-provided PCUL	
Freon 113	4	0	0%	2400000	2400000	0	0	0	0	0%	0%	0%	0%	0.0028	---	---	X	FOD = 0%; all RLs < PCUL	
Hexachlorobutadiene	17	0	0%	0.00021	0.000011	0	0	17	17	0%	0%	100%	100%	0.0082	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.25 mg/kg	
Hexane	7	0	0%	4800	4800	0	0	0	0	0%	0%	0%	0%	0.25	---	---	X	FOD = 0%; all RLs < PCUL	
Iodomethane	10	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0048	---	---	X	No Ecology-provided PCUL	
Isopropylbenzene	17	1	6%	8000	8000	0	0	0	0	0%	0%	0%	0%	0.00155	0.00217	0.00000027	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Methyl Tertiary Butyl Ether	17	0	0%	560	560	0	0	0	0	0%	0%	0%	0%	0.001	---	---	X	FOD = 0%; all RLs < PCUL	
Methylene Chloride	17	4	24%	0.43	0.03	0	0	7	0	0%	0%	41%	0%	0.2	0.00204	0.068		Detects never exceeded most stringent PCUL; max RL < 10x PCUL	
n-Butylbenzene	18	3	17%	4000	4000	0	0	0	0	0%	0%	0%	0%	0.0016	390	0.098	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
n-Propylbenzene	25	4	16%	8000	8000	0	0	0	0	0%	0%	0%	0%	0.05	1000	0.13	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
p-Isopropyltoluene	17	1	6%	320	320	0	0	0	0	0%	0%	0%	0%	0.0258	0.00395	0.000012	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
sec-Butylbenzene	25	3	12%	8000	8000	0	0	0	0	0%	0%	0%	0%	0.05	350	0.044	X	Detects/NDs never exceeded most stringent PCUL: RLs<PCUL	
Styrene	17	0	0%	16000	16000	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
tert-Butylbenzene	25	2	8%	8000	8000	0	0	0	0	0%	0%	0%	0%	0.05	36	0.0045	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
trans-1,3-Dichloropropene	17	0	0%	0.0056	0.00038	0	0	10	7	0%	0%	59%	41%	0.0016	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
trans-1,4-Dichloro-2-butene	4	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.007	---	---	X	No Ecology-provided PCUL	
Trichlorofluoromethane	17	0	0%	24000	24000	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
Vinyl Acetate	10	0	0%	80000	80000	0	0	0	0	0%	0%	0%	0%	0.00651	---	---	X	FOD = 0%; all RLs < PCUL	
Tetrachloroethene (PCE)	28	1	4%	0.029	0.0016	0	0	12	8	0%	0%	43%	29%	0.0015	0.0011	0.038	X	Detect less than PCUL; RL <= 5x achievable PQL of 0.025 mg/kg	
Trichloroethene (TCE)	28	0	0%	0.0044	0.00027	0	0	21	11	0%	0%	75%	39%	0.00145	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.02 mg/kg	
cis-1,2-Dichloroethene	28	0	0%	160	160	0	0	0	0	0%	0%	0%	0%	0.00145	---	---	X	FOD = 0%; all RLs < PCUL	
trans-1,2-Dichloroethene	17	0	0%	5.2	0.32	0	0	0	0	0%	0%	0%	0%	0.0016	---	---	X	FOD = 0%; all RLs < PCUL	
Vinyl Chloride	28	0	0%	0.0011	0.000056	0	0	24	21	0%	0%	86%	75%	0.00145	---	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.05 mg/kg	
Metals																			
Arsenic	92	73	79%	7.3	7.3	18	0	0	0	20%	0%	0%	0%	5	14	1.90			Yes
Barium	7	7	100%	250	250	0	0	0	0	0%	0%	0%	0%	---	76.8	0.31	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Cadmium	87	40	46%	0.77	0.77	7	1	32	0	8%	1%	37%	0%	2	2	2.60			Yes
Chromium	18	18	100%	550	48	0	0	0	0	0%	0%	0%	0%	---	21.6	0.19	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCULs	
Copper	15	15	100%	36	36	1	0	0	0	7%	0%	0%	0%	---	54.6	1.50	X	FOE < 10%; no exceedances >2x PCUL	
Lead	116	103	89%	250	81	2	0	0	0	2%	0%	0%	0%	4	289	1.20	X	FOE < 10%; no exceedances >2x PCUL	
Manganese	1	1	100%	1100	1100	0	0	0	0	0%	0%	0%	0%	---	33	0.03	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Mercury	8	2	25%	0.07	0.07	0	0	4	1	0%	0%	50%	13%	0.155	0.07	1.00	X	Detect less than PCUL; RL <= 5x achievable PQL of 0.2 mg/kg	
Selenium	7	0	0%	7.4	0.78	0	0	1	0	0%	0%	14%	0%	1	---	---	X	FOD = 0%; max RL < 10x PCUL	
Silver	7	0	0%	0.61	0.61	0	0	3	0	0%	0%	43%	0%	0.55	---	---	X	FOD = 0%; max RL < 10x PCUL	
Zinc	8	8	100%	100	85	1	0	0	0	13%	0%	0%	0%	---	183	1.80			Yes
Polychlorinated Biphenyl Aroclors (PCBs)																			
Aroclor 1016	57	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1221	57	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1232	57	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1242	57	9	16%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	0.069	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1248	57	1	2%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	0.17	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1254	57	16	28%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.0196	0.17	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1260	57	11	19%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	0.058	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1262	50	7	14%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	0.028	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1268	50	0	0%	NE	NE	0	0	0	0	0%	0%	0%	0%	0.002	---	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Total PCB Aroclors	58	26	45%	0.000011	0.00000055	26	26	32	32	45%	45%	55%	55%	0.178	0.239	22000			Yes

NOTES:

Parameter names highlighted in yellow indicate chemical retained as a COPC based on initial screening.

Parameter names highlighted in gray indicate chemical has been eliminated as a COPC.

--- denotes calculation is not applicable due to zero detected values, zero non-detected values, or no established screening limits available for the given parameter.

[1]Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025.

BTEX = benzene, toluene, ethylbenzene, and xylenes
COC = constituent of concern
COPC = constituents of pontetial concern
cPAH = carcinogenic polycyclic aromatic hydrocarbon
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
Ecology = Washington State Department of Ecology
EF = exceedance frequency
FOD = frequency of detection
FOE = frequency of exceedance
GRO = TPH as gasoline-range organics
GW = groundwater
HPAH = high molecular weight polycyclic aromatic hydrocarbon

LDW = Lower Duwamish Waterway
LPAH = low molecular weight polycyclic aromatic hydrocarbon
mg/kg = milligram per kilogram
ND = non-detect
NE = not established
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
PQL = practical quantitation limit
RL = reporting limit
RL<PCUL = reporting limits are less than the most stringent applicable preliminary cleanup level
TEC = toxic equivalent concentration

Table 15
Summary of COPCs in Groundwater
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Number of Samples	Number of Detections	Detection Frequency (%)	LDW Most Stringent GW PCUL: Nonpotable Water[1]	Number of Detects Exceeding the PCUL	Number of Detects Exceeding 2x the PCUL	Number of Non-Detects Exceeding the PCUL	Number of Non-Detects Exceeding 10x the PCUL	Maximum Detected Concentration (µg/L)	Frequency of Exceedance (%)	Exceedance Frequency of Detects >2x PCUL (%)	Exceedance Frequency of Non-Detects (%)	Median Reporting Limit for Non-Detects	Maximum Exceedance Factor	Eliminated	Elimination Rationale	Retained as COPC
Total Petroleum Hydrocarbons and BTEX																	
DRO	73	9	12%	500	0	0	0	0	474	0%	0%	0%	100	0.95	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
ORO	73	3	4%	500	1	0	0	0	560	1%	0%	0%	200	1.1	X	FOE < 10%; no exceedances >2x PCUL	
GRO	83	11	13%	800	3	0	0	0	1200	4%	0%	0%	250	1.5	X	FOE < 10%; no exceedances >2x PCUL	
Benzene	83	10	12%	1.6	4	3	0	0	5.9	5%	4%	0%	1	3.7			Yes
Toluene	83	6	7%	102	0	0	0	0	1.2	0%	0%	0%	1	0.012	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Ethylbenzene	83	9	11%	21	0	0	0	0	9.7	0%	0%	0%	1	0.46	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Xylenes	83	8	10%	106	0	0	0	0	29.8	0%	0%	0%	2	0.28	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Polycyclic Aromatic Hydrocarbons (PAHs)																	
Naphthalene	24	16	67%	1.4	1	1	0	0	2.98	4%	4%	0%	0.095	2.1			Yes
1-Methylnaphthalene	24	14	58%	0.17	5	4	2	0	3	21%	17%	8%	0.0945	18	X	PCUL based on protection of indoor air, no buildings within horizontal separation distance of groundwater impacts. No established PCULs for protection of surface water or sediment.	
2-Methylnaphthalene	24	12	50%	14	0	0	0	0	0.609	0%	0%	0%	0.0945	0.044	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Acenaphthene	24	6	25%	5.3	0	0	0	0	0.2	0%	0%	0%	0.052	0.038	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Acenaphthylene	24	2	8%	NE	0	0	0	0	0.008	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL	
Anthracene	24	3	13%	2.1	0	0	0	0	0.004	0%	0%	0%	0.01	0.0019	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Benzo(g,h,i)Perylene	24	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL	
Fluoranthene	24	1	4%	1.8	0	0	0	0	0.003	0%	0%	0%	0.01	0.0017	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Fluorene	24	6	25%	3.7	0	0	0	0	0.16	0%	0%	0%	0.052	0.043	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Phenanthrene	24	10	42%	NE	0	0	0	0	0.17	0%	0%	0%	0.094	---	X	No Ecology-provided PCUL	
Pyrene	24	5	21%	2	0	0	0	0	0.002	0%	0%	0%	0.094	0.001	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Benzo(a)Pyrene	24	0	0%	0.000016	0	0	24	24	---	0%	0%	100%	0.01		X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Benzo(a)Anthracene	24	0	0%	0.00016	0	0	24	24	---	0%	0%	100%	0.01		X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Benzo(b)Fluoranthene	24	0	0%	0.00016	0	0	24	24	---	0%	0%	100%	0.01		X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Benzo(j,k)Fluoranthene	24	0	0%	0.0013	0	0	24	3	---	0%	0%	100%	0.01		X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Chrysene	24	2	8%	0.016	0	0	3	0	0.001	0%	0%	13%	0.01	0.063	X	Detects less than most stringent PCUL; max RL < 10x PCUL	
Dibenzo(a,h)Anthracene	24	0	0%	0.000016	0	0	24	24	---	0%	0%	100%	0.01		X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Indeno(1,2,3-cd)Pyrene	24	0	0%	0.00016	0	0	24	24	---	0%	0%	100%	0.01		X	FOD = 0%; median RL =< 5x achievable PQL of 0.010 µg/l	
Total cPAHs TEC	24	2	8%	0.000016	2	2	22	22	0.00751	8%	8%	92%	0.0076	470	X	Chrysene was the only cPAH detected at concentrations exceeding PQL, and detections of chrysene were less than PCULs. Laboratory data qualifier indicates results were estimated and may be biased high based on non-conformance identified during data	
Volatile Organic Compounds																	
1,2,4-Trimethylbenzene	11	2	18%	240	0	0	0	0	0.33	0%	0%	0%	0.2	0.0014	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
1,3,5-Trimethylbenzene	11	0	0%	170	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
1,2-Dichloropropane	11	0	0%	3.1	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Acetone	11	1	9%	NE	0	0	0	0	8.47	0%	0%	0%	5	---	X	No Ecology-provided PCUL for non-potable water	
Carbon Disulfide	11	1	9%	840	0	0	0	0	0.09	0%	0%	0%	0.2	0.00011	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Chloroform	11	0	0%	1.2	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
cis-1,2-Dichloroethene	11	0	0%	180	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Dichlorodifluoromethane	11	2	18%	4.2	0	0	0	0	2.7	0%	0%	0%	0.2	0.64	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Isopropylbenzene	11	1	9%	910	0	0	0	0	6.1	0%	0%	0%	0.2	0.0067	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Methyl Tertiary Butyl Ether	11	0	0%	860	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
n-Butylbenzene	11	1	9%	NE	0	0	0	0	1.2	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
n-Propylbenzene	11	1	9%	2300	0	0	0	0	1.5	0%	0%	0%	0.2	0.00065	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
p-Isopropyltoluene	11	0	0%	88	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
sec-Butylbenzene	11	1	9%	NE	0	0	0	0	1.7	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
tert-Butylbenzene	11	1	9%	NE	0	0	0	0	0.67	0%	0%	0%	0.2	---	X	No Ecology-provided PCUL for non-potable water	
Tetrachloroethene (PCE)	11	0	0%	2.9	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Trichloroethene (TCE)	11	0	0%	0.7	0	0	0	0	---	0%	0%	0%	0.2	---	X	FOD = 0%; all RLs < PCUL	
Trichlorofluoromethane	11	1	9%	120	0	0	0	0	0.33	0%	0%	0%	0.2	0.0028	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Vinyl Chloride	11	0	0%	0.18	0	0	11	0	---	0%	0%	100%	0.2	---	X	FOD = 0%; Max RL < 10x PCUL	
Metals																	
Dissolved Arsenic	63	59	94%	8	19	9	0	0	50.1	30%	14%	0%	3	6.3			Yes
Dissolved Cadmium	14	3	21%	1.2	0	0	0	0	0.062	0%	0%	0%	0.1	0.052	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Dissolved Copper	14	11	79%	3.1	2	2	0	0	8.87	14%	14%	0%	0.5	2.9			Yes
Dissolved Lead	33	9	27%	8.1	0	0	0	0	0.7	0%	0%	0%	0.1	0.086	X	Detects/NDs never exceeded most stringent PCUL; RLs<PCUL	
Dissolved Manganese	14	14	100%	100	11	10	0	0	4060	79%	71%	0%	---	41			Yes
Dissolved Mercury	14	12	86%	0.025	1	0	0	0	0.026	7%	0%	0%	0.02	1	X	FOE < 10%; no exceedances >2x PCUL	
Dissolved Zinc	14	14	100%	81	0	0	0	0	7.52	0%	0%	0%	---	0.093	X	Detects never exceeded most stringent PCUL; RLs<PCUL	

Table 15
Summary of COPCs in Groundwater
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern	Number of Samples	Number of Detections	Detection Frequency (%)	LDW Most Stringent GW PCUL: Nonpotable Water[1]	Number of Detects Exceeding the PCUL	Number of Detects Exceeding 2x the PCUL	Number of Non-Detects Exceeding the PCUL	Number of Non-Detects Exceeding 10x the PCUL	Maximum Detected Concentration (µg/L)	Frequency of Exceedance (%)	Exceedance Frequency of Detects >2x PCUL (%)	Exceedance Frequency of Non-Detects (%)	Median Reporting Limit for Non-Detects	Maximum Exceedance Factor	Eliminated	Elimination Rationale	Retained as COPC
Polychlorinated Biphenyl Aroclors (PCBs)																	
Aroclor 1016	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1221	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1232	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1242	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1248	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1254	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1260	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1262	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Aroclor 1268	14	0	0%	NE	0	0	0	0	---	0%	0%	0%	0.01	---	X	No Ecology-provided PCUL; part of Total PCB Aroclors calculation	
Total PCB Aroclors	14	0	0%	0.000007	0	0	14	14	---	0%	0%	100%	0.01	---	X	FOD = 0%; RL <= 5x achievable PQL of 0.010 µg/l	

NOTES:

Parameter names highlighted in yellow indicate chemical retained as a COPC based on initial screening.

Parameter names highlighted in gray indicate chemical has been eliminated as a COPC.

--- denotes calculation is not applicable due to zero detected values, zero non-detected values, or no established screening limits available for the given parameter.

[1]Washington State Department of Ecology (Ecology) Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025.

BTEX = benzene, toluene, ethylbenzene, and xylenes
COC = constituent of concern
COPC = constituent of potential concern
cPAH = carcinogenic polycyclic aromatic hydrocarbon
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
Ecology = Washington State Department of Ecology
FOD = frequency of detection

FOE = frequency of exceedance
GRO = TPH as gasoline-range organics
GW = groundwater
LDW = Lower Duwamish Waterway
µg/L = micrograms per liter
ND = non-detect
NE = not established

ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
PQL = practical quantitation limit
RL = reporting limit
TEC = toxic equivalent concentration

Table 16
Evaluation of Soil to Groundwater Pathway for COPCs
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Constituents of Potential Concern (COPCs)	Overall Site		No Apparent Impacts to Groundwater based on Empirical Evidence	Soil Direct Contact LDW PCUL[1]	Maximum Detected Soil Concentration (mg/kg)	Eliminated as COPC	Comments
	Soil	Groundwater					
Petroleum Hydrocarbons							
DRO + ORO	X	X	---	2,000	5,900	No	---
GRO	X		---	1,500	11,900	No	Retained as COPC due to exceedances of direct contact PCUL and insufficient groundwater data proximate to remaining soil exceedances.
Benzene	X		Yes	18	4.8	Yes	No exceedances of most stringent groundwater PCUL since 2012, less than most stringent groundwater PCUL during five monitoring events between 2014 and 2019. No detections in soil
Toluene	X		Yes	6,400	32	Yes	---
Ethylbenzene	X		Yes	8,000	51	Yes	---
Xylenes	X		Yes	16,000	135	Yes	---
Polycyclic Aromatic Hydrocarbons (PAHs)							
Naphthalene	X	X	---	---	---	No	---
2-Methylnaphthalene	X		Yes	320	9.1	Yes	---
Acenaphthene	X		Yes	4,800	0.713	Yes	---
Anthracene	X		Yes	24,000	0.44	Yes	---
Fluorene	X		Yes	3,200	3.2	Yes	---
Phenanthrene	X		Yes	NA	5.4	Yes	Direct contact PCUL not available
Benzo(a)Pyrene	X		Yes	0.19	0.11	Yes	---
Total cPAHs TEC	X		Yes	0.19	0.14	Yes	---
Total LPAHs	X		---	---	---	Yes	---
Volatile Organic Compounds (VOCs)							
1,2-Dichlorobenzene	X		Yes	7,200	91	Yes	---
1,3-Dichlorobenzene	X		Yes	NA	6	Yes	Direct contact PCUL not available
1,4-Dichlorobenzene	X		Yes	190	6	Yes	---
Chloroform	X		Yes	32	6	Yes	---
Metals							
Arsenic	X	X	---	---	---	No	---
Cadmium	X		Yes	80	2	Yes	---
Copper		X	---	---	---	No	---
Manganese		X	---	---	---	No	---
Zinc	X		Yes	24,000	183	Yes	---
Polychlorinated Biphenyls (PCBs)							
Total PCB Aroclors	X		Yes	1.0	0.239	Yes	---

NOTES:

X denotes the analyte has been detected at concentrations exceeding the most-stringent Lower Duwamish Waterway (LDW) PCUL or screening level in one or more

[1]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised February 2025.

cPAH = carcinogenic polycyclic aromatic hydrocarbons
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
LPAH = low molecular weight polycyclic aromatic hydrocarbon
NA = not available
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
TEC = toxic equivalent concentration

Table 17
Soil and Groundwater COPCs for the Remedial Investigation
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Consituents of Potential Concern	Area 2: Perishables Warehouse		Area 6: Former Truck Repair Shop		Area 7: Former Auto Service Stations		Area 11: Former South Maintenance Shop		Area 13: Former Northwest Auto Wrecking Property	
	Soil	Groundwater	Soil	Groundwater	Soil	Groundwater	Soil	Groundwater	Soil	Groundwater
Petroleum Hydrocarbons										
DRO + ORO	X				X	X				X
GRO					X	X	X			
Polycyclic Aromatic Hydrocarbons (PAHs)										
Naphthalene					X	X				
Metals										
Arsenic		X		X					X	X
Copper				X						X
Manganese		X		X		X		X		X

NOTES:

X denotes the analyte has been detected at concentrations exceeding the most-stringent Lower Duwamish Waterway (LDW) PCUL or screening level in one or more samples collected from the site.

cPAH = carcinogenic polycyclic aromatic hydrocarbons
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
LPAH = low molecular weight polycyclic aromatic hydrocarbon
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
TEC = toxic equivalent concentration

Table 18
Preliminary Screening Levels
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

COPC	Soil Screening Levels[1] (milligrams per kilogram)		Groundwater Screening Levels[1] (micrograms per liter)	Soil Gas Screening Levels[2] (micrograms per cubic meter)
	Vadose Zone	Saturated Zone		
Total Petroleum Hydrocarbons				
GRO (weathered)	100[3]	100[3]	1,000[3]	---
DRO + ORO	2,000[4]	2,000[4]	500[4]	---
Total Petroleum Hydrocarbons	---	---	---	1,500
Polycyclic Aromatic Hydrocarbons				
Naphthalene	0.039	0.005[5]	1.4[6]	2.5
Metals				
Arsenic	7.3[7]	7.3[7]	8.0[7]	---
Copper	36[7]	36[7]	3.1[6]	---
Manganese	1,100[7]	1,100[7]	100[6]	---

NOTES:

[1]Soil and groundwater screening levels from Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Levels (PCULs) Workbook, dated February 21, 2025.

[2]Washington State Model Toxics Control Act Cleanup Regulation Cleanup Levels and Risk Calculations, Standard Method B Values for Subslab Soil Gas Screening Level and Screening Level for Commercial Worker, https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Contamination-clean-up-tools/CLARC

[3]Based on weathered gasoline PCUL for protection of surface water via groundwater.

[4]Screening level based on the sum of diesel-range organics and oil-range organics.

[5]Based on laboratory practical quantitiation limit.

[6]Based on protection of surface water PCUL.

[7]Based on natural background PCUL.

COPC = contaminant of potential concern

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

GRO = TPH as gasoline-range organics

ORO = TPH as oil-range organics

APPENDIX A
SAMPLING AND ANALYSIS PLAN

REMEDIAL INVESTIGATION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

FARALLON CONSULTING

Draft—Issued for Agency Review

SAMPLING AND ANALYSIS PLAN
APPENDIX A OF THE REMEDIAL INVESTIGATION WORK PLAN

Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

July 23, 2025

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
DRO	diesel-range organics
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
GRO	gasoline-range organics
MTCA	Washington State Model Toxics Control Act Cleanup Regulation
ORO	oil-range organics
PFAS	per- and polyfluoroalkyl substances
QA/QC	quality assurance/quality control
SAP	Sampling and Analysis Plan
SOP	standard operating procedures
TPH	total petroleum hydrocarbons

USCS	Unified Soil Classification System
VOC	volatile organic compound
WAC	Washington Administrative Code

1.0 INTRODUCTION

Farallon Consulting L.L.C (Farallon) has prepared this Sampling and Analysis Plan (SAP) on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) to describe the sample collection, handling, and analysis procedures to be used during implementation of the Remedial Investigation Work Plan (RI Work Plan) for the Emerald Gateway Site (Site) (Figure 1).

This SAP has been prepared in accordance with the Washington State Model Toxics Control Act, Chapter 70A.305 of the Revised Code of Washington (RCW), and its implementing regulations, Chapter 173-340 of the Washington Administrative Code (WAC) (collectively, MTCA). Specifically, the SAP was prepared in accordance with WAC 173-340-820.

1.1 PURPOSE AND OBJECTIVE

The purposes of this SAP are to:

- Summarize the scope of work for the remedial investigation (RI);
- Identify sample locations and media, sample quantities, analytical methods, and documentation protocols for the sampling program;
- Describe standard operating procedures (SOPs) for field activities that will be conducted as part of the RI; and
- Provide quality assurance (QA) and quality control (QC) protocols for field activities and laboratory analysis to ensure collection of representative and useable data.

The objectives of the scope of work for the RI include:

- Characterize the nature and extent of impacts to groundwater along the western (down-gradient) portion of the Site and proximate to areas of residual petroleum impacts in soil; and
- Evaluate the vapor intrusion pathway from residual petroleum impacts in soil into buildings at the Site in accordance with the Washington State Department of Ecology (Ecology) Vapor Intrusion Guidance (Ecology 2009).

1.2 ORGANIZATION

The SAP is organized into the following sections:

Section 1, Introduction, defines the purposes and objectives of the SAP;

Section 2, Project Description, provides a description of the scope of work for the RI, project organization and responsibilities, and the project schedule;

Section 3, Sampling Equipment and Procedures, provides details on the sampling equipment and protocols that will be used for collection of samples;

Section 4, Laboratory Analysis, lists the laboratories and the laboratory analytical methods that will be used in conducting the RI;

Section 5, Sample Handling, provides details on sampling containers, sample preservation and holding times, sample packaging and shipment, sample documentation, and collection of QA/QC samples;

Section 6, Management of Investigation-Derived Waste, provides details on waste sampling, profiling, and handling;

Section 7, Field Documentation, summarizes the procedures and forms that will be used to document the field activities conducted for the RI; and

Section 8, References, presents the references used to prepare this SAP.

2.0 PROJECT DESCRIPTION

This section provides a summary of the scope of work and Farallon's project organization and schedule.

2.1 SCOPE OF WORK

A detailed description of the scope of work for the remedial investigation at the Site is provided in the RI Work Plan. The proposed sample locations are shown on Figure 2. The proposed screening levels for soil and groundwater are shown on Table A-1. The scope of work for the RI, as detailed in the RI Work Plan, is summarized below:

- Install and develop three monitoring wells (FMW-05 through FMW-07) to depths of approximately 15 to 20 feet below ground surface (bgs) along the western boundary of the Site at the approximate locations shown on Figure 2. Soil samples will be collected for potential laboratory analysis during installation of the monitoring wells.
- Conduct four quarterly groundwater monitoring events at the Site at three existing monitoring wells (MW-101, DOF-2, and FMW-04), and three proposed new monitoring wells (FMW-05 through FMW-07) to evaluate groundwater conditions along the western boundary of the Site and proximate to locations where residual impacts of petroleum hydrocarbons remain in soil (Figure 2).
- Conduct a vapor intrusion assessment proximate to residual petroleum impacts in soil into buildings at the Site. Based on an initial assessment of the existing Site data, vapor intrusion screening criteria are met for all existing buildings at the Site except for the Perishables Warehouse (Building 1) (Figure 2). The vapor intrusion evaluation will include installing two permanent subslab soil gas probes within the Perishables Warehouse and conducting two semiannual soil gas monitoring events at the newly installed soil gas probes.
- Conduct an evaluation for the presence or absence of per- and polyfluoroalkyl substances (PFAS), including analyzing at least one set of groundwater samples for PFAS from select monitoring wells (i.e. DOF-2 and FMW-05) proximate to potential historical sources of PFAS on the Site including historical auto wrecking operations and a former truck wash.

2.2 PROJECT ORGANIZATION AND RESPONSIBILITIES

The project organization for conducting the scope of work described in the SAP, including identification of key personnel and their responsibilities, is presented below.

Project Coordinator for Ecology. Ecology is the lead regulatory agency for the Site. Ecology's Project Coordinator for the Site is:

Brett T. Carp
Washington State Department of Ecology
Northwest Regional Office
15700 Dayton Avenue North
PO Box 330316
Shoreline, Washington 98133-9716
Telephone: 206-496-7007
Email: brec461@ECY.WA.GOV

Project Coordinator for Prologis. Farallon has been contracted by the Prologis to plan and implement the RI for the Site. Farallon's Project Coordinator for the Site is:

Pete Kingston, L.G.
Farallon Consulting, L.L.C.
1809 7th Avenue, Suite 1111
Seattle, Washington 98101
Telephone: 425-295-0800
Email: pkingston@farallonconsulting.com

Prologis Representatives. The Prologis Representatives for the Site are:

Brett Richer, Vice President, Global Environmental & Engineering Services
Manais Chavan, Manager, Global Environmental & Engineering Services
Prologis, Inc.
Pier 1, Bay 1
San Francisco, California 94111

Project Data Manager. The Project Data Manager manages data as it is received from the laboratory and is responsible for data validation. Data validation responsibilities include reviewing laboratory reports, advising on data corrective action procedures, and performing QA/QC on analytical data reports. Additionally, the Project Data Manager will directly transfer laboratory data into an EQuIS environmental data management system database (EQuIS database) and the Ecology Environmental Information Management database. The Project Data Manger for Farallon is:

Jeanette Mullin, L.G.

Farallon Consulting, L.L.C.
13555 SE 36th Street, Suite 320
Bellevue, Washington 98006
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Email: jmullin@farallonconsulting.com

Field Staff. Members of the field staff supervise contractor procedures, manage collection of samples, coordinate sample deliveries to the laboratory, and document field sampling activities. Field staff also will communications progress updates to the Farallon Project Coordinator, including deviations from the SAP.

Laboratory. Friedman & Bruya, Inc (F&B) in Seattle, Washington and ALS in Kelso, Washington will perform analytical services in support of the RI and will be responsible for implementing specific QA/QC requirements.

2.3 PROJECT SCHEDULE

The RI field activities will be initiated following Ecology's approval of the RIWP and in accordance with the Agreed Order schedule. Relevant portions of the schedule are provided below.

Remedial Investigation Field Investigations Completed	180 days after Final Remedial Investigation Work Plan
Agency Review Draft Remedial Investigation Report (or combined Agency Review Draft RI/FS Report*)	90 days following receipt of remedial investigation validated data
Public Review Draft Remedial Investigation Report (or combined Public Review Draft RI/FS Report*)	30 days after receipt of Ecology comments
Final Remedial Investigation Report (or combined Final RI/FS Report*)	30 days after receipt of Ecology comments, subsequent to public comment
Agency Review Draft Feasibility Study Report (if separate from Remedial Investigation report)	90 days following Ecology's letter to proceed with the feasibility study
Public Review Draft Feasibility Study Report (if separate from Remedial Investigation report)	30 days following Ecology's comments on the Agency Review Draft Feasibility Study Report

Final Feasibility Study Report (if separate from Remedial Investigation report)	30 days after receipt of Ecology comments, subsequent to public comment
Agency Review preliminary Draft Cleanup Action Plan (DCAP)	90 days following approval of Final Feasibility Study

* Subject to advance approval by Ecology. Prologis may submit a combined Agency Review Draft RI/FS Report. If Ecology does not approve combining the Agency Review Draft RI and Agency Review Draft FS Report, Prologis may submit a combined Public Review Draft RI/FS Report, after incorporating Ecology's comments on separately prepared Agency Review Draft RI and Agency Review Draft FS.

3.0 SAMPLING EQUIPMENT AND PROCEDURES

This section summarizes the protocols and procedures that will be followed for the field data collection. Farallon SOPs for fieldwork, including detailed step-by-step protocols, are provided in Appendix A.

3.1 SAMPLING PROCEDURES

The field sampling procedures for collecting soil, groundwater, and soil gas samples are discussed below. Field sampling data will be documented on appropriate forms, as described in Section 7.0, Field Documentation.

3.1.1 Soil Sampling

Soil samples will be collected for potential laboratory analysis from discrete depth intervals during advancement of borings for installation of monitoring wells. Proposed monitoring well locations are shown on Figure 2, and final locations may be adjusted as necessary based on access and utilities. Farallon will use the one-call and private utility location services to confirm the location of subsurface utilities in accordance with Farallon SOP GN-02 (Appendix A).

Monitoring wells will be advanced to the target depths of approximately 15 to 20 feet bgs by a Washington State-licensed drilling contractor using a direct-push drill rig. The total depth of each well will depend on groundwater conditions encountered during drilling. The upper 5 feet of each drilling location will be cleared either by hand or with an air knife. Borings will be advanced using a direct-push drill rig.

During drilling, soil samples will be collected directly from the split-spoon sampler or sampling sleeve using either stainless steel or plastic sampling tools in accordance with the procedures presented in SOP SL-01, and reusable sampling equipment will be decontaminated between each sample in accordance with the procedures presented in SOP EQ-01 (Appendix A). Subsurface soil conditions will be logged on boring logs (Appendix B), including soil descriptions in accordance with the Unified Soil Classification System (USCS); soil moisture; physical indications of potential contamination (e.g., odor, staining); and field-screening results obtained using a photoionization detector.

Soil samples will be retained for potential laboratory analysis at approximately 5-foot intervals, with more frequent sampling if field indications of potential contamination are observed. The soil samples will be handled and transferred immediately into laboratory-

supplied sample containers as described in Section 5.0, Sample Handling and Section 7.0, Field Documentation. Soil samples will be analyzed in accordance with Section 4.0, Laboratory Analysis.

3.1.2 Groundwater Sampling

Each groundwater monitoring event will be conducted in accordance with Farallon's SOPs GW-03 and GW-04 for low-flow groundwater sampling (Appendix A) and will include measuring groundwater elevations and collecting groundwater samples from a network of six monitoring wells on the Site.

During each monitoring event, the locking well cap will be removed from each monitoring well and the groundwater level will be allowed to equilibrate to atmospheric pressure for at least 30 minutes. The depth to groundwater will be measured from the top of casing to the nearest 0.01 foot using an electronic water-level measuring device. Groundwater level measurements will be taken at all monitoring wells within a 2-hour period. The depth to the monitoring well bottom will be measured to evaluate whether fine-grained material has accumulated in the monitoring well casing. Reusable equipment will be decontaminated between uses in accordance with the procedures presented in SOP EQ-01.

Each monitoring well will be purged at a low-flow rate using a peristaltic pump, with the intake placed at the approximate midpoint of the well screen interval, or the midpoint between the water table and the bottom of the well screen if the water table is lower than the top of the well screen interval. Temperature, pH, dissolved oxygen, oxidation-reduction potential, and conductivity will be monitored during purging to determine when stabilization of these parameters occurs.

Groundwater samples will be collected following stabilization of temperature, pH, dissolved oxygen, and conductivity. The samples will be collected directly from the low-flow pump outlet into laboratory-supplied sample containers described in Section 5.0, Sample Handling.

3.1.3 Soil Gas Sampling

The vapor intrusion evaluation will include collecting soil gas samples from two permanent subslab soil gas probes. Proposed subslab soil gas probe locations are shown on Figure 2, and final locations may be adjusted as necessary based on access and utilities. Soil gas samples will be collected and handled in accordance with the procedures presented in SOP AIR-02 (Appendix A), and Ecology's Vapor Intrusion Guidance (Ecology 2009). Prior to sampling, leak testing will be conducted on the canister and sampling apparatus, including

shut-in testing and real-time leak detection using helium gas and a field helium detector to confirm that soil gas samples will be representative of subsurface conditions. Soil gas samples will be collected in laboratory-supplied 1-Liter Summa canisters equipped with a 200-milliliter per minute flow regulator, labeled, documented, and transported to the analytical laboratory as described in Section 5.0, Sample Handling.

3.2 SAMPLE DESIGNATION

Each sample collected during the RI will be assigned a unique sample identifier and number. Sample labels will be affixed to appropriate containers immediately prior to sample collection. The sample label will include sample identifier and number, project name and number, date and time of sample collection, sampler's initials, and analyte preservative(s), if any. Appropriate field forms will be maintained as each sample is collected, which will include the sample location and depth (if applicable), sample number and identifier, and other observations regarding the sample. The sample designation procedures for soil, groundwater, and soil gas samples collected during the RI are detailed below.

3.2.1 Soil Sampling

Soil samples collected from the borings will be assigned a unique sample identifier that will include the boring identification (e.g., FMW-05) and the depth of the sample interval in feet bgs (e.g., 10 feet bgs).

For example, a soil sample collected from boring FMW-05 at a depth of 10 feet bgs on November 1, 2025, would be assigned the identifier FMW-05-10.

3.2.2 Groundwater Sampling

Groundwater samples collected from monitoring wells will be assigned a unique sample identifier that will include the well identification (e.g., FMW-05) and the sample date (e.g., 110125).

For example, the groundwater sample collected from monitoring well FMW-05 during the groundwater monitoring event on November 1, 2025 would be numbered FMW-05-110125.

3.2.3 Soil Gas Sampling

Soil gas samples collected from subslab soil gas probes will be assigned a unique sample identifier that will include the soil gas probe identification (e.g., SG-01) and the sample date (e.g., 110125).

For example, the subslab soil gas sample collected from soil gas probe SG-01 on November 1, 2025 would be numbered SG-01-110125.

4.0 LABORATORY ANALYSIS

This section presents the details for the laboratory analysis associated with the soil, groundwater, and soil gas samples that will be collected during the RI activities. Laboratory analysis will be conducted by F&B and ALS, which are accredited by Ecology under WAC 173-50, and meet the QA/QC requirements of Ecology and the U.S. Environmental Protection Agency (EPA).

QA/QC samples will be collected for data validation as detailed in the Quality Assurance Project Plan (Appendix B of the RI Work Plan). Details pertaining to the types and frequencies of QA/QC samples are provided in Section 5.4, Field Quality Assurance/Quality Control Samples.

4.1 LABORATORY ANALYSES

The following sections present the proposed analyses and methods for soil, groundwater, and soil gas samples collected during the RI.

4.1.1 Soil Sample Analysis

Soil samples collected during the RI may be submitted for analysis of one or more of the following:

- Total petroleum hydrocarbons (TPH) as diesel-range organics (DRO) and as oil-range organics (ORO) by Northwest Method NWTPH-Dx;
- TPH as gasoline-range organics (GRO) by Northwest Method NWTPH-Gx; and
- Benzene, toluene, ethylbenzene, and xylenes (collectively BTEX) and naphthalene by EPA Method 8260D.

Soil analytical results will be compared against screening levels presented in Table A-1.

4.1.2 Groundwater Sample Analysis

Groundwater samples collected during the RI will be submitted for analysis of one or more of the following:

- DRO and ORO by Northwest Method NWTPH-Dx with and without silica gel cleanup;
- GRO by Northwest Method NWTPH-Gx;
- BTEX and naphthalene by EPA Method 8260D;
- Metals, including arsenic, copper, and manganese, by EPA Method 6020B; and

- PFAS by EPA Method 1633.

Groundwater analytical results will be compared against screening levels presented in Table A-1.

4.1.3 Soil Gas Sample Analysis

Soil gas samples collected during the RI will be submitted for analysis of air-phase hydrocarbons by Method MA-APH and benzene, toluene, ethylbenzene, xylenes, and naphthalene by EPA Method TO-15.

Soil gas analytical results will be compared against screening levels presented in Table A-1.

4.2 REPORTING LIMITS

The analytical methods identified above result in the reporting limits (or practical quantitation limits) that are shown in Table A-3. The laboratory reporting limits are based on current laboratory data and may be modified during the RI as methodology is refined. Instances may arise where high sample concentration, nonhomogeneity of samples, or matrix interferences preclude achieving the laboratory reporting limits.

5.0 SAMPLE HANDLING

This section discusses the sample handling methods to be used for the RI. The protocols discussed include sample containers, preservation procedures, and hold times; sample packaging and shipment; sample documentation; and collection of QA/QC samples.

Upon transferring samples to laboratory personnel or arrival of the samples at the laboratory facility, the laboratory will assume custody of the samples. Laboratory personnel will document the status of shipping and handling containers and will adhere to standard chain-of-custody procedures to track each sample through all of the stages of laboratory processing.

5.1 SAMPLE CONTAINERS, PRESERVATION PROCEDURES, AND HOLD TIMES

Sample containers requirements for soil, groundwater, and soil gas samples are based on the medium to be sampled and the types of analyses to be performed. The containers, preservation procedures, and hold times for soil, groundwater, and soil gas samples are presented on Table A-2 and follow standard laboratory protocols.

5.2 SAMPLE PACKAGING AND SHIPMENT

The samples transported for laboratory analysis will be packaged according to applicable regulations and the recommendations of the laboratory performing the analysis. The selected laboratory is less than 4 miles from the Site. Samples will be expeditiously transported to the analytical laboratory using the following procedures:

- A sample label will be affixed to the corresponding sample container at the time of sample collection.
- Bubble-wrap bags or an equivalent will be used to protect glass sample containers.
- Sample containers will be placed into a cooler and checked against the Chain of Custody form to ensure that all samples are listed and are placed into the correct cooler.
- One to three resealable bags will be filled with ice and/or chemical equivalent and included in the cooler. Ice will be double-bagged in heavy-duty bags.
- Farallon field staff will transport the cooler(s) to the laboratory and transfer the cooler(s) to laboratory personnel using standard chain-of-custody procedures.

5.3 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QA/QC samples will include field duplicate samples and trip blanks. Field duplicate samples will be used to evaluate the accuracy and precision of the field sampling techniques.

Field duplicate samples will be collected in the same manner and at the same location as the original sample. A field duplicate groundwater sample will be collected during each groundwater monitoring event. Field duplicate soil samples are not anticipated to be collected during the RI due to the limited number of soil samples anticipated to be analyzed and due to the heterogeneity of soil samples which can limit the usefulness of field duplicate soil samples.

Laboratory-prepared trip blanks will be included in each sample cooler. Analysis of the trip blanks may be performed to evaluate potential contamination or exposure of samples to potential contaminants during transit if the reported analytical results suggest this analysis is warranted.

6.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

Waste soil, water, and other products generated during the RI may be contaminated and will be containerized and stored on the Site pending receipt of analytical results for selection of a disposal method. The specific criteria for tracking the sampling and analysis of the wastes to identify appropriate disposal options for each of the expected waste streams are discussed below and presented in SOP WM-01 (Appendix A).

6.1 WASTE SOIL

Waste soil will be generated during advancement of borings and installation of monitoring wells. Waste soil will be temporarily stored in 55-gallon drums or similar U.S. Department of Transportation–approved drums pending receipt of analytical results and profiling. Drums of waste soil will be labeled with content, date, and origin. Soil analytical results will be used to generate waste disposal profiles. Once the profiles have been approved for a licensed permanent disposal facility, the drums will be removed by a contractor. It is expected that soil will be managed as a nonhazardous waste and transported to and disposed of at a Subtitle D landfill.

6.2 WASTEWATER

Wastewater will be generated during monitoring well purging and equipment decontamination. Wastewater will be temporarily stored in 55-gallon drums or similar U.S. Department of Transportation–approved containers at the same location as the waste soil drums.

Wastewater drums will be labeled with content, date, and origin and/or generating activity. Analytical results will be used to generate a profile for disposal. Once the profiles have been approved for a licensed permanent disposal facility, the drums will be removed by a contractor. It is expected that soil will be managed as a nonhazardous waste.

6.3 DISPOSABLES

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

7.0 FIELD DOCUMENTATION

Documentation of RI activities will be provided on the forms described below. Documentation generated during the field program will be retained in the project file and included in the reports generated, as appropriate. Examples of the forms that will be used during the RI are included in Appendix B.

7.1 FIELD REPORT FORM

Field personnel will be required to keep a daily field log on a Field Report form. Field notes will be as descriptive and inclusive as possible, enabling independent parties to reconstruct the sampling situation from the recorded information. Language will be objective, factual, and free of inappropriate terminology.

A summary of each day's events will be provided on the Field Report form. At a minimum, field documentation will include the date, job number, project identification and location, weather conditions, sample collection data, personnel present and responsibilities, field equipment used, and any activities performed in a manner other than as specified in the SAP. In addition, if other forms or documents such as well-head surveys or maps are completed or used, they will be cited in and attached to the Field Report form. Field personnel will sign the completed Field Report form.

7.2 BORING LOG

A Boring Log will be prepared by Farallon field staff for each boring drilled during the RI. The log includes hydrologic conditions, lithologic descriptions using the USCS, and information on the potential presence of contamination.

7.3 LOW-FLOW WELL PURGING AND SAMPLING DATA FORM

A Low-Flow Well Purging and Sampling Data form will be used to record the depth to groundwater, well purging information, and other pertinent hydrologic measurements and supplementary information collected during groundwater sampling at each monitoring well during the groundwater sampling event. The form will be completed by the Farallon field staff at the time of sample collection.

7.4 SOIL SAMPLE DATA LOG

A Soil Sample Data Log will be used by the Farallon field staff during soil sampling activities to record information pertaining to the soil samples being collected. This form includes

entries for the sample location, identification, and depth; the time sampled; field-screening results; the types and number of containers collected, and a brief lithologic description.

7.5 WASTE INVENTORY FORM

A Waste Inventory form will be used to document and track the investigation-derived wastes generated during the RI. The form will include information on the waste container, the origin of the waste, the type of waste, the date generated, the date removed from the Site, the transporter, and the disposal location.

7.6 CHAIN OF CUSTODY FORM

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

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

Samples are held under internal chain of custody in the Sample Control room under the appropriate storage conditions (e.g., ambient, refrigeration, frozen). The laboratory Project Manager assigned to a particular client is responsible for tracking the status of the samples throughout the laboratory. Samples are signed out of the Sample Control room in a sample control logbook by the analyst who will prepare the samples for analysis.

The Chain of Custody form includes the client name, project name and number, date and time sampled, sample identifier, sampler's initials, analysis, and analyte preservative(s), if any.

8.0 REFERENCES

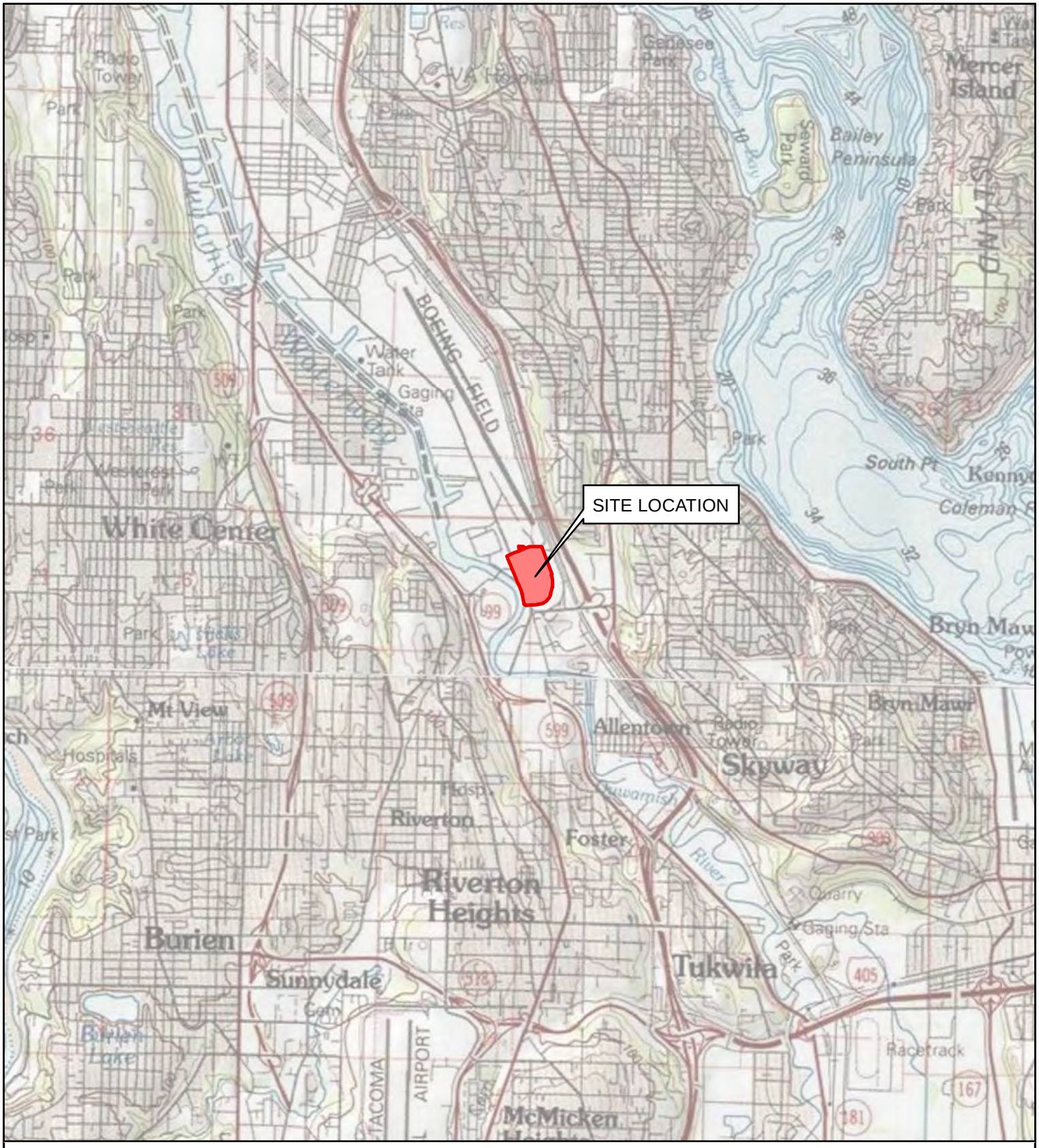
Washington State Department of Ecology (Ecology). 2004. *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies.* Publication No. 04-03-030. Revised December 2016. July.

——. 2009. *Guidance for Evaluating Vapor Intrusion in Washington State: Investigation and Remedial Action.* Revised March 2022. January.

FIGURES

SAMPLING AND ANALYSIS PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila

Farallon PN: 1071-026



REFERENCE: 7.5 MINUTE USGS QUADRANGLE SEATTLE SOUTH, WASHINGTON, DATED 2013

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FIGURE 1

SITE VICINITY MAP
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/10/2025 | Disc Reference:

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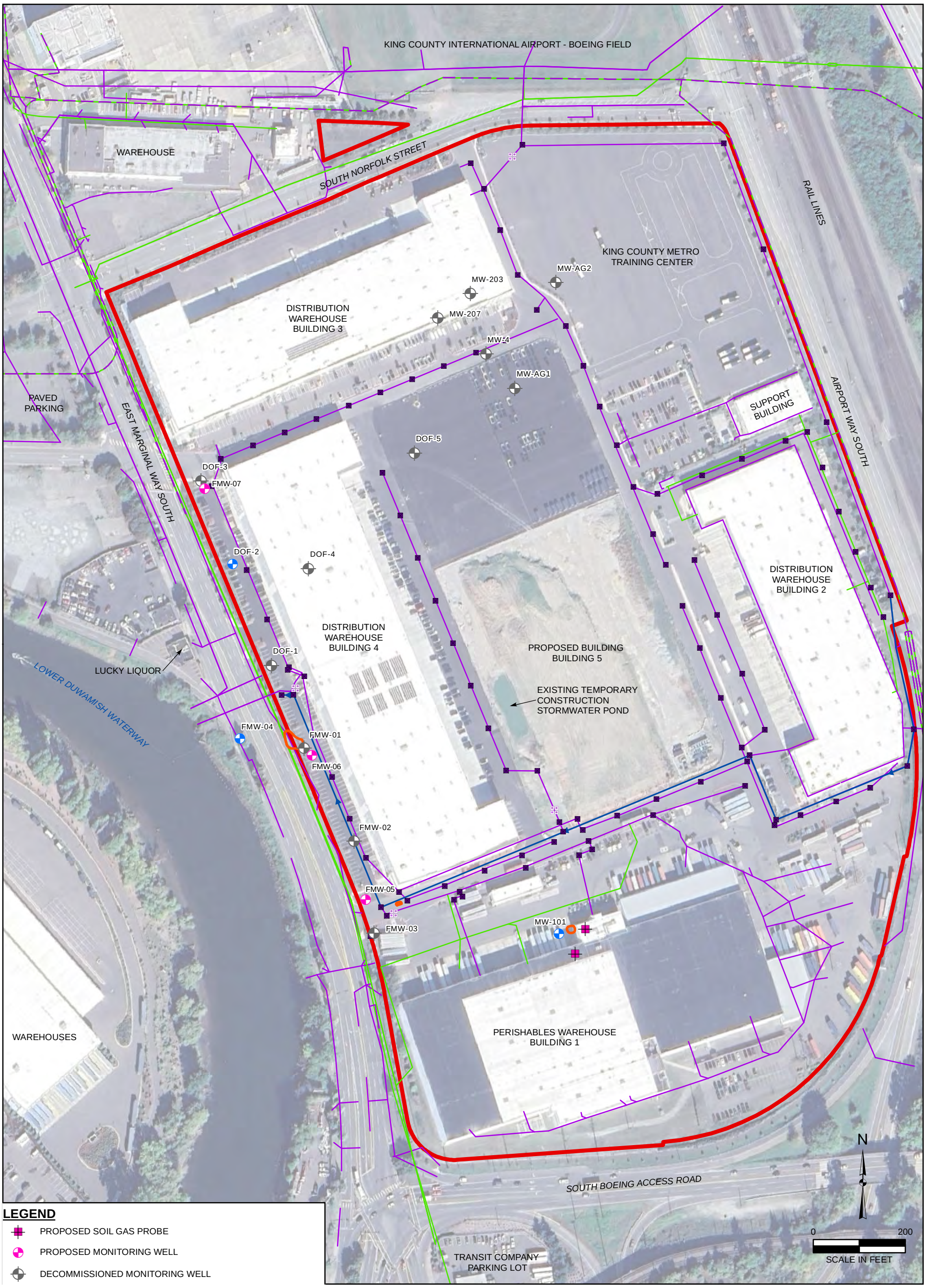

LEGEND

- PROPOSED SOIL GAS PROBE
- PROPOSED MONITORING WELL
- DECOMMISSIONED MONITORING WELL
- MONITORING WELL
- ESTIMATED EXTENT OF RESIDUAL PETROLEUM IMPACTED SOIL
- STORMWATER BIOPOD
- CATCH BASIN
- COMBINED SANITARY SEWER AND STORM DRAIN LINE
- SANITARY SEWER LINE
- STORM DRAIN LINE
- WSDOT 60" STORMWATER LINE
- SITE BOUNDARY

NOTES:
1. ALL LOCATIONS ARE APPROXIMATE.
2. FIGURES WERE PRODUCED IN COLOR. GRAYSCALE COPIES MAY NOT REPRODUCE ALL ORIGINAL INFORMATION.

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FIGURE 2

PROPOSED MONITORING WELLS
AND SOIL GAS PROBES
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: lmurock | Checked By: YP | Date: 7/22/2025 | Disc Reference:

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TABLES

SAMPLING AND ANALYSIS PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila

Farallon PN: 1071-026

Table A-1
Summary of Screening Levels
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Parameter	Soil Screening Levels[1] (milligrams per kilogram)		Groundwater Screening Levels[1] (micrograms per liter)	Soil Gas Screening Levels[2] (micrograms per cubic meter)
	Vadose Zone	Saturated Zone		
Total Petroleum Hydrocarbons				
Gasoline-range organics	100[3]	100[3]	1,000[3]	---
Diesel-range organics	2,000[4]	2,000[4]	500[4]	---
Oil-range organics				
Total Petroleum Hydrocarbons	---	---	---	1,500
Polycyclic Aromatic Hydrocarbons				
Naphthalene	0.039[5]	0.005[6]	1.4[7]	2.5
Metals				
Arsenic	7.3[8]	7.3[8]	8.0[8]	---
Copper	36[8]	36[8]	3.1[8]	---
Manganese	1,100[8]	1,100[8]	100[7]	---

NOTES:

[1]Soil and groundwater screening levels from Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Levels (PCULs) Workbook, dated February 21, 2025.

[2]Washington State Model Toxics Control Act Cleanup Regulation Cleanup Levels and Risk Calculations, Standard Method B Values for Subslab Soil Gas Screening Level and Screening Level for Commercial Worker, https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Contamination-clean-up-tools/CLARC

[3]Based on weathered gasoline PCUL for protection of surface water via groundwater.

[4]Screening level based on the sum of diesel-range organics and oil-range organics.

[5]Based PCUL for protection of surface water via groundwater.

[6]Based on laboratory practical quantitiation limit.

[7]Based on protection of surface water PCUL.

[8]Based on natural background PCUL.

Table A-2
Sample Containers, Preservatives, and Hold Times
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Parameter	Analytical Method	Container Size and Type	Holding Time	Sample Preservation Technique
Soil				
Gasoline-range organics	NWTPH-Gx	(4) 40-ml glass pre-weighed VOA vial without a stir bar (5 gram soil sample)	48 hours to freeze; 14 days to analyze	Cool to 4°C ±2°C in field; freeze ≤ 0°C in laboratory
Diesel-range organics	NWTPH-Dx	(1) 4-oz CWM Jar	14 days to extract, 40 days to analyze after extraction	Cool to 4°C ±2°C
Oil-range organics				
Volatile Organic Compounds	EPA 8260D	(2) 40-ml glass pre-weighed VOA vial with stir bar (5 gram soil sample), and (1) 40-ml glass pre-weighed VOA vial	48 hours to freeze; 14 days to analyze	Cool to 4°C ±2°C in field; freeze ≤ 0°C in laboratory
Arsenic	EPA 6020B	(1) 4-oz CWM Jar	6 months to analyze	Cool to 4°C ±2°C
Copper				
Manganese				

Table A-2
Sample Containers, Preservatives, and Hold Times
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Parameter	Analytical Method	Container Size and Type	Holding Time	Sample Preservation Technique
Groundwater				
Gasoline-range Organics	NWTPH-Gx	(3) 40-ml glass VOA vials with Teflon septum	14 days to analyze	Preserve with HCl to pH <2; Cool to 4°C ±2°C
Diesel-range Organics	NWTPH-Dx	(1) 500-milliliter amber glass bottle	7 days to extract, 40 days to analyze after extraction	Cool to 4°C ±2°C
Oil-range Organics				
Volatile Organic Compounds	EPA 8260D	(3) 40-ml glass VOA vials with Teflon septum	14 days to analyze	Preserve with HCl to pH <2; Cool to 4°C ±2°C
Arsenic	EPA 6020B	(2) 250-ml polyethylene bottles	6 months to analyze	Preserve with HNO_3 to pH <2; Cool to 4°C ±2°C
Copper				
Manganese				
PFAS	EPA 1633	(2) 250-ml polyethylene bottles (1) 125-ml polyethylene bottle	28 days to analyze	Cool to 4°C ±2°C
Soil Gas				
Total Petroleum Hydrocarbons	MA-APH	(1) 1-Liter Summa Canister	30 days to analyze	NA
Volatile Organic Compounds	TO-15	(1) 1-Liter Summa Canister	30 days to analyze	NA

NOTES:
°C = degrees Celsius
CWM = clear wide-mouth
EPA = U.S. Environmental Protection Agency
HCl = hydrochloric acid
HNO_3 = nitric acid
PFAS = per- and polyfluoroalkyl substances
ml = milliliter
oz = ounce

Table A-3
Laboratory Practical Quantitation Limits
Emerald Gateway Site
Seattle/Tukwila, Washington
Farallon PN: 1071-026

Analyte	Laboratory Soil PQL[1] (mg/kg)	Laboratory Gronundwater PQL[1] (ug/l)	Laboratory Soil Gas PQL[1] (ug/m^3)
Petroleum Hydrocarbons			
DRO	50	50	---
ORO	200	200	---
GRO	5	100	---
APH EC5-8 aliphatics	---	---	75
APH EC9-12 aliphatics	---	---	25
APH EC9-10 aromatics	---	---	25
Voilatile Organic Compounds			
Benzene	0.02	0.35	0.32
Toluene	0.02	1	7.5
Ethylbenzene	0.02	1	0.43
Xylenes	0.06	3	1.3
Polycyclic Aromatic Hydrocarbons			
Naphthalene	0.005	0.2	0.11
Metals			
Arsenic	1	1	---
Copper	5	1	---
Manganese	1	1	---
Per- and Polyfluoralkyl Substances			
6:2 Fluorotelemer sulfonic acid (6:2 FTS)	---	0.005	---
GenX (HFPO-DA)	---	0.005	---
Perfluorobutanoic acid (PFBA)	---	0.005	---
Perfluorobutanesulfonic acid (PFBS)	---	0.005	---
Perfluorodecanoic acid (PFDA)	---	0.005	---
Perfluorohexanoic acid (PFHxA)	---	0.005	---
Perflouorohexanesulfonic acid (PFHxS)	---	0.005	---
Perfluorononanoic acid (PFNA)	---	0.005	---
Perfluorooctanesulfonic acid (PFOS)	---	0.005	---
Perfluorooctanoic acid (PFOA)	---	0.005	---

NOTES:

[1] Laboratory practical quantitation limits (PQLs) are based on current laboratory data and may be modified during the investigation as methodology is refined. Instances may arise where high sample concentrations, nonhomogeneity of samples, or matrix interferences preclude achieveing the laboratory PQLs.

APH = air-phase hydrocarbons

DRO = total petroleum hydrocarbons (TPH) as diesel-range organics

GRO = TPH as gasoline-range organics

mg/kg = milligrams per kilogram

ug/l = micrograms per liter

ug/m^3 = micrograms per cubic meter

ORO = TPH as oil-range organics

APPENDIX A
STANDARD OPERATING PROCEDURES

SAMPLING AND ANALYSIS PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila

Farallon PN: 1071-026

STANDARD OPERATING PROCEDURE (SOP) AIR-02

SUBSLAB SOIL GAS SAMPLING WITH LEAK TESTING

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the information needed to collect consistent and representative subslab soil gas samples, and to accurately document the data-collection process.

Soil gas sampling should not be performed during a significant rainfall event (i.e., more than 0.5 inch of rainfall during a 24-hour period). If feasible, sampling should be conducted only after 5 days without a significant rainfall event. Infiltration of rainwater adjacent to a building slab may have a temporary effect on soil gas conditions, and may yield biased, non-representative sampling results. The step-by-step guidelines provided in this SOP are to be followed by the field crew collecting subslab soil gas samples.

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment and supplies are necessary to properly conduct subslab soil gas sampling:

- A Farallon custom acrylic shroud or laboratory-provided shroud with 0.25-inch access ports and a foam mat floor seal. The shroud will enclose the 1-liter Summa canister used to collect the sample while allowing leak testing to be performed using analytical-grade helium gas.
- An analytical-grade MGD 2002 dielectric helium detector (or equivalent helium detection device).
- New 0.25-inch-outside-diameter Teflon tubing and Swagelok 0.25-inch-outside-diameter compression fittings for dedicated sampling at each sampling location.
- A hand-held rotary hammer drill to penetrate the concrete floor slab with a borehole of 1-inch-diameter or less. Alternatively, the concrete slab boring or coring can be completed by a subcontractor.
- Plumber's putty or a suitable volatile organic compound (VOC)-free substance to seal the core annulus and sample tubing.
- A sufficient number of 1-liter Summa canisters supplied by the analytical laboratory, as specified by the project sampling plan. Each canister will be equipped with a dedicated manifold that includes appropriate filters, pressure gauges, valves, and flow controllers set for a sample collection rate of 200 milliliters per minute or less (depending on the desired sampling-time interval), and/or accessories to collect samples required by the project-specific sampling plan.
- Equipment required to collect samples using 1-liter Summa canisters, including appropriate wrenches and other tools and/or fittings.

- A lung box, Tedlar bags, and a low-volume sampling pump or syringe for evaluating leaks in the sampling train using helium tracer gas, before sampling is initiated.
- Laboratory-provided shipping containers for the Summa canisters.
- Patch material to restore the area of the drilled hole to its original condition.
- Field notes to record sampling procedures and data.
- Helium Gas

DECONTAMINATION

Use dedicated soil gas sampling supplies and equipment at each location. No decontamination of equipment in the field is required.

PROCEDURES

Implement the following procedures to collect soil gas samples representative of conditions beneath the building slab.

Leak-Detection Testing for Manifolds

Several days before sampling commences, test for leaks in the laboratory-supplied manifolds and/or flow controllers to allow time to obtain new canisters, manifolds, and/or flow controllers in the event the equipment fails the testing. Follow the instructions below for the leak-detection testing:

- Verify that the number engraved on each Summa canister matches the number listed on the certified-clean tag attached to the canister to ensure that the canister was properly decontaminated. Ensure that documentation of the laboratory certification for the canister(s) is included on a tag attached to the canister and in the paperwork that accompanied the canister shipment from the laboratory.
- Confirm that the Summa canister valves are closed (i.e., the knob is tightened clockwise).
- Attach the manifold—including the filter, flow controller, and pressure gauge—to the canister.
- Confirm that a brass cap is secured at the inlet of the manifold/flow controller, creating an air-tight sampling train.
- Quickly open and close the sample canister valve, and observe the gauge reading. If the initial gauge reading is less than the minimum canister pressure necessary to collect a sample that will meet the required practical quantitation limit/method detection limit,

discontinue leak testing, and obtain additional canisters. Repeat the testing for all new canisters.

- If the initial vacuum pressure is greater than the minimum canister pressure necessary to collect a sample that will meet the required practical quantitation limit and/or method detection limit, continue to monitor the gauge to check for leaks in the manifold and connections to the Summa canister. Observe the gauge for 5 minutes. If the needle on the gauge drops indicating a loss of pressure, the sampling train is not air-tight. In this event, refit and/or tighten the connections until the needle holds steady. If leakage is still indicated, use an alternate manifold/flow controller to confirm that the initial manifold/flow controller requires replacement. Obtain replacement equipment and repeat the testing.

Preparation for Sampling

Perform the following steps to prepare and stage the sampling equipment prior to performing real time leak-detection testing and sample collection at each sampling location:

- Ensure that access agreements are in place, and the building owner and/or operator is aware that sampling will be performed.
- Clear the sampling locations for utilities. Building slabs may contain conduits for electrical wires, structural cables, and/or other utilities that could be encountered when the slab is cored for sampling. Retain a private utility location service for each sampling location at sites where utility locations have not been documented.
- Use a rotary hammer or a concrete corer to drill an approximately 1-inch-diameter borehole or less (a 0.375-inch borehole typically is adequate) through the concrete floor slab of the building. Where indoor ambient air sampling also will be conducted, drill the core near the ambient indoor air sampling location, if possible, to allow direct evaluation of attenuation factors for migration of subslab soil gas to indoor air.
- Place new dedicated Teflon tubing down the borehole to a depth just below the base of the concrete slab, or to the desired depth specified by the project sampling plan. If the flow controllers for the Summa canister do not include appropriate filters to mitigate extraction of particulate matter into the canister, place a dedicated filter on the end of the Teflon tubing before placing it through the slab. Record the length of the tubing used before sealing the borehole. The tubing length will be used to calculate the purge volume of the ambient air in the sample tubing to be removed before sampling.
- Apply plumber's putty or a similar VOC-free substance inside the borehole to seal the annulus around the tubing, and around the tubing and borehole at the interface with the building slab surface to mitigate potential introduction of ambient air into the sample. Try not to disturb the sample tubing at the surface seal, to minimize potential ambient air leakage during the sampling period to maintain the integrity of the sample.

- Cut a hole near one end of the foam mat to allow the tubing to be fed through, and place the mat over the tubing.
- Place the sample canister assembly on the mat. Use either a T-fitting or a laboratory-supplied manifold to connect the tubing and the fittings so there is a feed from the subslab sample collection tubing into the sampling canister, and also to the fitting exiting the shroud for leak detection.
- Configure the helium supply, the helium detector, and the sampling shroud for monitoring.

Leak-Detection Protocols

Make provisions to eliminate or minimize leakage of ambient air into the subslab soil gas sample. Helium concentrations measured in the sample must not exceed 5 percent of the helium concentration in the shroud (e.g., 1 percent helium in the sample at a 20 percent shroud concentration). Introduction of ambient air into the soil gas sample may dilute sample results, or may bias the soil gas sample high if ambient air contains concentrations of the target hazardous substance(s). Use of a tracer gas enables detection of ambient air incursion from above the slab if the soil gas probe and/or the sampling canister assembly is not completely sealed. Farallon uses analytical-grade helium as the tracer gas. Collect a preliminary soil gas sample in a Tedlar bag, and screen using the helium detector before opening the 1-liter Summa canister. If helium is detected during real-time Tedlar bag sample-collection indicating potential ambient air leakage, modify and/or adjust sampling equipment prior to soil gas sampling.

Shut-in Testing, Purging, and Real-Time Leak Detection

Use the following protocols to test for leaks during sample collection. Follow the instructions below for shut-in testing, purging, and real-time leak detection:

- Remove the brass cap from the manifold/flow controller inlet and connect the tubing from the sample port using a laboratory-supplied manifold with a T-fitting. Connect the other outlet from the manifold via Teflon tubing to the helium sampling port on the side of the sampling shroud. Record the length of each piece of tubing used during sample train assembly. The tubing lengths will be used to estimate purge volumes of ambient air to be removed prior to sampling.
- Connect the tubing from the helium sampling port to the inlet for the lung box. Connect a Tedlar bag to the helium sampling port connection inside the lung box. Connect the low-volume purge pump inlet or syringe to the other port for the lung box. Open the valve on the Tedlar bag for sampling, and seal the lung box.
- Ensure that the sampling shroud base has a seal that will retain the helium and minimize introduction of ambient indoor air.
- Perform additional shut-in testing on the fully assembled sampling train once it is set up in the field by evacuating the sampling train to a minimum measured vacuum of approximately 100 inches of water using the purge pump or syringe. Observe the

vacuum gauge connected to the system with a T-fitting for at least 1 minute. If any loss of vacuum is observed, adjust the fittings until the vacuum in the sample train does not noticeably dissipate. After a successful shut-in test, do not alter the sampling train. Calibrate the vacuum gauge so it is sensitive enough to indicate a water-pressure change of 0.5 inch.

- Attach the tubing from the flow controller for the helium canister to the port on the sampling shroud, and begin filling the shroud with helium, maintaining a minimum concentration of at least 20 percent as measured with the helium detector. **DO NOT OPEN THE SAMPLE CANISTER.**
- Purge an estimated three volumes of air from the tubing/borehole. Use the following equation to calculate the volume of air to be removed:

  Volume (in cubic inches) = $3.1417\ Xr^2$

  Where:

  X = the length of tubing (inches)

  r = the inner radius (inches) of all tubing lengths being used
- Use the same equation to estimate the volume of the cored boring in the concrete slab, where "X" is the depth of the boring, and "r" is the radius of the boring.
- Add the two volumes and the estimated volume of air in the manifold to determine one "internal" volume of air to be purged. Multiply this volume by three for three purge volumes; the result will be in cubic inches. Divide by the flow rate (200 milliliters per minute = 12.2 cubic inches per minute) to determine how many minutes (or convert to seconds by multiplying by 60) to purge the tubing. Record the calculations in the field notes.
- Use the low-flow purge pump or syringe to evacuate the lung box, drawing the calculated purge volumes into the Tedlar bag. The calculated purge volume should produce a sample volume sufficient to evaluate whether helium is present in the sample using the helium detector. If an additional sample is required, record the additional volume of soil gas removed.
- Once the calculated purge volume has been reached, close the valve on the shroud, and turn off the pump. Open the lung box, and close the valve on the Tedlar bag. Remove the Tedlar bag and use the helium detector to measure the helium concentration in the Tedlar bag. If the helium concentration in the Tedlar bag exceeds 5 percent of the helium concentration in the shroud (i.e., 1 percent helium in the Tedlar bag at a 20 percent shroud concentration), sufficient leakage is occurring to compromise soil gas analytical results.
- Check all fittings/seals and repeat the shut-in test and the leak test until helium concentrations are less than 5 percent of the concentration measured in the shroud.

Sampling Methodology

Initiate sampling procedures immediately upon confirmation that leakage of ambient air has been eliminated, or reduced to an acceptable level (i.e., less than 5 percent helium in the sample). Follow the instructions below for soil gas sample collection:

- Open the sample canister valve and record the pressure on the gauge as "initial pressure" in the field notes and on the sample tag attached to the canister. Ensure that the sample shroud is undisturbed and protects the sample canister throughout the sampling period. The sampling period will be based on the flow controller setting established by the laboratory. Maintain a flow rate of between 100 and 200 milliliters per minute.
- Check the canister to confirm that it is filling at the rate specified for the flow controller. Because the accuracy of the flow regulators can vary slightly causing a canister to fill faster or more slowly than expected, check the canister pressure before the end of the sampling period. The volume of air sampled is a linear function of the canister vacuum. Therefore, halfway through the sampling period, the canister should be half-filled, and the gauge should read approximately 17 inches of mercury. Ensure that the final pressure at the end of the sampling period is 5 inches of mercury to ensure that ambient air does not inadvertently enter the canister during shipping.
- Upon completion of sampling, record the time and the exact pressure of the canister on the sample tag attached to the canister, on the Chain of Custody form, and in the field notes. Record any condition (e.g., site activities, weather, holes and/or cracks in the concrete slab) that could affect results.
- Close the sample canister valve, disconnect it from the manifold, and replace and tighten the brass caps on the canister inlet.
- Remove the tubing and putty from the borehole. Use clean sand or pea gravel to fill a portion of the borehole annulus, and concrete for surface completion. Repair the area of the borehole to match the original condition of the surface to the extent practicable.

Post-Sampling Procedures

Ensure that all sample containers are labeled with the following information: sample identification; date and time the sample was collected; initial and ending canister pressure; site name; and company name. Record this information and the time sample collection was completed in the field notes, and transfer pertinent information to the Chain of Custody form. Pack each Summa canister in its original shipping container, seal the container with a custody seal, and return it to the laboratory for analysis as soon as possible.

ANALYSIS

Subslab soil gas samples typically are analyzed using U.S. Environmental Protection Agency Method TO-15. Check the project-specific sampling plan for potential analytical variations. The hold time for analysis for most VOCs using U.S. Environmental Protection Agency Method TO-15 is 30 days. Check the project-specific sampling plan for any project-specific hold times.

DOCUMENTATION

Provide written documentation of field activities and environmental and building conditions, and other forms of sampling documentation such as photos and video recordings. Include the written documentation on standard Farallon forms, which include the following:

- Field Report form;
- Soil Gas/Indoor and Outdoor Air Sampling Parameters form; and
- Soil Gas Sampling form.

If notes are electronically recorded, label the documents and transfer them to the applicable project folder.

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STANDARD OPERATING PROCEDURE EQ-01
EQUIPMENT DECONTAMINATION PROCEDURES

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the methodology for decontaminating sampling equipment during various field activities. The step-by-step guidelines provided in this SOP are to be followed by the field crew during all site visits, as applicable.

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment is necessary to properly decontaminate field equipment during various field tasks:

- Rinse water or distilled water.
- Deionized water.
- Liquinox or other phosphate-free detergent.
- Paper towels.
- Labeled squirt bottles.
- Long-handled hard-bristle brushes (for sediment and soil).
- Cotton swabs.
- Plastic sheeting, garbage bags, and aluminum foil (for sediment and soil).
- Core liner caps or plastic wrap and rubber bands (for sediment and soil).
- Extension arm for cleaning core liners (for sediment and soil).
- Plastic 5-gallon bucket.
- U.S. Department of Transportation-approved drum(s) for decontamination water unless other water-handling arrangements have been made. Separate drums are needed for liquid and solid wastes (see Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste). Liquid wastes should not be added to drums containing solid wastes.

Dilute Liquinox with distilled water in a squirt bottle in accordance with the instructions on the Liquinox package, and label the bottle. Fill another squirt bottle with distilled water, and label the bottle.

FIELD EQUIPMENT TO BE DECONTAMINATED AFTER USE

Decontaminate the following field equipment at the conclusion of field work each day, in accordance with the procedures outlined in this SOP:

- Water-level meter.
- Horiba/YSI multiparameter probe.
- Bladder pump.
- Submersible pump.
- Sediment and soil collection and processing equipment.

WATER-LEVEL METER DECONTAMINATION

Decontaminate the water-level meter after measuring the water level at a monitoring well before moving to a new monitoring well, using the following procedures:

- Spray the bottom half of a paper towel with the diluted Liquinox solution, and the upper half with deionized water.
- Grip the measuring tape of the water-level meter with the paper towel in one hand with the Liquinox side down toward the monitoring well casing.
- Begin slowly reeling up the water-level meter while maintaining firm contact between the measuring tape and the paper towel.
- Ensure that no debris or contamination remains on the measuring tape of the water-level meter once it has been reeled up.
- Use a clean new paper towel for each successive decontamination of the measuring tape of the water-level meter.

HORIBA/YSI MULTIPARAMETER PROBE DECONTAMINATION

Decontaminate the Horiba/YSI multiparameter probe at the end of each workday or after sampling a monitoring well with high concentrations of contamination, using the following procedures:

- Remove the multiparameter probe from the flow-through cell, and thoroughly spray each component with deionized water.
- Use a cotton swab to gently clean around each sensor probe, ensuring that all contaminated water and material has been washed away.
- Refill the protective dissolved oxygen and pH probe caps with deionized water, and replace prior to storage.
- Once the multiparameter probe has been adequately cleaned, replace the protective shield, and return the probe to the case. If the device appears to be overly wet, allow it to air-dry with the case open.

- Do not use Liquinox to clean any probes on the Horiba multiparameter probe, as it may damage the device.

BLADDER PUMP DECONTAMINATION

Decontaminate the bladder pump after sampling a well and at the end of each workday, using the following procedures:

- After extracting the bladder pump from the well, break down the pump, remove and dispose of the used bladder, and spray each component with the diluted Liquinox solution, followed by deionized water.
- Wipe away any visible contamination or debris with a paper towel.
- Capture cleaning water in a liquid waste drum for proper disposal in accordance with Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste.
- Ensure that all contamination and Liquinox solution is washed off all components before reassembling the device, installing a new bladder, and moving to sample a new well.

SUBMERSIBLE PUMP DECONTAMINATION

Decontaminate the submersible pump after purging water from any well, using the following procedures:

- After extracting the submersible pump from the well, thoroughly spray down the pump with the diluted Liquinox solution, followed by deionized water.
- Wipe away any visible contamination or debris with a paper towel.
- Purge clean water through the pump and tubing to ensure that contaminated water has been cleared from all lines.
- Capture cleaning water in a liquid waste drum for proper disposal in accordance with Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste.

SEDIMENT AND SOIL SAMPLING AND PROCESSING EQUIPMENT DECONTAMINATION

Decontaminate sampling equipment used to collect and process sediment and soil samples, using the following procedures:

- Place contaminated equipment and decontamination tools on plastic sheeting.
- Thoroughly rinse all used equipment with distilled water in a 5-gallon bucket to remove excess sediment or soil.
- Pour one capful of Liquinox solution into a 5-gallon bucket filled with tap water or distilled water.
- Using a long-handled hard-bristle brush, thoroughly scrub the equipment with the Liquinox solution until no sediment or soil particles remain.

- Holding the equipment over a 5-gallon bucket, double-rinse the equipment with distilled water until no Liquinox solution remains. Do not allow clean equipment to come into contact with a contaminated surface.
- Drain the equipment and place it in a clean, dry place to prevent recontamination.
- If decontaminated equipment will not be re-used immediately, wrap stainless steel equipment (e.g., bowls, spoons) in aluminum foil with the dull side facing the equipment. Seal polycarbonate core liners with core caps or cellophane plastic. Rubber-band ends to ensure a proper seal.
- After decontamination has been completed, place disposable items into a garbage bag, and store decontamination water in a drum in accordance with Farallon SOP WM-01, Field-Handling of Investigation-Derived Waste.

STANDARD OPERATING PROCEDURE GW-03
GROUNDWATER LEVEL MEASUREMENT IN MONITORING WELLS

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the methodology for measuring and documenting the depth to groundwater in monitoring wells. The step-by-step guidelines provided in this SOP are to be followed by the field crew to ensure consistent and representative measurements of depth to groundwater in monitoring wells. When multiple wells are present at a site, all water-level measurements typically are taken as quickly as possible to aid in the creation of potentiometric surface maps that are representative of a "single" point in time.

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment is necessary to properly measure the depth to groundwater in monitoring wells:

- Monitoring well key, hand drill, socket set, Allen wrench, speed handle, padlock key, or other monitoring well-access equipment specific to the monitoring well monument cover plate.
- Electronic water-level meter (Solinst or equivalent) narrow enough to fit in the monitoring well, calibrated to 0.01 foot, with sufficient line to reach the bottom of the monitoring well.
- Oil-water interface probe, if light nonaqueous-phase liquid (LNAPL) is known or suspected to be present.
- Disposable bailer if LNAPL is known or suspected to be present, and the Project Manager requests that LNAPL be bailed from the well.
- Tape measure.
- Materials necessary to provide required documentation, including Groundwater Level Measurement Summary Forms and Field Report forms.
- Personal protective equipment as described in the site-specific Health and Safety Plan.
- Decontamination equipment as specified in Farallon SOP EQ-01, Equipment Decontamination Procedures.

DECONTAMINATION

Before arrival at the site, upon relocation at the site, and upon demobilization from the site, decontaminate equipment that will come into contact with groundwater, in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures.

PROCEDURES

Follow the instructions below for measuring water levels at each monitoring well:

- Don appropriate personal protective equipment as described in the site-specific Health and Safety Plan.
- Check the operation of the water-level meter by turning on the indicator switch and pressing the test button.
- Remove soil or vegetation from the monitoring well site.
- Open the monitoring well-head enclosure, and use a bilge pump or cup to remove standing water inside the monitoring well monument before opening the monitoring well cap. Dispose of standing water to the ground surface.
- Open the monitoring well cap.
- Monitor air quality at the monitoring well-head if volatile contaminants are suspected to be present, or if it is unknown whether volatile contaminants are present.
- Repeat above procedure until all monitoring wells are open.
- Allow the water level to equilibrate with ambient atmospheric pressure for approximately 15 minutes before measuring.
- Before taking any measurements, carefully measure the length of the sonde to the nearest 0.01 foot. The additional 2 to 3 inches from the zero point of the sonde to the tip of the sonde **must be discounted** for **all** total depth measurements.
- Measure and record the depth to water using a water-level meter that has been decontaminated in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures. With the water-level meter turned on to a medium level of sensitivity, slowly lower the meter into the monitoring well casing until it reaches the groundwater table. The probe will beep when it reaches the interface of the groundwater table (when the electronic circuit is first completed). Stop lowering the probe, hold the graduated water-level cable to the notch or mark on the northern side of the top of the monitoring well casing, and note the length measurement. Repeat this process to collect a second water-level measurement. If the two readings differ by more than 0.01 foot, repeat the measurements until the readings stabilize. Repeat the process until three consecutive stabilized readings have been measured. Record the water-level measurement **only** in relation to the probe being lowered into the monitoring well, *not* as it is raised out of the monitoring well. If you cannot see the top of the monitoring well casing when the water level beeps, grasp the tape with your thumb and index finger exactly at the measuring point corresponding with the notch or mark at the top of the monitoring well casing. Slowly pull the cable out of the monitoring well and read the measurement. Repeat until readings stabilize.
- Remove the cable from the monitoring well, and record the stabilized depth-to-water measurement on the Groundwater Level Measurement Summary Form to the nearest 0.01 foot.

- Measure the total monitoring well depth. **NOTE:** If groundwater samples are to be collected, measure the total monitoring well depth **after** all groundwater samples have been collected, to avoid resuspension of settled solids in the monitoring well, impacting the samples. If the monitoring well does not have a dedicated pump, lower the water-level indicator probe to the bottom of the monitoring well to measure the total depth of the monitoring well. Gently bounce the probe on the monitoring well bottom, and pull the slack in the cord to read the total monitoring well depth. Repeat three times to ensure that the monitoring well depth measurement is reproducible, and is representative of the true depth. Note on the Groundwater Level Measurement Summary Form whether the bottom of the monitoring well is hard or soft.
- Remove the cable from the monitoring well, and record the monitoring well depth measurement on the Groundwater Level Measurement Summary Form to the nearest 0.01 foot.
- Decontaminate the water-level meter in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures.
- If the presence of LNAPL is suspected or if site conditions are unknown, check for the presence of LNAPL by one of two methods:
    - Use of a bailer: Use a new 3-foot-long disposable bailer attached to a nylon rope. Slowly lower the bailer until the bottom of the bailer is approximately 2 feet below the water surface. Slowly retrieve the bailer, and measure the product thickness using a tape measure. Record the information on the Groundwater Level Measurement Summary Form. Dispose of the bailer and product or wastewater in accordance with Farallon SOP WM-01, Field Handling of Investigation-Derived Waste.
    - Use of an oil-water interface probe: Decontaminate the oil-water interface probe in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures. With the oil-water interface probe meter turned on to a medium level of sensitivity, slowly lower the probe into the monitoring well casing until it reaches the top of the LNAPL. The probe will have a steady beep when it reaches the interface of the LNAPL (when the electronic circuit is first completed). Stop lowering the probe, hold the graduated oil-water interface cable to the notch or mark on the northern side of the top of the monitoring well casing, and note the length measurement. Repeat this process to collect a second LNAPL measurement. If the two readings differ by more than 0.01 foot, repeat the measurements until the readings stabilize. Repeat the process until three consecutive stabilized readings have been measured. Record the depth to LNAPL measurement **only** in relation to the probe being lowered into the monitoring well, *not* as it is raised out of the monitoring well. If you cannot see the top of the monitoring well casing when the oil-water interface probe beeps, grasp the tape with your thumb and index finger exactly at the measuring point corresponding with the notch or mark at the top of the monitoring well casing. Slowly pull the cable out of the monitoring well and read the

measurement. Repeat until readings stabilize. Once the depth to LNAPL has been recorded, collect the water-level measurement as described above using the oil-water interface probe. Once the depth to LNAPL and the depth to the groundwater table have been determined, subtract the depth to LNAPL from the depth to the groundwater table to determine LNAPL thickness.

- Close the monitoring well as appropriate based on monitoring well-head construction. Record any concerns about monitoring well integrity on the Groundwater Level Measurement Summary Form and on the Field Report form.

DOCUMENTATION

Document monitoring well water-level measurements on the Groundwater Level Measurement Summary Form. Document any additional information on the Field Report form.

REFERENCE

U.S. Environmental Protection Agency. 1992. *RCRA Ground-Water Monitoring: Draft Technical Guidance.* Office of Solid Waste. November.

STANDARD OPERATING PROCEDURE GW-04
LOW-FLOW GROUNDWATER SAMPLING PROCEDURES

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the methodology for collecting and documenting groundwater samples from monitoring wells using U.S. Environmental Protection Agency (EPA) low-flow groundwater sampling procedures (EPA 1996, 2017) for chemical analysis to ensure consistent and representative sampling. The step-by-step guidelines provided in this SOP are to be followed by the field crew conducting groundwater sampling.

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment is necessary to properly purge and sample a monitoring well:

- Monitoring well key, hand drill, socket set, padlock key, or other monitoring well-access equipment.
- Electronic water-level meter long enough to reach the bottom of the monitoring well, calibrated to 0.01 foot. Alternatively, to measure for light nonaqueous-phase liquid thickness in addition to groundwater, use an oil-water interface probe.
- Monitoring well purging and sampling equipment:
    - Submersible pump (bladder or Grundfos): the pump, control box, and power source (typically a portable generator or a 12-volt battery); or
    - Peristaltic pump: the pump with pump head, silicone tubing, tubing connectors (as needed), and power source (typically a 12-volt battery).
- Sample tubing of project- and site-specific type and length.
- Bailer, if a pump is not used, or if light nonaqueous-phase liquid requires removal.
- Sufficient number of 55-gallon drums, including lids, gaskets, and fasteners, to contain all purge water, unless other water-handling arrangements have been made.
- Flow-through water-quality meter(s) to measure temperature, pH, specific conductivity, dissolved oxygen, oxidation-reduction potential (ORP), and turbidity.
- Air-space monitoring equipment if required (photoionization detector or multi-gas meter).
- Decontamination equipment and supplies (e.g., buckets, scrub brushes, deionized or distilled water, potable water, Liquinox detergent).
- Materials necessary to provide required documentation, (e.g., sample labels, Field Report forms, Low-Flow Well Purging and Sampling Data form, Chain of Custody form, Waste Inventory Tracking Sheet).

- Sample containers with the chemical preservatives appropriate for the samples, as described in project-specific plans, or as required by the analytical laboratory at a minimum.
- Personal protective equipment as described in the site-specific Health and Safety Plan (HASP).
- Sampling-support equipment (e.g., sample coolers, ice, bubble wrap, clear tape, duct tape, resealable plastic bags, garbage bags, paper towels, distilled water, nitrile gloves, shipping supplies).
- U.S. Department of Transportation-approved drum(s) for purge water, unless other water-handling arrangements have been made. Separate drums are needed for liquid and solid wastes (Refer to Farallon SOP WM-01, Field Handling of Investigation-Derived Waste). Liquid wastes should not be added to drums containing solid wastes.

DECONTAMINATION

Before arrival at the site, upon relocation at the site, and upon demobilization from the site, decontaminate reusable equipment that will come into contact with the monitoring well(s) and/or be used to acquire samples, in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures.

PROCEDURES FOR LOW-FLOW GROUNDWATER SAMPLING

Low-flow groundwater sampling procedures have been developed for monitoring wells with a dedicated pump (dedicated monitoring wells) and for monitoring wells without a dedicated pump (non-dedicated monitoring wells). Setup, purging, sample collection, and post-sampling procedures for dedicated and non-dedicated monitoring wells are presented below.

Setup

Setup procedures differ slightly for dedicated versus non-dedicated monitoring wells. Follow the instructions below for the monitoring wells as indicated:

- Calibrate the water-quality meter for the field parameters specified in the project-specific plans. At a minimum, collect temperature, pH, and specific conductivity during purging and prior to sampling. Record on the Field Report form the equipment calibration and maintenance performed. Decontaminate the water-quality meter between monitoring wells by rinsing with distilled or deionized water. Manage the rinsate water used in collecting these measurements in the same manner as for purge water, as defined in project-specific plans, and in accordance with Farallon SOP WM-01, Field Handling of Investigation-Derived Waste.
- Don appropriate personal protective equipment as described in the site-specific HASP, including nitrile gloves for activities that might involve contact with groundwater or equipment. Change gloves between each monitoring well at a minimum, or when

contaminants could be introduced into a monitoring well or onto decontaminated equipment.

- Brush away soil and/or vegetation, and pump standing water away from the monitoring well opening. If necessary, place a plastic drop cloth around the monitoring well-head to prevent sampling equipment from contacting the ground surface.
- Inspect the condition of the monitoring well (e.g., locked monitoring well cap, tightness of monitoring well cap, well-marked measuring point on casing, disturbance of surface casing, straightness of monitoring well casing, condition of concrete pad). Indicate the monitoring well condition on the Low-Flow Well Purging and Sampling Data form.
- Open the monitoring well cap. If the site-specific HASP identifies organic compounds as potential contaminants of concern, screen the monitoring well headspace and the breathing zone headspace (if specified in the HASP) for organic vapors using the appropriate field monitoring instrument (e.g., photoionization detector, multi-gas meter).
- Measure and record the depth to water using a decontaminated water-level meter in accordance with Farallon SOP GW-03, Groundwater Level Measurements in Monitoring Wells.
- If light nonaqueous-phase liquid may be present (see site-specific plans), obtain a sample from the monitoring well using a bailer (if a dedicated pump is not in use), as specified in Farallon SOP GW-03, Groundwater Level Measurements in Monitoring Wells. Alternatively, measure free-floating product thickness using an oil-water interface probe.
- Calculate the monitoring well casing volume as follows:

  Monitoring well casing volume in gallons = $(\pi * r^2) * h$(7.48 gallons/cubic foot)

  Where:

  r = radius of the inside of the monitoring well casing in feet

  h = length of the water column in the monitoring well casing (i.e., the depth to the bottom of the monitoring well minus the depth to water, both measured from the mark at the top of the monitoring well casing), in feet

- **For monitoring wells with dedicated pumps and tubing**: Set up a flow-through cell in preparation for purging. Connect dedicated tubing from the monitoring well to the flow-through cell. Set tubing and/or pump to the correct water depth in accordance with the constituents being sampled for, as described in project-specific plans. **DO NOT IMMERSE water-quality probes or meters in purge water containing nonaqueous-phase liquids, which could damage the probes.** Turn the pump controller to its lowest setting, set the memory in the flow-through cell to record readings every 3 minutes, and turn on the pump. Begin purging slowly (i.e., less than 500 milliliters per minute [ml/min]) to prevent drawing down the water table.

- **For monitoring wells with non-dedicated pumps**: Connect dedicated silicon tubing to the peristaltic pump. Place the tubing intake at the midpoint of the screen, or at the depth pre-determined in the project-specific plans. If using a bladder pump, insert the bladder pump and attach the dedicated polyethylene tubing so the pump intake is at the approximate midpoint of the screened interval, or set the pump intake to the depth pre-determined in the project-specific plans.

Purging Procedures

The purging instructions below are to be followed for dedicated and non-dedicated monitoring wells:

- Begin purging, and initiate water-quality testing for temperature, pH, specific conductivity, dissolved oxygen, ORP, and turbidity. Purge monitoring wells using a peristaltic or bladder pump, and dedicated polyethylene and silicon tubing. Record water-quality parameters every 3 minutes.
- Record water levels every 3 minutes, as possible. It is imperative that the water level not drop by more than 0.33 foot during the low-flow purging process. If the water level drops more than 0.33 foot during purging, reduce the flow rate on the pump. Recommended purge rates generally are less than 500 ml/min. Actual purge rates will vary based on aquifer material and monitoring well construction. If the water level continues to drop by more than 0.33 foot during the low-flow purging at a rate less than 100 ml/min, notify and consult with the Project Manager on how to proceed.
- Record flow rates every 3 minutes. Ensure that the flow rate does not exceed 500 ml/min during the low-flow purging process.

Purging Requirements

Continue purging at a constant rate until the water-quality parameters have stabilized for three successive measurements according to the stability criteria provided in the table below. Before samples can be collected from each monitoring well, the groundwater must stabilize according to following criteria:

- Drawdown is no greater than 0.33 foot for low-flow sampling, and
- The water-quality parameters should stabilize according to the criteria specified below:

Water-Quality Parameter	Stability Criterion
Turbidity (if required)	10% for values greater than 5 NTU or three consecutive values < 5 NTU
Dissolved oxygen	10% for values greater than 0.5 mg/l, or three consecutive values <0.5 mg/l
Specific conductivity	3%
Oxidation-reduction potential	+/- 10 millivolts
pH	+/- 0.1 unit
Temperature	3%

Notes:
mg/l = milligrams per liter
NTU = nephelometric turbidity unit

Although under some circumstances, a monitoring well may not stabilize according to the above criteria, the monitoring well can still be sampled if the monitoring well does not meet stability criteria due to the instrument accuracy, or the water level drops below the minimum value using low-flow sampling procedures. For example, a fluctuation in ORP greater than 10 millivolts does not meet the stability criterion. However, because the accuracy range of the ORP instrument is ±20 millivolt, the stability criterion would be considered satisfied and within the range of instrument accuracy. Consult the manual for the instrument to determine the accuracy range.

Also, if the water level drops below the minimum value using low-flow sampling procedures (i.e., the pump intake, or the top of the screen if the aquifer is confined) during purging and one monitoring well volume of groundwater has been removed from the monitoring well, or the monitoring well runs dry during the purging procedure, sample the monitoring well as soon as the water level has recovered sufficiently to allow collection of the volume of groundwater necessary for all samples. Use the following equation to determine the minimum volume of groundwater to remove before sampling:

Minimum purge volume = 2*[500 milliliters + M*(length of tubing in feet)]

Where: M = volume (in milliliters) contained in a 1-foot length of tubing

The value of M is provided below for the inner diameters of tubing listed:

Inner Diameter (inches)	M (milliliters)
0.125	2.4
0.25	9.7
0.5	39

Record on the Field Report form and the Low-Flow Well Purging and Sampling Data form if any monitoring well did not meet the drawdown and stability criteria and explain the rationale for sampling the monitoring well at the time it was sampled. If stability criteria have not been achieved following completion of all entries in the Low-Flow Well Purging and Sampling Data form, notify

and consult with the Project Manager whether to continue purging until stability criteria have been achieved or begin sample collection.

Sample Collection

During low-flow sampling, do not stop pumping once the purging requirements have been met. Turn down the flow rate on the pump so the water flow is minimal, but maintain sufficient pressure in the system to prevent water from the tubing or flow-through cell from flowing back into the monitoring well. Disconnect the pump discharge hose from the flow-through cell, or cut the tubing just before the connection to the flow-through cell. It is imperative not to lower the water table or disturb the water column. Fill pre-cleaned laboratory-supplied sample containers directly from the pump discharge tube into the proper sample container, and fill to capacity. Place a bucket beneath the sampling tube to catch any unsampled water between filling the sample jars. When collecting groundwater samples for multiple analyses, collect the samples in the order listed below per the EPA (1992) groundwater sampling technical guidance:

- Volatile organic compounds (VOCs);
- Dissolved gases and total organic carbon;
- Semivolatile organic compounds;
- Metals and cyanide;
- Major water quality cations and anions;
- Radionuclides; and
- Dissolved (filtered) inorganics (if required).

When collecting samples for VOCs, adjust the flow rate as low as possible without introducing air bubbles into the system. When filling the VOC containers, hold the cap in hand to minimize contamination, and direct the flow from the pump discharge tubing down the side of the sample container to minimize aeration. Fill all VOC sample containers to the top, ensuring a positive meniscus when the cap is screwed down on the container. Tap the filled VOC container, and invert several times to ensure no air bubbles are present in the sample container. If an air bubble is present, the VOC sample must be recollected using a fresh VOC sample container. If sampling for other analytes, the flow rate may be increased.

If dissolved inorganics are required, attach a new disposable 0.45-micrometer filter cartridge to the discharge line. Collect filtered samples last. Pre-rinse the disposable filter cartridges by running a minimum of 0.25 gallon of groundwater through them (collecting the groundwater into a waste bucket) prior to collecting the samples directly into the sample container. Alternate field filtration methods may be specified in the project-specific plans. Remove the pump and/or tubing from the monitoring well.

Post-Sampling

- Record the depth to water of well to determine whether the water level changed from the original reading.
- Close and lock the monitoring well or tap and record any monitoring well integrity concerns on the Field Report form and the Low-Flow Well Purging and Sampling Data form.
- Transfer purge, wash, and rinse water into a U.S. Department of Transportation-approved drum(s) and label. Separate drums are needed for liquid and solid wastes, in accordance with SOP WM-01, Field Handling of Investigation-Derived Waste. Do not add liquid wastes to drums containing solid wastes.

PROCEDURES FOR RECONNAISSANCE GROUNDWATER SAMPLING

Collect reconnaissance groundwater samples from borings using direct-push or hollow-stem auger drilling methods and 0.75- or 2-inch-inside-diameter temporary monitoring well casing and 0.010-inch slotted screen. In some cases, alternate well casing diameters or screen slot sizes may be appropriate based on the drilling equipment or project-specific requirements. Follow the instructions below for reconnaissance groundwater sample collection:

- Withdraw the drill casing when the desired sampling depth has been reached, so the temporary monitoring well screen is exposed to water-bearing material.
- Insert disposable polyethylene tubing to the approximate midpoint of the temporary monitoring well screen. Attach the appropriate length of pre-cleaned disposable silicon tubing from the polyethylene tubing to connect with the peristaltic or bladder pump.
- Set up the peristaltic or bladder pump in preparation for purging. Turn the pump to its lowest setting and turn on the pump. Begin purging slowly to prevent drawing down the water table.
- Purge each temporary monitoring well point using a peristaltic or bladder pump until visual turbidity is as low as possible, or until the temporary monitoring well is purged dry of water.
- Purge a minimum of 1 to 2 liters before sample collection, if possible. If the temporary monitoring well is completely dewatered during purging, collect samples when sufficient recharge has occurred to allow filling of the sample containers.
- Slow the pumping rate to less than 500 ml/min to reduce the potential for volatilization of chemicals during sample collection.
- Collect the sample as described above.
- If insufficient groundwater is available to collect a sample using a peristaltic or bladder pump (i.e., the boring pumps dry or cannot maintain a sufficient flow of less than 100 ml/min) or if the depth to groundwater exceeds the maximum practicable limit for sampling using a peristaltic or bladder pump, use a disposable polyethylene bailer lowered

into the monitoring well screen to collect a groundwater sample from the screened interval, if possible.

DOCUMENTATION

Document the monitoring well purging and sampling activities on the Low-Flow Well Purging and Sampling Data form and on the Field Report form. Track samples on a Chain of Custody form. Track waste generated during groundwater sampling on a Waste Inventory Tracking Sheet.

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STANDARD OPERATING PROCEDURE SL-01
SOIL CORE SAMPLING

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the methodology for collecting and documenting soil core samples collected during environmental drilling. All drilling operations will be conducted by a licensed drilling subcontractor. This SOP presents the procedures that will be performed by Farallon field staff once the soil core or sampler has been collected by the drilling subcontractor. The step-by-step guidelines provided in this SOP are to be followed by the field crew conducting subsurface soil sampling.

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment is necessary to properly collect soil samples from borings:

- Personal protective equipment (PPE) as described in the site-specific Health and Safety Plan.
- Differential global positioning system, if required in project-specific plans. Discuss the methodology for recording the location of the sample point with the Project Manager before conducting the field work.
- Photoionization detector (PID) to monitor and record soil headspace readings.
- Appropriate soil sampling equipment, including:
    - Stainless steel hand-auger.
    - Wooden or steel stakes to stabilize cores on table while sampling.
    - Folding table.
    - Utility knife.
    - Stainless steel spoons or scoops.
    - Six-mil plastic sheeting.
    - Resealable plastic bags.
    - Duct tape.
    - Tape measure.
    - Laboratory-provided certified pre-cleaned sample containers.
    - Soil sample plunger and syringes for sampling volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 5035A.
- Materials necessary to provide required documentation including sample labels, field report forms, boring logs, and laboratory chain-of-custody forms.

- U.S. Department of Transportation-approved drum(s) for decontamination wastewater and excess soil cuttings. Wastewater and soil cuttings should be handled in accordance with Farallon SOP WM-01.
- Decontamination equipment as specified in Farallon SOP EQ-01, Equipment Decontamination Procedures.
- Sampling support equipment (e.g., sample coolers, ice, bubble wrap, clear packing tape, heavy resealable plastic bags, garbage bags, paper towels, distilled water, nitrile gloves).

DECONTAMINATION

Reusable equipment that will come into contact with soil boring samples or will be used to acquire soil samples is to be decontaminated before arrival at the site, between soil samples collected, upon relocation at the site, and upon demobilization from the site, in accordance with Farallon SOP EQ-01, Equipment Decontamination Procedures.

PROCEDURES

Prior to drilling, all underground utilities must be located, and cleared with an air-knife or other method approved by the Farallon Health and Safety Coordinator.

Collect soil samples from areas known or suspected to have the lowest concentrations of constituents of concern first, with areas of higher concentrations of constituents of concern sampled last, unless the Project Manager indicates a different project-specific sampling protocol. **At a minimum, soil samples should be collected and retained in laboratory-supplied glassware every 5 vertical feet. Additional samples should be collected at observed major changes in lithology, such as sand-silt contacts, or where odor, staining, or high PID readings are observed.**

The procedures listed below may be modified as appropriate with approval from the field team lead and/or the Project Manager. Any modifications must be identified in the project-specific sampling plans or, at a minimum, details must be noted on the Field Report form.

Soil core collection methods differ for hollow-stem-auger, direct-push, and sonic drilling techniques, each summarized below:

- Hollow-stem-auger: Collect soil core samples using a standard 18-inch-length (6-inch waste barrel) Dames & Moore split-spoon sampler with a 2.5-inch inner diameter that can be used with or without brass or stainless steel liners.
- Direct-push: Collect soil core samples using 5-foot macrocore samplers with acetate sample liners.
- Sonic: Collect soil core samples using a standard 6-inch-diameter stainless steel sampling rod. Use a 2.5-, 5.0-, or 10-foot polyethylene liner inside the sampling rod for soil sample collection.

Record the specific drilling and soil sampling equipment used on the Boring Log form and on the Field Report form.

Setup

The instructions below are to be followed at each boring site:

- Don appropriate PPE as described in the site-specific Health and Safety Plan.
- Ensure that each borehole has been cleared to a minimum depth of 5 feet below ground surface using an air knife, per the Farallon health and safety policy.
- Set up a temporary sampling table adjacent to the drill rig to log and collect soil samples from the soil cores as they are recovered during drilling. Lay plastic sheeting over the table to keep the surface clean and to prevent potential cross-contamination between borings and soil samples. Designate clean areas for decontaminated sampling equipment and laboratory-provided certified pre-cleaned soil sample containers.
- Set up a separate decontamination area if appropriate (Refer to Farallon SOP EQ-01, Equipment Decontamination Procedures.)
- Calibrate the PID to monitor headspace for selected soil core samples in accordance with the equipment manual.

Sample Collection and Processing

The instructions listed below are to be followed for collecting samples using lined and unlined split-spoon and tube samplers:

- Don a new pair of nitrile sampling gloves for each individual soil sample collected, and prior to decontaminating sampling equipment to avoid potential cross-contamination.
- Ensure that the drillers have properly decontaminated all drill shoes and caps prior to initiating drilling operations. At a minimum drill shoes and caps must be decontaminated between sampling locations in accordance with Farallon SOP EQ-01. If highly contaminated media is encountered, decontamination between sampling intervals may be required. Replace dirty or ineffective decontamination water as needed throughout the workday.
- Report subsurface and drilling conditions on Boring Logs. Include the number of blow counts (if applicable) or any resistance encountered during drilling operations.
- Place the core tube, core liner, or split spoon on a new piece of aluminum foil on the sample logging/processing table. If necessary, use wood or metal stakes as shims to stabilize the tube, liner, or split spoon on the sample logging/processing table.
- If a core liner is used, split the liner open with a decontaminated utility knife, taking care not to penetrate the soil in the liner with the blade or knife.

- Briefly examine the soil sample visually for obvious signs of contamination, and take PID readings.
- Take care to:
    - **Always** collect soil from the center of the sampler or liner; not from sidewalls.
    - **Always** use decontaminated stainless-steel spoons or scoops to handle the soil within a given sample interval.
    - **Always** don a new pair of nitrile gloves before processing each sample interval in each soil core to prevent cross-contamination in the soil core.
- When sampling for VOCs, collect them immediately after opening the core tube, split spoon, or core liner. Use a decontaminated stainless steel spoon to collect the VOC samples directly into the laboratory-provided VOC sample container with no headspace, and seal it tightly. Follow the sample collection guidelines provided by the manufacturer or the analytical laboratory when using a plunger-type sampling device in accordance with EPA Method 5035A.
- Perform a headspace test using a PID:
    - Retain approximately 100 grams of the soil sample in a heavy resealable plastic bag or glass sample container, shake the sealed bag to volatilize the contaminants in the soil;
    - Wait approximately 5 minutes before measuring for headspace analysis using the PID (Washington State Department of Ecology 2011);
    - Insert the PID probe tip into a small opening in the top of the bag and record the PID units on the Boring Log form. **Do not puncture the resealable plastic bag to obtain headspace readings.**
    - Reseal the bag after taking the headspace reading in case further assessment of the sample is needed.
- If specified in the project-specific plans, photograph each section of the boring, including in the photograph notations on a white board documenting sample location identifier, date, orientation, depth, and site markers.
- Describe the soil samples in accordance with ASTM International Standard D-2488-00, *Standard Practice for Description and Identification of Soils*.
- Record on the Field Report form any deviations from the project-specified sampling procedures or from this SOP, or any obstacle encountered.
- Record the observed lithology on the Boring Log form using the Unified Soil Classification System and reported depths below ground surface using a tape measure.

- Discard excess soil cuttings in a labeled waste drum or a soil bin in accordance with Farallon SOP WM-01, Field Handling of Investigation-Derived Waste. Do not add soil to a liquid waste drum.
- Backfill the borehole, as appropriate.
- Record the boring location using a differential global positioning system or offset measurements from a permanent hard point on the Site.
- Decontaminate the soil sampling equipment, and don a new pair of sampling gloves before collecting each new soil sample.

DOCUMENTATION

Document the soil sampling activities on the Boring Log form, the Chain of Custody form, and the Field Report form.

REFERENCE

American Society for Testing Materials. 1989. *Standard Method for Penetration Test and Split-Barrel Sampling of Soils.* Method D-1586-11.

U.S. Environmental Protection Agency. 1987. *A Compendium of Superfund Field Operation Methods.* EPA Document No. 540-P-87-001. December 1.

Washington State Department of Ecology. 2011. *Guidance for Remediation of Petroleum Contaminated Sites.* Ecology Publication No. 10-09-057. Toxics Cleanup Program. September.

STANDARD OPERATING PROCEDURE WM-01
FIELD HANDLING OF INVESTIGATION-DERIVED WASTE

PURPOSE AND APPLICATION

The purpose of this standard operating procedure (SOP) is to provide field personnel with the methodology for containerizing, labeling, and tracking investigation-derived waste (IDW), and for exchanging information with the Project Manager. IDW may include soil cuttings, purge water, development water, and/or decontamination water.

This SOP has been developed in compliance with Washington State Dangerous Waste Regulations (Chapter 173-303 of the Washington Administrative Code), Oregon Hazardous Waste Management Rules (Division 100 of Chapter 340 of the Oregon Administrative Record), Environmental Health Standards for the Management of Hazardous Waste (Division 4.5 of Title 22 of the California Code of Regulations), and the U.S. Environmental Protection Agency Resource Conservation and Recovery Act (Parts 239 through 282 of Title 40 of the Code of Federal Regulations).

EQUIPMENT AND SUPPLIES/REAGENTS

The following equipment is necessary to properly containerize, label, and track IDW:

- U.S. Department of Transportation-approved drum(s) constructed of a material that does not react with the contaminants of concern for the project. Farallon typically uses lined open-top steel drums. Use a polyethylene drum for a material suspected to be corrosive.
- Labels appropriate to the characteristics of the IDW as indicated by the Project Manager:
    - Non-Hazardous Waste Labels: For IDW known to be nonhazardous based on previous data and waste profiles.
    - Hazardous Waste or Washington State Dangerous Waste Labels: For IDW known to be hazardous/dangerous based on previous data and waste profiles.
    - On Hold Pending Analysis Labels: For waste not previously characterized, pending receipt of analytical results. On Hold Pending Analysis labels are temporary, and should be replaced with the applicable waste label once the waste has been characterized.
    - Major risk labels associated with the waste characteristics.
- Waste Inventory Tracking Sheet.
- Grease marking pencil or paint pen.
- Indelible ink pen.
- Crescent wrench, speed wrench, socket wrench, or other hand tool to seal the drum(s).

- Sampling supplies, if needed, including:
    - Stainless steel or plastic bowls and spoons for homogenizing soil and/or solids samples, depending on the analysis to be performed;
    - Glass or stainless steel container for homogenizing liquid samples, depending on the analysis to be performed; and
    - Stainless steel hand-auger or a glass tube, depending on the medium being sampled (i.e., soil/solids or liquid).

PROCEDURES

Follow the instructions below to inspect, label, and inventory IDW drums, and to containerize IDW:

- Inspect new drums brought to the site to ensure that they do not have dents or corrosion, and are in good condition. Lined or coated drums are preferred.
- Inspect drums remaining at the site from previous project work. Notify the Project Manager if a drum is leaking, damaged, or improperly labeled.
- Place soil and solids into separate drums from those containing liquids such as purge water, development water, and decontamination water. Do not add liquid IDW to drums containing soil or solids. Do not fill drums containing liquid IDW above 85 percent capacity, particularly in areas known to reach freezing temperatures.
- Discuss with the Project Manager whether chlorinated solvents or other contaminants of concern detected in areas of the site would cause IDW from that area to be characterized as hazardous/dangerous waste. Hazardous/dangerous waste should be drummed separate from nonhazardous/dangerous waste, where possible, to minimize the amount of hazardous/dangerous waste generated.
- Use a grease pencil or paint pen to clearly mark the lid and the label of each drum with a unique identifier such as a number or a letter. Verify that no two drums have the same identifier marked on the lid or label, including drums remaining from previous project work.
- Inventory each Farallon-generated drum and its contents on a Waste Inventory Tracking Sheet.
- Track any waste added to an existing drum on a Waste Inventory Tracking Sheet.
- Label each drum with a completed Non-Hazardous Waste, Hazardous Waste/Washington State Dangerous Waste, On Hold Pending Analysis, or other appropriate waste label. List the client's name as the Shipper or Generator, and the accumulation start date as the date when waste was first placed into the drum. If waste was added to an existing drum, add that date to the accumulation dates on the drum label. If the waste in the drum has been designated as hazardous/dangerous, add a major risk label(s) pertaining to the waste characteristics associated with that designation (e.g. flammable, reactive, corrosive,

toxic). Consult the Project Manager with questions about appropriate major risk labels. All labels should be placed with the top of the label toward the top of the drum. Do not place a drum label sideways or upside down.

Use care when drumming, labeling, and tracking IDW. Mistakes in the disposal of waste can result in serious legal and financial repercussions for Farallon and the client.

DRUM SAMPLING

Sampling and analysis of wastes for hazardous/dangerous waste characterization purposes is to be conducted in accordance with U.S. Environmental Protection Agency Publication No. SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. Samples collected in California for hazardous waste characterization are to adhere to the requirements specified in California Code of Regulations Sections 66261.21 to 66261.24 of Title 22, Characteristics of Hazardous Waste. Discuss with the Project Manager the specific analyses to be performed prior to sample collection. The instructions below are to be followed for drum sampling, using composite sampling techniques to sample soil, solids, and liquid wastes:

- Collect soil/solids samples from various locations and depths in the drum using a hand-auger or other decontaminated apparatus. Place all samples into a single decontaminated stainless steel bowl using decontaminated stainless steel tools, or into a plastic bowl using plastic spoons, depending on the analyses to be performed. Homogenize the samples in the bowl.
- Place samples of the homogenized soil/solids from the bowl into sample jars for analysis.
- Collect liquid samples from the drum using a glass sampling tube. Insert the tube to the base of the drum to fill the entire tube with liquid. Place the liquid into sample jars for analysis.

DRUM STORAGE

Follow the instructions below for drum storage:

- Label and store the drums in an area approved by the client.
- Store hazardous/dangerous waste drums in a secured area.

DOCUMENTATION

Document IDW drums on the Waste Inventory Tracking Sheet as described above. Provide the original Waste Inventory Tracking Sheet and the original field notes to the Project Manager.

REFERENCE

U.S. Environmental Protection Agency. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. Publication No. SW-846. Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).

APPENDIX B
FIELD FORMS

SAMPLING AND ANALYSIS PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila

Farallon PN: 1071-026

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Irvine

FIELD REPORT

Page ___ of ___

Date: _____ **Project #:** _____ **Task #:**_____

Project: _____ **Site Address:** _____

Client: _____ **Contractor:** _____

Weather: _____ **Temp:** _____

Equipment Used: _____

Project Manager: _____

Prepared By: _____ **Reviewed By:** _____

Comments:

FIELD REPORT (continued)

Project: _____ **Date:** _____ **Project #:** _____ **Task #:**___

LOW-FLOW WELL PURGING AND SAMPLING DATA

		WELL NO:
DATE:	PROJECT NAME:	PROJECT NO:
WEATHER CONDITIONS:		
WELL DIAMETER (IN.) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ OTHER _____		
SAMPLE TYPE: ☒ GROUNDWATER ☐ WASTEWATER ☐ SURFACE WATER ☐ OTHER		
WELL DEPTH (TOC) FT.	DEPTH TO WATER BEFORE PURGING (TOC) FT.	
LENGTH OF WATER FT.	CALCULATED ONE WELL VOLUME[1]: __ GAL.	
DEPTH OF SAMPLE POINT FT.	ESTIMATED VOLUME PURGED GAL.	
EQUIP. DECON. ☒ ALCONOX WASH ☐ LIQUINOX WASH ☐ DIST/DEION 1 RINSE ☐ DIST/DEION 2 RINSE ☐ OTHER		
CONTAINER PRESERVATION: ☐ LAB PRESERVED ☐ FIELD PRESERVED		
WATER ANALYZER: YSI Pro DSS	PUMP TYPE: Peristaltic	TUBING: 1/4" P.E.

ACTUAL TIME (min)	FLOW RATE (ml/min)	DEPTH TO WATER (feet)	TEMP ☐ °F ☒ °C 3%	SPECIFIC CONDUCT. (mS/cm) 3%	pH +/- 0.1	DISS. OXYGEN (mg/l) <0.5 mg/L or 10% for > 0.5 mg/L	TURBIDITY (NTU) <5 NTU or 10% for > 5 NTU	ORP (mV) +/- 10 mV	REMARKS (EVIDENT ODOR, COLOR, PID)
	INITIAL		--	--	--	--	--	--	

DEPTH TO WATER AFTER PURGING (TOC) FT.	SAMPLE FILTERED ☐ YES ☒ NO SIZE _____
NOTES:	SAMPLE TIME: ID# __ __
	DUPLICATE ☐ TIME: ID#:
	EQUIP. BLANK: ☐ TIME: ID#:
	PREPARED BY:

[1] A 1 FOOT LENGTH OF WATER = 0.05 GAL IN 1" DIA. PIPE 0.17 GAL IN 2" DIA PIPE 0.65 GAL IN 4" DIA PIPE 1.5 GAL IN 6" DIA PIPE

FARALLON CONSULTING

Soil Gas / Indoor and Outdoor Air Sampling Parameters

SAMPLE NO.:

DATE:	PROJECT NAME:	PROJECT NO:

SAMPLE TYPE: ☐ SOIL GAS ☐ SUBSLAB ☐ INDOOR AIR ☐ OTHER:

WEATHER CONDITIONS:

INITIAL CALIBRATION AND PURGE INFORMATION

Sample Depth / Sample Height	Estimated Purge Line Volume (mL)	Intial Flow Rate (L/min)	Time Begin Purge	Time End Purge	Total Volume Purged	Helium leak check
☐ ft ☐ in						

SAMPLE COLLECTION INFORMATION & DATA

QA / QC Sample: ☐ Duplicate ☐ Lab QA/QC ☐ Equipment ☐ None

Average Helium Concentration in Shroud (%): _____

Sample ID	Container ID	Flow Controller	Start Time	Initial Vaccum	End Time	Final Vacuum	Total Volume

Analytical Parameters	Destination Laboratory	Sample Container	Container Volume	Number Containers	Sample ID	Sample Time
VOCs / TPH-Gx		Summa Canister	1-Liter			
TPH-Dx		Tenax Tube				

Method of Sample Transportation : ☐ DELIVERY ☐ COURIER ☐ OTHER

Notes / Obervations during Sampling Event:

Signature of Field Personnel: Date:

[1] A 1 FOOT LENGTH OF 0.25" I.D = 0.0026 gal = 0.0098 L = 9.8 mL

SOIL SAMPLE DATA

PROJECT NAME: | PROJECT NO: | SHEET OF

PROJECT LOCATION:

PID MODEL & SERIAL NO: | CALIBRATION DATE/STANDARD:

SAMPLE METHOD: ☐ SONIC ☐ HAND AUGER ☐ HOLLOW STEM ☐ SPLIT SPOON ☐ GEOPROBE ☐ BACKHOE BUCKET

EQUIP DECON:

LOCATION	DATE	SAMPLE NAME	DISCRETE OR COMPOSITE	DEPTH	TIME	STAINING	ODOR	PID	SHEEN	LITHOLOGIC DESCRIPTION/NOTES

PREPARED BY:

WASTE INVENTORY TRACKING SHEET

Project Number: _____ **Page:** _____ **of** _____

Project Name: _____ **Project Manager:** _____

Project Address: _____ **Field Work Description:** _____

Prepared By: _____ **Waste Transporter:** _____

Inventory Date: _____ **Waste Disposal Location:** _____

Unique Container ID	Container Size	% Capacity Used	Contents (Soil/GW/Decon Water)/ Origin (Boring or Well ID)	Date(s) Accumulated	Labeling (Contents Under Test/ Haz/Non-Haz/Other-Specify)	Sampled (Y/N)	Comments / Drum Condition

NOTES:

Contents should be specified and include identification of well/boring, media, source, depth of soil (if applicable), and any other helpful information.

Container ID should be unique when compared against other nearby containers. Special waste labels may include flammable, corrosive, dangerous when wet, and/or oxidizer.

Location of Drums (sketch or describe):

FARALLON CONSULTING

FARALLON CONSULTING

Groundwater Level Measurement Summary Form

Date:						**Project Name:**	
Project Number:			**Task:**			**Project Location:**	
Equipment Used:						**Project Manager:**	
Well ID	**Time Opened**	**Time Measured**	**Depth to Water (feet)**	**Total Well Depth (feet)**	**Depth to NAPL (feet)**	**NAPL Thickness (feet)**	**Comments / Well Condition**
					Prepared By:		

APPENDIX B
QUALITY ASSURANCE PROJECT PLAN

REMEDIAL INVESTIGATION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

QUALITY ASSURANCE PROJECT PLAN

APPENDIX B OF THE REMEDIAL INVESTIGATION WORK PLAN

Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

July 23, 2025

Prepared by:

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Reviewed by:

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TABLE OF CONTENTS

1.0 INTRODUCTION

Farallon Consulting L.L.C. (Farallon) has prepared this Quality Assurance Project Plan (QAPP) on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) to describe the quality assurance (QA) and quality control (QC) activities will be applied during implementation of the Remedial Investigation Work Plan (RI Work Plan) for the Emerald Gateway Site (Site).

This QAPP has been prepared in accordance with the Washington State Model Toxics Control Act, Chapter 70A.305 of the Revised Code of Washington (RCW), and its implementing regulations, Chapter 173-340 of the Washington Administrative Code (WAC) (collectively, MTCA). Specifically, the SAP was prepared in accordance with WAC 173-340-820, the Washington State Department of Ecology's (Ecology) Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies (Ecology QAPP Guidelines) and the U.S. Environmental Protection Agency (EPA) Requirements for Quality Assurance Project Plans (EPA QAPP Requirements).

This QAPP should be used in conjunction with the Sampling and Analysis Plan (Appendix A of the RI Work Plan.

1.1 PURPOSE AND OBJECTIVE

The purposes of this QAPP are to:

- Help the project manager and project team focus on the factors affecting data quality during the planning stage of the project;
- Facilitate communication among field, laboratory, and management staff as the project progresses; and
- Provide a record of the project to facilitate final report preparation.

The QAPP provides the specifications for sample collection procedures, analytical methods, quality assurance/quality control (QA/QC) procedures, and data quality reviews. The QAPP describes both quantitative and qualitative measures of data quality to ensure that the data quality objectives (DQOs) are achieved.

2.0 DATA QUALITY OBJECTIVES

The DQOs will be used to develop and implement procedures to ensure that project data are of sufficient quality to adequately address the RI objectives. Observations and measurements will be made and recorded in a manner so as to yield results representative of the media and conditions observed and/or measured. Goals for representativeness will be met by ensuring that sampling locations are selected properly, a sufficient number of samples are collected, and field screening and laboratory analyses are conducted properly.

DQOs for this project include:

- Collect and retain soil samples from borings for potential laboratory analysis to further define the extent of hazardous substances at the Site, if needed, and evaluate transport and exposure pathways of concern;
- Collect groundwater samples from monitoring well network to obtain sufficient groundwater data in order to evaluate the potential extent of hazardous substances at the Site and transport and exposure pathways of concern;
- Perform synoptic measurement of groundwater levels at the Site monitoring well network to evaluate groundwater gradient and flow direction;
- Collect soil gas samples to obtain sufficient data in order to evaluate the vapor intrusion pathway;
- Achieve a practical quantitation limit sufficient for direct comparison against screening levels; and
- Implement QA/QC protocols described in the SAP so that data collected are scientifically defensible.

The quality of the field sampling methods and laboratory data will be assessed using the parameters of precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS). QC procedures for PARCCS are described in the following sections. Quantitative DQOs for applicable parameters (i.e., precision, accuracy, and completeness) are provided following their definition. Laboratory DQOs have been established by the analytical laboratories and are specified in the individual analytical laboratory Quality Assurance Manuals. The applicable analytical laboratory Quality Assurance Manual will be kept on file at the Farallon corporate office in Bellevue, Washington.

2.1 PRECISION

Precision is defined as the degree of agreement between or among independent, similar, or repeated measures, and is expressed in terms of analytical variability. For this project, analytical variability will be measured as the relative percent difference (RPD) or coefficient of variation between analytical laboratory duplicates, and between the matrix spike (MS) and matrix spike duplicate (MSD) analyses. Monitoring and sampling variability will be measured by analysis of blind field-replicate samples.

The tolerance limit for percent differences between laboratory duplicates will be ±20 percent; deviations from these criteria will be reported. If the criteria are not met, the laboratory will provide an explanation of why the limits were exceeded, and will implement appropriate corrective actions for laboratory control samples (LCSs)/LCS duplicates only. RPDs will be evaluated during data review and validation. If precision limit exceedances are linked to field sampling, those field sampling procedures will be reviewed, and any problems will be identified. Re-sampling and analysis may be required.

2.2 ACCURACY

Accuracy (bias) is a statistical measurement of correctness and includes components of random error (i.e., variability due to imprecision) and systematic error. It therefore reflects the total error associated with a measurement. A measurement is accurate when the value reported does not differ excessively from the known concentration of the spike or standard.

Analysis of laboratory matrix spikes and surrogates will be performed by the analytical laboratory in accordance with the requirements for organic analysis set forth in EPA publication SW-846, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*. Quantitative percent recovery criteria have been developed by EPA for laboratory matrix spikes for analysis of inorganic compounds. The criteria are 75 to 125 percent when the sample concentration exceeds the spike concentration by a factor of four or more. There are no specific accuracy criteria for analysis of organic compounds. Laboratory-derived control limits will be used to assess surrogate recovery and matrix spike results where EPA and Ecology have not provided data validation guidelines.

The accuracy of sample results can be affected by sample contamination (which can occur because of improperly cleaned sampling equipment), exposure of the samples to chemical concentrations in the field or during transport to the laboratory, or the presence of chemical concentrations in the laboratory. To confirm that the samples collected are not

contaminated, several types of blank samples will be analyzed. The laboratory will run method blanks at a minimum frequency of one per batch (or 5 percent) to assess sample contamination in the laboratory.

Trip blanks will be used to check for procedural contamination, cross-contamination, and contamination during shipment and storage of solid and aqueous samples collected for volatile organic compound analysis. A trip blank filled with analyte-free deionized water and preserved with hydrochloric acid will be included when a cooler contains water or soil samples collected for analysis. After their preparation, the sample containers are not to be opened until they have been returned to the laboratory.

2.3 REPRESENTATIVENESS

Representativeness is a qualitative measure of how closely the measured results reflect the actual concentration or distribution of the constituent concentrations in the medium sampled. The sampling plan design, collection techniques, sample handling protocols, analytical methods, and data review procedures have been developed to ensure that the results obtained are representative of Site conditions. These issues are addressed in detail in the SAP provided as Appendix A of the RI Work Plan. Samples with expired holding times, improper preservation, or blank contamination may not be representative.

2.4 COMPLETENESS

Completeness is defined as the percentage of measurements judged to be valid. Results are considered valid if they are not rejected during data validation (see Section 5.0, Data Management, Reduction, Review, and Reporting). The target completeness goal for the Site will be 90 percent for a given analysis. Data that were qualified as estimated because the QA/QC criteria were not met will be considered valid for the purpose of assessing completeness. Data that have been qualified as estimated will be further reviewed for usability. For this investigation, the primary use of the data is to address the RI objectives. Data that were qualified as rejected will not be considered valid for the purpose of assessing completeness. If a sample medium has an unacceptable completeness percentage after comparison to the individual data quality objectives described above, original samples will be re-analyzed if sufficient sample volume is available, archived samples will be analyzed if appropriate, or additional samples will be collected during the RI.

2.5 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. In order to ensure results are comparable, samples will be analyzed using standard EPA or Ecology methods and protocols. Calibration and reference standards will be traceable to certified standards, and standard data reporting formats will be employed. Data will also be reviewed to verify that precision and accuracy criteria were achieved and, if not, that data were appropriately qualified.

3.0 QUALITY CONTROL PROCEDURES

3.1 LABORATORY QUALITY CONTROL

Analytical laboratory QA/QC procedures are described in the laboratory Quality Assurance Manual, which is on file at the Farallon office.

3.2 DATA QUALITY CONTROL

Data will undergo two levels of QA/QC evaluation: one by the laboratory and one by Farallon. Initial data reduction, evaluation, and reporting will be performed by the laboratory, as specified in the laboratory Quality Assurance Manual. The analytical data will then be validated by Farallon under the supervision of the QA/QC Officer. The following types of QC information will be reviewed, as appropriate:

- Method deviations;
- Sample extraction and hold times;
- Method reporting limits;
- Blank samples (e.g., equipment rinsate, laboratory method);
- Duplicate samples;
- RPD (for precision);
- Matrix spike/matrix spike duplicate samples (for accuracy);
- Surrogate recoveries; and
- Percent completeness.

Farallon will review field records and the results of field observations and measurements to ensure that procedures were properly performed and documented. Field procedures will be reviewed for the following elements:

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

4.0 PERFORMANCE AND SYSTEM AUDITS

Performance audits will be completed for both sampling and analysis work. Field performance will be monitored through regular review of field documentation. Periodic on-Site review of work in progress will be performed by the Project Manager and/or the Project Data Manager.

Ecology accreditation for each of the analyses conducted by a laboratory demonstrates the laboratory's ability to properly perform requested methods. Therefore, a system audit of the analytical laboratory will not be conducted during the course of this project.

The Project Manager and/or the Project Data Manager will oversee communication with the analytical laboratory on an ongoing basis during sample processing and analysis. This oversight will allow Farallon to assess progress toward achieving the DQOs and take corrective measures if problems are encountered. Corrective measures will be the joint responsibility of the Project Manager and the Project Data Manager .

The analytical laboratory will be responsible for identifying any deviation from the performance standards described in the laboratory Quality Assurance Plan, and for taking appropriate corrective action. The laboratory will communicate to the Project Manager or the Project Data Manager any deviation from the performance standards during sample analysis, and the corrective action taken. Corrective actions are discussed in Section 7, Corrective Action.

5.0 DATA MANAGEMENT, REDUCTION, REVIEW, AND REPORTING

This section outlines the procedures to be followed for the inventory, control, storage, and retrieval of data collected during performance of the RI. The procedures described in the RI Work Plan are designed to ensure that the integrity of the collected data is maintained for subsequent use. In addition, project tracking data (e.g., schedules, progress reports) will be maintained to monitor, manage, and document the progress of the RI.

Project files will be maintained in accordance with MTCA and the procedures outlined in this QAPP. Data generated during field activities and laboratory analyses will be submitted directly to Farallon. Laboratory documentation from the analytical laboratories will be maintained in Farallon's project files to validate analytical data collected during the RI.

5.1 DATA TYPES

A variety of data will be generated during the RI, including sampling and analytical data and calculation results based on mathematical expressions. Laboratory analytical data will be transmitted to Farallon as an electronic file and in hard copy format. These formats will facilitate subsequent validation and analysis of these data while avoiding transcription errors that may occur with computer data entry. Calculations pertaining to the RI will be reviewed and verified by an independent reviewer, and calculation sheets will be retained in the project file.

5.2 DATA TRANSFER

Procedures for controlling the receipt and distribution of incoming data packages to Farallon and outgoing data reports from Farallon are outlined below.

5.2.1 Receipt of Data and Reports

Incoming documents will be date-stamped and filed in accordance with established procedures. Correspondence and transmittal letters for reports, maps, and data will be filed chronologically. Data packages such as those from field personnel, laboratories, and surveyors (e.g., soil analytical data, survey data, geologic observations) will be filed by project task, subject heading, and date. If distribution of a document is required, the required number of copies will be made and distributed to the appropriate persons or agencies. The original document will not be distributed to project personnel and will be retained in the project file.

5.2.2 Outgoing Data and Reports

A transmittal sheet will be attached to outgoing project data and reports. A copy of each transmittal sheet will be kept in the project files. All outgoing reports and maps will be reviewed by the Project Manager and the QA/QC Officer prior to being sent.

Reports, data, and other documentation sent via electronic mailing also will be tracked. Copies of electronic mailings will be maintained in the electronic project files. Farallon is required to submit data generated during the RI to Ecology via its Environmental Information Management system. This information is input by Farallon and maintained by Ecology in its Environmental Information Management system database.

5.3 DATA INVENTORY

Procedures for filing, storing, and retrieving project files are described below.

5.3.1 Document Filing and Storage

Project files and raw data files will be maintained at the Farallon office. Files will be organized by project number and document type, and maintained by the Project Data Manger and the Project Manager. Electronic copies of final documents, email messages, boring logs, laboratory data, drafted project content, correspondence, and other project documentation will be maintained in Farallon's electronic project files. Draft documents and data will be removed from Farallon project files once final versions have been completed and distributed.

5.3.2 Access to Project Files

Access to project files will be controlled by and limited to Prologis, authorized agents for Prologis, Ecology, and Farallon personnel. Prologis and/or authorized agents may direct Farallon to provide project-related information to others as needed. Project documents will be assigned a document control number/identifier, and a log will be maintained for all documents contained in the file. When a document is removed for use, a sign-out procedure will be used to track custody. Access to Farallon's electronic project files is restricted to Farallon personnel. Final documents will be converted to electronic files that cannot be altered or deleted by anyone but the Project Data Manger.

5.4 DATA REDUCTION AND ANALYSIS

The Project Manager and the Project Data Manger are responsible for data review and validation. Data validation parameters are outlined in Section 2.0, Data Quality Objectives.

The particular type of analysis and presentation method selected for any given data set will depend on the type, quantity, quality, and prospective use of the data. Analysis of the project data likely will require data reduction for preparation of tables, charts, and maps. To ensure that data are accurately transferred during the reduction process, all reduced data will be checked by a second party, who will initial and date the reviewed data. Any incorrect transfer of data will be highlighted and corrected.

The physical and chemical characterization information developed for soil, groundwater, and soil gas at the Site in connection with the RI Work Plan will be presented in the final report using the format described in the following sections.

5.4.1 Summary Tables

Laboratory reports will be categorized according to various parameters to summarize the information for easier assimilation and presentation. Soil sampling and analysis data will be categorized several ways, including by sample point number, constituent, and date of sample collection. The parameters chosen for categorizing soil, groundwater, and air data will be determined based on the most appropriate format and the utility of the format in demonstrating the physical and chemical characteristics of interest.

5.4.2 Figures

Figures needed to illustrate the results of the RI Work Plan will be assembled or prepared. Figures may include but are not limited to plan maps of the Site depicting sampling locations and chemical concentrations for individual and groups of chemicals.

5.4.3 Environmental Information System

Farallon will transfer laboratory and field measurement data into the Ecology Environmental Information Management database, as required under MTCA . Farallon will directly transfer the analytical data provided by the laboratory into the database, thus eliminating the likelihood of data entry errors inherent with manual data entry. Field measurements and other data requiring manual entry will be reviewed by Farallon personnel other than the data entry staff prior to submission to the Environmental Information Management database. Ecology's confirmation of receipt of the data will be maintained in Farallon electronic project files.

6.0 DATA ASSESSMENT PROCEDURES

The Project Manager and the Project Data Manager are responsible for data review and validation of field documentation, laboratory data, and other documentation generated during completion of the RI. Upon receipt of each data package from the laboratory, calculations for precision, accuracy, and completeness will be performed. Results obtained will be compared to the qualitative DQOs. The data validation parameters are outlined in Section 2. The Project Manager and/or the Project Data Manager also will validate data transferred to summary tables, figures, and other documentation prepared for the RI.

7.0 CORRECTIVE ACTION

Corrective action will be the joint responsibility of the Project Manager and the Project Data Manager. Corrective procedures may include:

- Identifying the source of deviation from the quality standards set forth in the RI Work Plan and its supporting documents;
- Re-analyzing soil, groundwater, and/or soil gas samples if hold-time criteria permit;
- Re-sampling and analyzing soil, groundwater, and/or soil gas, if necessary to meet the quality standards set forth in the RI Work Plan and its supporting documents;
- Evaluating and amending sampling, analytical, and/or data transfer procedures; and/or
- Qualifying data to indicate the level of uncertainty.

During field operations and sampling procedures, field team members will be responsible for identifying and correcting equipment malfunctions and documenting sampling procedures in a manner that will enable the Project Manager or the Project Data Manager to evaluate whether corrective action is warranted. Equipment malfunctions, variances in sampling protocols, and corrective actions taken by field team members will be documented in the field notes. The Project Manager or the Project Data Manager will evaluate the field notes upon submittal to determine whether the corrective action taken was adequate to meet project quality standards or whether additional corrective action is required.

8.0 DATA VALIDATION

Farallon will conduct a Level I Compliance Screening on all the analytical data.

All chemical data will be reviewed with regard to the following:

- Chain-of-custody/documentation;
- Sample preservation and holding times;
- Method blanks;
- Reporting limits;
- Surrogate recoveries;
- MS/MSD recoveries;
- LCS recoveries; and
- Laboratory and field duplicate RPDs.

Data validation will be based on the QA/QC criteria as recommended in the methods identified in this QAPP and in the *National Functional Guidelines for Organic and/or Inorganic Superfund Methods Data Review* (EPA 2020a, 2020b).

Data usability, conformance with the QA/QC objectives, and any deviations that may have affected the quality of the data, as well as the basis of application of qualifiers, will be included in the final reporting of the data. Any required corrective actions based on the evaluation of the analytical data will be determined by the laboratory in consultation with the Farallon Project Manager and may include qualification or rejection of the data.

9.0 REFERENCES

U.S. Environmental Protection Agency. 2001. EPA Requirements for Quality Assurance Project Plans. March.

--------. 2020a. *National Functional Guidelines for Organic Superfunds Methods Data Review.* November.

--------. 2020b. *National Functional Guidelines for Inorganic Superfunds Methods Data Review.* November.

Washington State Department of Ecology. 2004. *Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies.* Publication No. 04-03-030. Revised December 2016. July.

APPENDIX C
HEALTH AND SAFETY PLAN

REMEDIAL INVESTIGATION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

SITE-SPECIFIC HEALTH AND SAFETY PLAN

PROJECT NO.:	1071-026	**START DATE:**	July 22, 2025
PROJECT NAME:	Emerald Gateway	**EXPECTED DURATION:**	1 Year
PROJECT ADDRESS, CITY, STATE:	3301 South Norfolk Street and 10230 East Marginal Way South Seattle, Washington	**CLIENT NAME:**	Prologis, Inc.

(HASP expires 1 year from start date)

Fieldwork that Farallon Consulting, L.L.C. (Farallon) employees perform is conducted under the Farallon health and safety program, which includes the corporate Accident Prevention Plan and Hazardous Waste Operations Program. The program and these plans provide the basis upon which safety decisions should be made by Farallon personnel to maintain a safe and healthy work environment.

A site-specific Health and Safety Plan (HASP) is created to serve as a tool by which information about a project can be communicated to employees prior to field activities. As allowed under 29 CFR 1910.120(b)(1)(ii)(C), this HASP supplements the Farallon health and safety program and does not repeat standard operating procedures for safety and health. The information contained in this HASP is site-specific and directly applicable to the proposed scope of work.

Due to the potentially hazardous nature of the site and the activities occurring thereon, it is not possible to discover, evaluate, or provide protection for all possible hazards that may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but does not eliminate, the potential for injury. The health and safety guidelines in this HASP are prepared specifically for this site and its known or suspected conditions, and the HASP must be amended if conditions change.

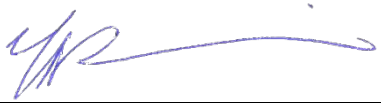
This HASP has been prepared for the use of Farallon and its employees. Farallon personnel working at the job site must review and be responsible for complying with and implementing the provisions in this HASP. Safety briefings at the job site should include discussion of the HASP, and Farallon employees will sign Attachment 1.

PREPARED BY:

Angie Osman
Print name

REVIEWED BY:

Yusuf Pehlivan
Project Manager



Signature — July 22, 2025
Date

APPROVED BY:

Kevin Halpin
State Health and Safety Coordinator

Signature — July 22, 2025
Date

TABLE OF CONTENTS

ATTACHMENTS

1.0 CONTACT AND EMERGENCY INFORMATION

1.1 PROJECT CONTACTS

TITLE NAME	CONTACT INFORMATION	GENERAL PROJECT RESPONSIBILITIES
Site Health and Safety Officer Angie Osman	Cell: (206) 915-7224	Implements HASP and conducts ongoing inspections of site conditions to identify visible or potential hazards. Initiates actions to mitigate or eliminate hazards. Provides health and safety support to other on-site personnel. Communicates regularly with project management team.
Project Manager Yusuf Pehlivan	Cell: (949) 351-6163	Ensures that field personnel have sufficient training and qualifications to perform tasks. Communicates with field team to confirm that identified health and safety protocols are implemented. Provides support for incidents, near misses, and other safety issues.
State Health and Safety Coordinator Kevin Halpin	Cell: (626) 329-8052	Reviews and approves HASP. Provides support in implementing HASP. Provides support for incidents, near misses, and other safety issues.
Client Contact Brett Richer	Office: (415) 733-9451	Provides 1) knowledge of known or suspected site hazards; 2) access to the site; 3) information regarding available emergency supplies or protocols at the site; and 4) known analytical data from work performed by others.

1.2 LOCAL EMERGENCY CONTACT TELEPHONE NUMBERS

EMERGENCY CONTACT	TELEPHONE NO.
Seattle Police Department – South Precinct	**Emergency:** 911 **Non-Emergency:** (206) 386-1850
Seattle Fire Station 33	**Emergency:** 911 **Non-Emergency:** (206) 386-1400
Poison Control Center ..... (800) 222-1222 National Response Center ..... (800) 424-8802 Utility Notification Center (Washington) .....(811) or (800) 424-5555 Washington Ecology Spill Reporting ..... (800) 258-5990	

1.3 NEAREST HOSPITAL / EMERGENCY MEDICAL CENTER

Facility Name:	St. Anne Hospital
Street Address:	16251 Sylvester Road Southwest
City, State:	Burien, Washington
Phone No.	(206) 244-9970

14 min (5.7 miles)

via Des Moines Memorial Dr

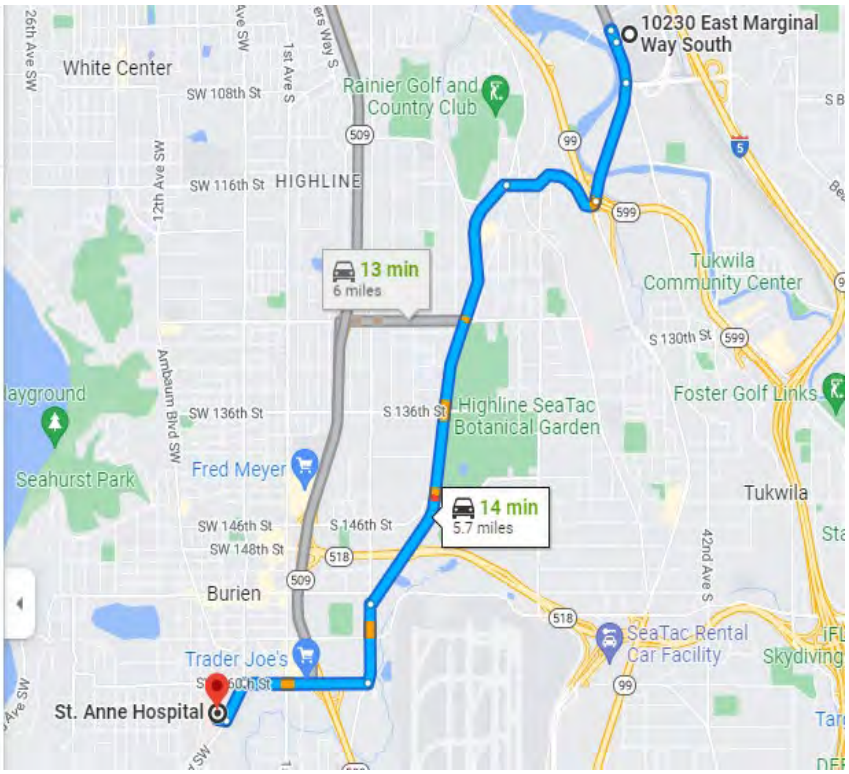
Best route now due to traffic conditions

10230 E Marginal Way S
Seattle, WA 98168

- Drive from Des Moines Memorial Dr and S 160th St to Burien
  14 min (5.6 mi)
- Drive to your destination
  47 s (285 ft)

St. Anne Hospital
16251 Sylvester Rd SW, Burien, WA 98166

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.



1.4 EMERGENCY RESPONSE AND EVACUATION PLAN

Farallon personnel and subcontractors working on the site are to be aware of site-specific emergency and evacuation procedures, including alarm systems and evacuation plans and routes. If an incident occurs that requires emergency response, such as a fire or spill, **CALL 911 and request assistance**. Farallon staff, subcontractors, and/or others working in an area where an emergency occurs are to evacuate to a safe location away from the incident area, preferably upwind, and take attendance. Farallon staff, subcontractors, and/or contractors may not reenter the scene of the emergency without specific approval from emergency response personnel.

Subcontractors have the responsibility to account for their own employees and provide requested information to emergency response personnel immediately upon request.

For this project, the emergency evacuation gathering location is near the intersection of South 102nd Street and East Marginal Way South on the west side of the property, as marked by the red circle on the figure below.

If the emergency causes the route to be obstructed, Farallon personnel and subcontractors are to move to an open area upwind of the hazard area, and remain there until instructed by emergency response personnel (e.g., police, fire, ambulance personnel, paramedics) to do otherwise.

2.0 PROJECT INFORMATION

2.1 SITE LOCATION AND CURRENT USE

The property is at 3301 South Norfolk Street and 10230 East Marginal Way South in Seattle, Washington (herein referred to as the Site). The Site totals approximately 63 acres of land developed with several large warehouse buildings. The Site currently is undergoing redevelopment with one additional building being constructed in the central portion of the Site.

2.2 SITE HISTORY

Historically, the Site comprised two separate properties: the 3301 South Norfolk Street property on the northern, eastern, and southern portions of the Site that historically was and currently is primarily used for commercial warehousing of food products; and the 10230 East Marginal Way South property on the western portion of the Site that historically was used for automobile wrecking and parts salvaging, and currently is vacant.

Subsurface investigations have been conducted at the Site since 1989. Based on the results of the subsurface investigations, petroleum hydrocarbons, benzene, metals, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs) have been detected at concentrations exceeding regulatory screening levels in soil and/or groundwater samples collected on the Site. Numerous remedial actions have been conducted at the Site between 1989 and the present to reduce concentrations of contaminants.

An interim action was conducted between 2020 and 2025 in conjunction with Site redevelopment, which included multiple excavations to remove impacts of petroleum hydrocarbons, PAHs, metals, and/or PCBs in soil and installation of new subsurface utility infrastructure at the Site.

2.3 SCOPE OF WORK

Farallon's role in the next phase of work is to observe installation of monitoring wells, conduct groundwater monitoring events, and conduct a vapor intrusion assessment in accordance with the Remedial Investigation Work Plan prepared for the Site in July 2025. The specific activities that Farallon will perform as part of remedial investigation activities are listed below:

- **Monitoring Well Installation.** New and/or replacement monitoring wells will be installed on the Site as part of the remedial investigation that will be conducted to define the nature and extent of remaining contamination on the Site. Farallon will observe installation of monitoring wells by a Washington State-licensed well driller in accordance with WAC 173-160. Soil samples will be collected during well installation activities for potential laboratory analysis.

- **Groundwater Monitoring.** The remedial investigation will include conducting groundwater monitoring events at new and existing monitoring wells on the Site to evaluate the nature and extent of impacted groundwater.
- **Vapor Intrusion Evaluation.** The remedial investigation will include a vapor intrusion evaluation, which will include installation of permanent subslab soil gas probes and collection of soil gas samples to evaluate whether residual impacts of petroleum hydrocarbons in soil and/or groundwater represent a vapor intrusion concern for occupants of Site building(s).
-

3.0 JOB HAZARD ANALYSIS

A job hazard analysis (JHA) is a formal process that helps identify the most hazardous tasks at a job site, determine what the hazards and potential consequences of these tasks are, and develop corrective and preventative measures to eliminate or reduce the likelihood of accidents, injuries, and illnesses. A hazard is anything in the workplace that has the potential to cause harm to workers. JHAs should consider physical, chemical, biological, radiological, and other hazards that may be present. Conducting regular JHAs will help reduce worker injuries, illnesses, and unsafe work practices.

3.1 TASK-SPECIFIC HAZARDS

Many of the activities that Farallon personnel perform at job sites are routine in nature with well-known hazards. Farallon has prepared JHAs for common activities to support evaluation of site-specific hazards. All Farallon field work will be performed in accordance with the Standard Job Site Protocols found in Attachment 2.

Additionally, when checked below, the applicable JHAs must be included in Attachment 3 and will be reviewed with Site personnel prior to conducting field work:

Investigation Activities

☒ Environmental drilling with soil sampling

☒ Groundwater sampling – reconnaissance and monitoring wells

☐ Excavation activities

☐ Soil gas and subslab soil gas sampling

☐ Soil sampling with hand tools (no drilling)

☐ Other:

Cleanup Activities

☐ Underground storage tank decommissioning

☐ Excavation/construction observation

☐ Remediation systems installation, pilot tests, and operation and maintenance

☐ Remedial injections

☐ Other:

3.2 SITE- OR PROJECT-SPECIFIC HAZARDS

Other than hazards inherent in the work to be performed, Farallon has not identified Site- and/or project-specific hazard(s).

4.0 SITE CONTAMINANTS AND MONITORING REQUIREMENTS

4.1 SITE CONTAMINANTS

The following chemicals or compounds ("Site contaminants") may be present at the Site due to current Site activities or the presence of known or suspected contamination and may pose a risk to workers during performance of the scope of work:

- Total petroleum hydrocarbons (TPH) as gasoline-range organics;
- TPH as diesel-range organics;
- TPH as oil-range organics;
- Benzene, toluene, ethylbenzene, xylenes, and naphthalene;
- Carcinogenic PAHs;
- Metals including arsenic, copper, lead, and manganese.

The table included in Attachment 4 provides health-based and air monitoring information for a variety of contaminants. This table should be reviewed for the identified Site contaminants prior to the start of work and any questions directed to the Site Health and Safety Officer.

4.2 MONITORING REQUIREMENTS

Based on the potential presence of the Site contaminants, the following monitoring protocols will be implemented.

4.2.1 Air Monitoring – Volatile Organic Vapors

As identified in Section 4.1, volatile organic vapors may be present in the breathing zone of Farallon personnel during field activities, which should be evaluated through air monitoring. Air monitoring equipment will consist of the following:

☒ Photoionization detector (PID)

☐ Colorimetric Detector Tubes; type (fill-in): _____

☐ Air monitoring not required: As applicable, justification for no air monitoring at the project site: _____

The following table provides general protocols for conducting air monitoring in the breathing zone for Farallon personnel.

Period when monitoring is required	The duration of field activities that can generate and/or sustain volatile organic vapors in the breathing zone of Farallon personnel.
Monitoring Frequency and Location	Sampling should be continuous during the project while disturbing potentially contaminated soil, uncovering and/or removing tanks and piping, drilling, or managing other contaminated media such as groundwater or soil gas. Breathing zone: take measurements at least every 15 minutes. Exclusion zone boundaries: take measurements every 30 minutes. When collecting soil and groundwater samples, take measurements continuously.
Action Levels if using PID only	10 parts per million (ppm) in breathing zone, sustained for at least 2 minutes: Stop work (including shutting down equipment if warranted), step away from zone for 15 minutes, and then take new readings. If PID measurements remain sustained at 10 ppm or greater, contact the project manager to discuss how to proceed.
Action Levels if using PID and colorimetric detector tubes	10 ppm in breathing zone, sustained for at least 2 minutes: collect a colorimetric detector tube for appropriate contaminant of concern (typically benzene or vinyl chloride are used as indicator chemicals). Stop work if tube indicates > 0.5 ppm for benzene or vinyl chloride and contact the project manager to discuss how to proceed. Stop work if PID reaches or exceeds 50 ppm above background in breathing zone and there is no discoloration of colorimetric detector tubes.
Respirator Use	If the air monitoring results suggest that the use of respirators is warranted to mitigate hazardous levels of volatile organic vapors in breathing zones, the project manager is responsible for updating this HASP to confirm the type of respirator cartridge, rest intervals, decontamination procedures, and other applicable topics. The use of respirators must be coordinated with Farallon's medical monitoring program and include yearly respirator fit testing.

Logs for recording air monitoring measurements and air monitoring equipment calibration are found in Attachment 5.

4.2.2 Personnel Monitoring

Personnel monitoring will not need to be conducted.

4.3 SILICA EXPOSURE CONTROL PLAN

Concrete coring may be required to install borings, which may generate minor amounts of airborne crystalline silica. Activities will be conducted and controlled in compliance with Washington Administrative Code, Chapter 296-840. Handheld and stand-mounted drills (including impact and rotary hammer drills) will be equipped with commercially available shrouds or cowlings with dust collection systems. A HEPA-filtered vacuum will be used when cleaning holes. Rig-mounted core saws or drills will be equipped with an integrated water delivery system that supplies water to cutting surface.

5.0 PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment (PPE) is selected based on the contaminant type(s), concentration(s) in applicable matrix (soil, water, air) and the known route(s) of entry into the human body. Project personnel are not permitted to use lower levels of protection from the specified levels of protection without the prior approval of the Site Health and Safety Officer.

PPE Level:	Modified Level D
Safety Boots:	Required
Hard Hat:	Required when working around heavy equipment or locations where there is risk for head injury
Safety Vest:	Required
Safety Glasses:	Required
Hearing Protection:	Required when working around loud equipment
Gloves:	Nitrile gloves are used during contact with potentially contaminated media and surfaces Work gloves (leather or otherwise) for handling debris, heavy tools, or using hand tools
Additional Site-Specific/Client-Requirements:	None identified
Level C PPE (respirator and chemical-resistant clothing):	Not required for this project. If air monitoring readings exceed action levels, this HASP must be modified to reflect requirements for proceeding under more protective PPE.

6.0 UTILITIES

When conducting subsurface or ground disturbing activities such as drilling or excavation, Farallon project tasks include overseeing subsurface surveys for underground utilities and structures. This is accomplished by filing a public utility notification request and by hiring a private utility locate service. When Farallon files the public utility notification, this alerts the underground utilities owners to mark the facilities on public property as required by law. Owners of underground utilities are **not required** to mark existing service laterals or utilities installed by the property owner. Therefore, private utility locate services must be hired to scan for service laterals and other buried utilities (e.g., on-Site electric distribution lines, irrigation pipes) on private property.

Public utility notification can be filed as early as 14 days prior to conducting the work, and typically is required to be filed at least 2 business days before the field work will occur (varies by state). Please provide the following information:

For projects requiring ground disturbance activities Farallon requires the Utility Locate Clearance Log to be completed and saved to the project folder (Attachment 6). In addition to the Log, please provide the following information:

Public Utility Notification Ticket No.:	TBD
Date that **private** utility locate will be performed:	TBD

A copy of the public utility notification ticket should be included with paperwork kept on the Site during field activities.

Before starting work, identify and discuss the locations of utility and product line shutoff valves and switches on the job site with other field personnel.

6.1 INVESTIGATION LOCATIONS AND UTILITIES

Farallon's project team should identify suitable location(s) of borings and other subsurface work through a thorough review of available construction drawings and known utilities, tanks, product lines, and other known or suspected subsurface obstructions. Additionally, at least the upper 5 feet of each boring will be cleared by one of the following methods:

- Hand auger; or
- Vactor truck and air knife.

Occasionally, project, Site, or regulatory requirements may not allow for hand-clearing the upper 5 feet of a boring. The project team will consult with the Farallon State Health and Safety Coordinator to request a variance to deviate from this subsurface work-related requirement.

7.0 INCIDENTS / NEAR MISSES

Farallon employees are required to report any injury sustained while performing project work or work-related illness to the Project Manager, their Group Manager, and the Corporate Health and Safety Officer, regardless of the seriousness of the incident. The employee will complete an Incident Report form to report the incident, provided in Attachment 7.

A "near miss" is defined as an incident in which no personal injury was sustained and no property damage was incurred, but where personal injury and/or property damage could have occurred, given a slight change in time or position. Employees are encouraged to complete a Near Miss Report form, provided in Attachment 8.

8.0 SITE CONTROLS

8.1 WORK ZONE CONTROL

Farallon personnel will secure and mark work zones so that the zones are visible to site occupants and visitors and are accessible only to personnel scheduled to be in the work zone. This is intended to prevent undesirable interface between pedestrian traffic and project workers and equipment. Devices to secure zones may include:

- Cones;
- Tubular markers; and
- Barricade tape.

If site conditions, such as hazardous levels of Site contaminants, warrant separate work zones, this HASP must be modified to identify Exclusion (Hot), Contamination Reduction (Warm), and Support (Cold) Zones. Modifications must include decontamination procedures for personnel and equipment.

8.2 TRAFFIC CONTROL

Work on the Site will be conducted in areas in or near parking lots and private roadways/lanes. Traffic control/warning devices will be placed around the work area to prevent undesirable interface between pedestrian and automotive traffic and project workers and equipment. These devices may include:

- Cones;
- Tubular markers (construction candles);
- Barricades;
- Temporary fencing; and
- Barricade tape.

The traffic control/warning devices will be placed around the work in such a way that traffic access is inhibited (i.e., place cones less than 8 feet apart so cars cannot easily drive through work area without moving a cone). Barricade tape or temporary fencing will be used to inhibit access to the work area in locations where pedestrians will be encountered.

Within driveways and sidewalks, use minimum of four delineators (e.g. cones with flags, stacker cones, looper tubes, grabber tubes, etc) to surround work zone, minimum 3.5 feet in total height and maximum 4 feet distance between delineators. Use caution tape, pennant strings or barricade boards between delineators. Workers should position at least 5 feet between the delineators and work location and should face the direction of oncoming traffic as much as possible. Stop work and move out of the area if needed until truck traffic clears.

8.3 DECONTAMINATION

Farallon personnel are directed to conduct field work in a manner that minimizes employee contact with hazardous substances or with equipment that has contacted hazardous substances. Typical site decontamination procedures include the use of Alconox or a similar product to clean field equipment prior to and following use at a job site. Farallon personnel use disposable gloves to minimize cross contamination between sample locations.

If site conditions warrant upgraded decontamination procedures, this HASP must be modified to describe the equipment and personnel procedures. The corporate Hazardous Waste Operations Program provides detailed procedures for this purpose.

9.0 ADDITIONAL ELEMENTS

Information contained in this section is required under OSHA HAZWOPER rule 29 CFR 1910.120.

9.1 EMPLOYEE TRAINING

Farallon maintains an employee training program for safety-related topics. Employees will be assigned to perform project tasks for which they have been provided training. Employees are encouraged and empowered to speak up if they believe they need training or additional instruction in order to safely perform a task.

Farallon employees who perform field work at sites that may fall within the definition of 29 CFR 1910.120 will receive training that will include:

- Names of personnel and alternates responsible for Site safety and health;
- Safety, health, and other hazards present on the Site;
- Use of PPE;
- Work practices by which the employee can minimize risks from hazards;
- Safe use of engineering controls and equipment on the Site;
- Medical surveillance requirements, including recognition of symptoms and signs that might indicate overexposure to hazards; and
- Instruction on how to review and implement the Site-specific HASP.

Additional safety training is provided in many venues, including:

- New-hire orientation;
- Annual safety training;
- Project-specific instruction;
- Safety moments during staff meetings; and
- Tailgate safety briefings.

Training records and employee training certificates are maintained by the corporate health and safety management team. These records are available upon request for project-specific purposes.

9.2 MEDICAL SURVEILLANCE

Farallon conducts a medical surveillance program for employees engaged in hazardous waste field operations. The following employees (at a minimum) are covered by the medical surveillance program:

- Employees who are or may be exposed to hazardous substances or health hazards at or above an OSHA Permissible Exposure Level (PEL), or above the published exposure levels for a substance for which there is no PEL, without regard to respirator use, for 30 days or more per year;
- Employees who wear a respirator for 30 days or more per year, or as required by state-specific rules; and
- Employees who are injured, become ill, or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from a hazardous waste operation.

The corporate Hazardous Waste Operations Program provides additional information on Farallon's medical surveillance program. The Corporate Health and Safety Officer works with Farallon Human Resource to manage medical surveillance and maintain confidential records.

9.3 CONFINED SPACE ENTRY

A confined space is defined as a space meeting all of the following criteria:

- The space is large enough and arranged so as to allow an employee to fully enter the space and conduct work;
- The space has limited or restricted entry or exit (e.g., tanks, vessels, silos, storage bins, hoppers, vaults, excavations, pits); and
- The space is not designed primarily for human occupancy.

Farallon personnel occasionally encounter confined-space entry conditions when performing environmental media sample collection from excavations, or when performing in-place underground storage tank closure work. In such situations, the work must be conducted in accordance with Farallon's Confined-Space Entry Program, which requires specialized training for employees performing such work.

Farallon does not perform permit-required confined space (PRCS) entry work. Exceptions to this rule must be approved in advance by the Corporate Health and Safety Officer and prior to fieldwork commencing.

9.4 DRUM/CONTAINER HANDLING AND SPILL CONTAINMENT

It is Farallon's policy to minimize the number of situations in which employees could come into contact with drums or containers that may contain unknown chemicals or substances. Typical situations in which Farallon field personnel handle drums are waste-handling procedures following boring or monitoring well installation and sampling activities. Soil cuttings, monitoring well purge and development water, and equipment decontamination water typically are placed into drums pending disposal. In these instances, the contaminants and the range of potential concentrations typically are known. The Sampling and Analysis Plan, Appendix A of the Remedial Investigation Work Plan presents specific procedures for sampling the contents of the drums or containers. In instances where drums or containers having unknown contents are discovered at a site, Farallon typically hires a subcontractor with expertise in sampling and characterizing drum and container contents.

9.5 WORKPLACE VIOLENCE

Farallon is committed to providing employees with a safe work environment and does not tolerate any type of workplace violence committed by or against employees or other personnel at a site. Workplace violence is any act or threat of physical violence, harassment, intimidation, or other threatening disruptive behavior that occurs at the work site. It ranges from verbal abuse to physical assaults and even homicide.

If a Farallon employee feels threatened or unsafe at a project site, the employee should remove themselves from the situation and notify the project manager immediately. Employees who experience actual or threatened violent behavior should immediately report it to the appropriate authorities.

In the event of an active shooter situation, employees are encouraged to follow guidelines provided by the U.S. Department of Homeland Security.

Active Shooter Guidance

1. Run	2. Hide	3. Fight
• Have an escape route and plan in mind. • Leave your belongings behind. • Keep your hands visible.	• Hide in an area out of the active shooter's view. • Block entry to your hiding place and lock the doors.	• As a last resort and only when your life is in imminent danger. • Attempt to incapacitate the active shooter. • Act with physical aggression and throw items at the active shooter.
CALL 911 WHEN IT IS SAFE TO DO SO		

10.0 LIMITATIONS

This Health and Safety Plan has been prepared by and for the sole use of Farallon Consulting, L.L.C. and its employees. Use of the information or protocols contained herein by any individual or entity other than the intended user is at the sole risk of that individual or entity. Entities and individuals other than Farallon and its employees must rely on their own safety programs and Health and Safety Plans. Laws, regulations, and standards pertaining to the information or protocols contained in this Health and Safety Plan may differ for other states or localities and other types of work. Any individuals or entities other than the intended users who consult this Health and Safety Plan are encouraged to independently review the pertinent laws, regulations, and standards. Under no circumstances shall Farallon Consulting, L.L.C., its officers, or employees be liable for any consequential, indirect, special, incidental, or punitive damages arising out of or related to the use of this Health and Safety Plan by anyone other than its intended user(s).

ATTACHMENT 1

Health and Safety Plan Acknowledgement and Agreement Form
Daily Health and Safety Briefing Log

HEALTH AND SAFETY PLAN ACKNOWLEDGMENT AND AGREEMENT FORM

(All Farallon and subcontractor personnel must sign this form prior to commencing work.)

Farallon Employees: In signing this document, you indicate that you have reviewed the contents of this HASP and will work to implement and comply with the requirements in the HASP.

Farallon Subcontractors and others on the site: In signing this document, you indicate acknowledgement that:

- Non-Farallon personnel are expected to develop and work under their own safety program.
- The Farallon HASP provides general information about potential hazards at the job site but does NOT provide information pertaining to all of the hazards that a contractor's employees may be exposed to as a result of their work.
- You are required to coordinate activities and practices with the project Site Health and Safety Officer (SHSO).
- You are required to inform Farallon of any hazards you are aware of or that your work on the site might possibly pose to Farallon employees.
- You can be prohibited by the SHSO or other Farallon personnel from working on this project for unsafe work practices or failure to comply with Farallon jobsite requirements.

✓ SHSO	Company Name	Name (Print)	Signature	Date

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✓ SHSO	Company Name	Name (Print)	Signature	Date

FARALLON CONSULTING

DAILY HEALTH AND SAFETY BRIEFING LOG

PROJECT INFORMATION	
Farallon PN:	Project Name:
Site Address:	City/State:
MEETING INFORMATION	
Conducted By:	Weather:
Major Job Task:	Date:

DAILY EQUIPMENT CHECKLIST		
☐ Site Check In	☐ First Aid Kit Location(s)	☐ Ear Plugs (if required)
☐ Proper ID/Safety Credentials	☐ Fire Extinguisher Location(s)	☐ Hand Protection (if required)
☐ Hard Hat	☐ Eye Wash Station	☐ Face Shield (if required)
☐ Safety Glasses	☐ Traffic Control (if needed)	☐ Respirator (if required)
☐ Orange Reflective Vest	☐ Safety Toe Boots	☐ _____

UTILITY CLEARANCE LOG – initial when markings confirmed		
_____Electric = Red	_____Gas-Oil-Steam = Yellow	_____Water = Blue
_____Sewer = Green	_____Communications = Orange	_____Temporary Survey = Pink
_____Irrigation/non-potable = Purple	_____No Utility Clearance required	

HEALTH AND SAFETY BRIEFING	
☐ Head Count (No. of employees:)	☐ Chemical/Contaminant Hazards
☐ Emergency Response	☐ Health Hazards
☐ Who will…? (Provide names below.) Call 911: Alternate to call 911: Provide First Aid/CPR:	☐ Environmental Hazards
	☐ Physical Hazards
	☐ Slips, Trips, and Falls
	☐ Utility Locates
☐ Emergency Exits/Rally Points/Hospital Route	☐ Utility/Product Shut-Off Valves/Switches
☐ Site Security and Exclusion Zone	☐ Near Miss Reporting (reminder to look)
☐ Vehicle/Equipment-Specific Safety Practices	☐ Incident Reporting (procedures and forms)
☐ Stop Work Authority	☐ Traffic Control
☐ Excavation Safety (if applicable)	☐ HASP Reviewed and Signed

OTHER SITE-SPECIFIC HEALTH AND SAFETY ISSUES DISCUSSED	
1)	3)
2)	4)

DAILY HEALTH AND SAFETY BRIEFING ATTENDEES		
NAME	COMPANY	SIGNATURE

ATTACHMENT 2

Standard Job Site Protocols

Job Hazard Analysis – Standard Job Site Protocols
Issued September 23, 2020

Farallon developed this Job Hazard Analysis to address typical hazards associated with performing field work. Farallon expects each employee to be safety-focused and to consider safety the top priority when working at a job site.

Safety Briefing	A safety briefing will be held at the job site at the beginning of each day and documented in field notes. On multiple-day projects on the same job site, a safety briefing is required each day.

The following hazards may be present at any type of Farallon job site:

Potential Hazards	Preventive Measures
Inclement weather (e.g., hard rain, snow, ice, high winds, electrical storms, extreme temperatures)	• Check weather reports daily. Evaluate appropriateness of proceeding with field work during inclement weather. • Before driving, be sure that all windows of vehicles are clear of snow and other debris or obstructions. • Drive at the speed limit or less, as needed, to keep a safe distance from any vehicles ahead. Allow enough space between vehicles for braking and slowing. • Stop work and shut down the job site if high winds, lightning, or other adverse weather conditions may pose a risk to site workers.
Exposure to chemicals and contaminants	• Wash hands before eating, drinking, using tobacco products, or otherwise touching one's face. • Before beginning the project, evaluate whether it is safe to wear contact lenses. Most hazards related to eye protection require personal protective equipment upgrades regardless of contact lens use. • Before conducting field work, evaluate whether respirators may be used, to determine whether facial hair may need to be removed so it does not interfere with proper respirator fit.
Cold stress	• See page 2 for OSHA Quick Card.
Heat stress	• See page 3 for OSHA Quick Card.
Lone worker	• During HASP preparation, evaluate risks of working alone at a job site. Implement measures to mitigate risks. • Use the buddy system or re-evaluate tasks if the threat of personal harm cannot be mitigated. • Carry a cell phone or radio on person at all times. • Carry a whistle or other noise-making device if necessary. • In remote areas, carry a GPS-enabled beacon (set up reporting in office prior to field work). • Know the route to the closest hospital.
Plants and insects	• Be aware of poisonous plants. • Apply insect repellant. • Carry first-aid ointment or barrier cream. • Do not wear cologne or other scented products. • Avoid eating in areas where bees or wasps are located.

OSHA® QUICK CARD™

Protecting Workers from Cold Stress

Cold temperatures and increased wind speed (wind chill) cause heat to leave the body more quickly, putting workers at risk of cold stress. Anyone working in the cold may be at risk, e.g., workers in freezers, outdoor agriculture and construction.

Common Types of Cold Stress

Hypothermia

- Normal body temperature (98.6°F) drops to 95°F or less.
- **Mild Symptoms:** alert but shivering.
- **Moderate to Severe Symptoms:** shivering stops; confusion; slurred speech; heart rate/breathing slow; loss of consciousness; death.

Frostbite

- Body tissues freeze, e.g., hands and feet. Can occur at temperatures above freezing, due to wind chill. May result in amputation.
- **Symptoms:** numbness, reddened skin develops gray/white patches, feels firm/hard, and may blister.

Trench Foot (also known as Immersion Foot)

- Non-freezing injury to the foot, caused by lengthy exposure to wet and cold environment. Can occur at air temperature as high as 60°F, if feet are constantly wet.
- **Symptoms:** redness, swelling, numbness, and blisters.

Risk Factors

- Dressing improperly, wet clothing/skin, and exhaustion.

For Prevention, Your Employer Should:

- Train you on cold stress hazards and prevention.
- Provide engineering controls, e.g., radiant heaters.
- Gradually introduce workers to the cold; monitor workers; schedule breaks in warm areas.

For more information:

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA (6742)

OSHA 3156-02R 2014

OSHA® QUICK CARD™

How to Protect Yourself and Others

- Know the symptoms; monitor yourself and co-workers.
- Drink warm, sweetened fluids (no alcohol).
- Dress properly:
  - Layers of loose-fitting, insulating clothes
  - Insulated jacket, gloves, and a hat (waterproof, if necessary)
  - Insulated and waterproof boots

What to Do When a Worker Suffers from Cold Stress

For Hypothermia:

- Call 911 immediately in an emergency.
- To prevent further heat loss:
  - Move the worker to a warm place.
  - Change to dry clothes.
  - Cover the body (including the head and neck) with blankets, and with something to block the cold (e.g., tarp, garbage bag). Do **not** cover the face.
- If medical help is more than 30 minutes away:
  - Give warm, sweetened drinks if alert (no alcohol).
  - Apply heat packs to the armpits, sides of chest, neck, and groin. Call 911 for additional rewarming instructions.

For Frostbite:

- Follow the recommendations "**For Hypothermia**".
- Do not rub the frostbitten area.
- Avoid walking on frostbitten feet.
- Do not apply snow/water. Do not break blisters.
- Loosely cover and protect the area from contact.
- Do not try to rewarm the area unless directed by medical personnel.

For Trench (Immersion) Foot:

- Remove wet shoes/socks; air dry (in warm area); keep affected feet elevated and avoid walking. Get medical attention.

For more information:

OSHA® Occupational Safety and Health Administration

U.S. Department of Labor

www.osha.gov (800) 321-OSHA (6742)

OSHA® QUICK CARD™

Protecting Workers from Heat Stress

Heat Illness

Exposure to heat can cause illness and death. The most serious heat illness is heat stroke. Other heat illnesses, such as heat exhaustion, heat cramps and heat rash, should also be avoided.

There are precautions that can be taken any time temperatures are high and the job involves physical work.

Risk Factors for Heat Illness

- High temperature and humidity, direct sun exposure, no breeze or wind
- Heavy physical labor
- No recent exposure to hot workplaces
- Low liquid intake
- Waterproof clothing

Symptoms of Heat Exhaustion

- Headache, dizziness, or fainting
- Weakness and wet skin
- Irritability or confusion
- Thirst, nausea, or vomiting

Symptoms of Heat Stroke

- May be confused, unable to think clearly, pass out, collapse, or have seizures (fits)
- May stop sweating

To Prevent Heat Illness:

- Establish a complete heat illness prevention program.
- Provide training about the hazards leading to heat stress and how to prevent them.
- Provide a lot of cool water to workers close to the work area. At least one pint of water per hour is needed.

For more information:
OSHA® Occupational Safety and Health Administration
www.osha.gov (800) 321-OSHA (6742)

OSHA 3154-08R 2017

OSHA® QUICK CARD™

- Modify work schedules and arrange frequent rest periods with water breaks in shaded or air-conditioned areas.
- Gradually increase workloads and allow more frequent breaks for workers new to the heat or those that have been away from work to adapt to working in the heat (acclimatization).
- Designate a responsible person to monitor conditions and protect workers who are at risk of heat stress.
- Consider protective clothing that provides cooling.

How to Protect Workers

- Know signs/symptoms of heat illnesses; monitor yourself; use a buddy system.
- Block out direct sun and other heat sources.
- Drink plenty of fluids. Drink often and BEFORE you are thirsty. Drink water every 15 minutes.
- Avoid beverages containing alcohol or caffeine.
- Wear lightweight, light colored, loose-fitting clothes.

What to Do When a Worker is Ill from the Heat

- Call a supervisor for help. If the supervisor is not available, call 911.
- Have someone stay with the worker until help arrives.
- Move the worker to a cooler/shaded area.
- Remove outer clothing.
- Fan and mist the worker with water; apply ice (ice bags or ice towels).
- Provide cool drinking water, if able to drink.

IF THE WORKER IS NOT ALERT or seems confused, this may be a heat stroke. CALL 911 IMMEDIATELY and apply ice as soon as possible.

For more information:
OSHA® Occupational Safety and Health Administration
www.osha.gov (800) 321-OSHA (6742)

ATTACHMENT 3

Task-Specific Job Hazard Analyses

Job Hazard Analysis – Groundwater Sampling, including Monitoring Wells
Issued September 23, 2020

Farallon developed this Job Hazard Analysis (JHA) to address typical hazards associated with the noted activity. For each project, the project team should evaluate the listed hazards and update the JHA accordingly to note additional site-specific or project-specific hazards. Field work may be performed in conjunction with other JHAs, depending on project scope.

Farallon employees are responsible for being knowledgeable about general site conditions and associated preventive measures as noted in the Job Hazard Analysis – General Site Conditions.

Personal Protective Equipment (PPE)	Level D – safety boots, high-visibility clothing (vest if exposed to vehicular traffic), safety glasses with side shields, hard hat, appropriate gloves, hearing protection. Face shield may be warranted depending on contaminant(s).
Safety Data Sheets Needed	Sample preservative(s), equipment decontamination chemicals.
Safety Briefing	A safety briefing will be held at the job site at the beginning of each day and documented in field notes. On multiple-day projects on the same job site, a safety briefing is required each day.

Job Steps	Potential Hazards	Preventive Measures
Mobilize with equipment/supplies suitable for sampling.	Vehicle and pedestrian traffic. Strain from lifting and carrying. Slips, trips, or falls.	• Follow safe driving procedures. • Employ safe lifting procedures. Evaluate walking path before proceeding. Use hand truck or cart to avoid carrying heavy or awkward loads. • Be aware of surroundings.
Set up job site, including any site and traffic controls.	Vehicle and pedestrian traffic. Pedestrian interactions (unfriendly). Slips, trips, or falls.	• Begin with safety briefing. • Implement traffic control through cones or other barriers when working in parking lots or other on-site, low-speed vehicle traffic areas. • When conducting work within road right-of-way, subcontract a traffic control company to develop and implement traffic-control plans if warranted. • Use a traffic control subcontractor for implementing their traffic-control plan, such as setting out cones and tape in the road to define the safety area and/or conduct flagging operations. • Stand clear of vehicular traffic. • Be aware of surroundings. • Establish exclusion zone for job site. • Be aware of pedestrian traffic entering the exclusion zone.

Job Hazard Analysis – Groundwater Sampling, including Monitoring Wells
Issued September 23, 2020

Job Steps	Potential Hazards	Preventive Measures
Gauge water levels and product thickness (where applicable) in well(s).	Exposure to chemicals and contaminants. Strain and repetitive motion. Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Wear nitrile or other suitable gloves. • Wear protective clothing if contaminants pose a dermal hazard. • Employ safe lifting procedures. • Keep work area clear of trip or fall hazards.
Purge well(s) and collect purge water.	Exposure to chemicals and contaminants. Strain and repetitive motion from bailing, pulling pumps, and carrying full containers of purge water. Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Wear nitrile or other suitable gloves. • Wear protective clothing if contaminants pose a dermal hazard. • Employ safe lifting procedures. • Keep work area clear of trip or fall hazards.
Collect samples in accordance with sampling plan.	Exposure to chemicals and contaminants. Contact with sample preservative (acid). Sample-container breakage. Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Wear nitrile or other suitable gloves. • Wear protective clothing if contaminants pose a dermal hazard. • Handle sample containers carefully. • Keep work area clear of trip or fall hazards.
Dispose of or store purge water on the site.	Exposure to chemicals and contaminants. Strain and repetitive motion from carrying and lifting full containers of purge water. Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Wear nitrile or other suitable gloves. • Wear protective clothing if contaminants pose a dermal hazard. • Use suitable equipment to transport water (e.g., pumps, drum dollies). • Keep work area clear of trip or fall hazards.

Job Steps	Potential Hazards	Preventive Measures
Clean the site; demobilize.	Vehicle and pedestrian traffic. Strain from lifting. Slips, trips, or falls.	• Use buddy system to remove traffic control in parking lots or other similar low-speed vehicle traffic areas, as necessary. • Employ safe lifting procedures. • Keep work area clear of hazards.
Package and deliver samples to laboratory.	Sample-container breakage. Strain from lifting. Vehicle and pedestrian traffic.	• Handle and pack sample containers carefully. • Employ safe lifting procedures. Evaluate walking path before proceeding. Use hand truck or cart to avoid carrying heavy or awkward loads. • Follow safe driving procedures.

Job Hazard Analysis – Environmental Drilling
Issued September 23, 2020

Farallon developed this Job Hazard Analysis (JHA) to address typical hazards associated with the noted activity. For each project, the project team should evaluate the listed hazards and update the JHA accordingly to note additional site-specific or project-specific hazards. Field work may be performed in conjunction with other JHAs, depending on project scope.

Farallon employees are responsible for being knowledgeable about general site conditions and associated preventive measures as noted in the Job Hazard Analysis – General Site Conditions.

Key Pre-Field Tasks	Utility notification (Section 6 of site-specific Health and Safety Plan [HASP]).
Personal Protective Equipment (PPE)	Level D – safety boots, high-visibility clothing (vest if exposed to vehicular traffic), safety glasses with side shields, hard hat, appropriate gloves, hearing protection.
Safety Data Sheets Needed	Sample preservative(s), equipment decontamination chemicals.
Safety Briefing	A safety briefing will be held at the job site at the beginning of each day and documented in field notes. On multiple-day projects on the same job site, a safety briefing is required each day.

Job Steps	Potential Hazards	Preventive Measures
Mobilize to site with equipment/supplies suitable for drilling.	Vehicle and pedestrian traffic. Strain from lifting and carrying. Slips, trips, or falls.	• Follow safe driving procedures. • Employ safe lifting procedures. Evaluate walking path before proceeding. Use hand truck or cart to avoid carrying heavy or awkward loads. • Be aware of surroundings.
Set up job site, including any site and traffic controls, and conduct on-site utility clearance.	Vehicle and pedestrian traffic. Pedestrian interactions (unfriendly). Slips, trips, or falls.	• Begin with safety briefing. • Implement traffic control through cones or other barriers when working in parking lots or other on-site, low-speed vehicle traffic areas. • When conducting work within road right-of-way, subcontract a traffic control company to develop and implement traffic-control plans if warranted. • Use a traffic control subcontractor for implementing their traffic-control plan, such as setting out cones and tape in the road to define the safety area and/or conduct flagging operations. • Stand clear of vehicular traffic. • Be aware of surroundings. • Establish exclusion zone for job site. • Be aware of pedestrian traffic entering the exclusion zone.

Job Steps	Potential Hazards	Preventive Measures
Coordinate drill rig setup; establish workstation and exclusion zone if needed.	Accident or injury from rig movement or equipment failure. Contact with overhead utilities or obstructions. Soft terrain. Unexpected rig movement. Slips, trips, or falls.	• Ensure that all staff know the location of the kill switch for the drilling rig. • Visually inspect rig (e.g., fire extinguisher on board, no oil or other fluid leaks, cabling and associated equipment in good condition, pressurized hoses secured with whip-checks or adequate substitute, jacks in good condition). • Verify a clear pathway to the drilling location and clearance for raising mast. • Provide hand signals and guidance to the driver, as needed, to place rig. • Use wooden blocks under jacks to spread load, if necessary. Chock wheels if on slope. • Set up workstations with clear walking paths to and from rig. Use safety tape and cones.
Observe drilling activities. Includes clearing upper 5 feet of drilling location by air knife, Vactor truck, or hand auger.	Exposure to chemicals and contaminants. Eye injury from flying debris. Noise. Hitting an underground or overhead utility or other obstruction. Accident or injury from drill rig equipment failure or overturned rig. Strain and repetitive motion (if Farallon employee conducts hand-augering). Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Stand clear of operating equipment. • Wear eye and hearing protection. • Stand upwind to minimize exposure when possible. • Re-inspect utility markings at each drilling location before proceeding with boring. • If drilling within 3 feet of marked utilities, daylight the utility (hand-shovel) to verify its location. • Keep work area clear of trip or fall hazards. • Perform periodic visual inspections of drill rig. • Employ safe lifting procedures. • Contact Corporate Health and Safety Coordinator if variance for utility clearing is required.

Job Steps	Potential Hazards	Preventive Measures
Evaluate soil cores and collect soil samples in accordance with sampling plan. Include managing cuttings. See separate JHA for groundwater sampling.	Exposure to chemicals and contaminants. Contact with sample preservative (acid). Sample-container breakage. Strain from lifting and carrying soil cores and buckets. Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Wear nitrile or other suitable gloves. • Handle sample containers carefully to avoid spilling preservative. • Handle and store sample containers carefully. • Stand clear of operating equipment. • Employ safe lifting procedures. Request drilling crew to transport soil cores and buckets if necessary. • Keep work area clear of hazards. • Evaluate soil samples at arm's length. Place soil inside a resealable plastic bag if closer evaluation is warranted. Avoid inhaling odors from samples.
Observe borehole abandonment or monitoring well construction.	Exposure to chemicals and contaminants. Eye injury from splashing or release of pressurized grout. Strain from lifting bags of bentonite/grout (if Farallon employee is performing the backfill task). Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Wear goggles and/or splash shield if standing within splash zone of grout. • Wear nitrile or other suitable gloves. • Keep work area clear of hazards. • Employ safe lifting procedures.
Manage investigation-derived waste.	Exposure to chemicals and contaminants. Strain from lifting. Slips, trips, or falls.	• Monitor breathing zone in accordance with the air monitoring protocol presented in site-specific HASP. Stop work and re-evaluate PPE if monitoring indicates respiratory protection is warranted. Have respirator at hand as identified in site-specific HASP. • Wear nitrile or other suitable gloves. • Wear protective clothing if contaminants pose a dermal hazard. • Use suitable equipment to transport investigation-derived waste (e.g., pumps, drum dollies).

Job Steps	Potential Hazards	Preventive Measures
Clean the site; demobilize.	Strain from lifting. Vehicle and pedestrian traffic. Slips, trips, or falls.	• Use buddy system to remove traffic control in parking lots or other similar low-speed vehicle traffic areas, as necessary. • Employ safe lifting procedures. • Keep work area clear of hazards.
Package and deliver samples to laboratory.	Sample-container breakage. Strain from lifting. Vehicle and pedestrian traffic.	• Handle and pack bottles carefully. • Employ safe lifting procedures. Evaluate walking path before proceeding. Use hand truck or cart to avoid carrying heavy or awkward loads. • Follow safe driving procedures.

ATTACHMENT 4

Health-Based and Monitoring Information for Potential Site Contaminants

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Farallon job sites may contain one or more of the chemicals or compounds provided in the following table. These substances may be present due to historical site use, current Site activities, or the presence of contamination from unknown sources. This table should be reviewed prior to the start of work and questions directed to the Site Health and Safety Officer. Air monitoring may be required at a Site based on the scope of work for the project. Refer to the site-specific Health and Safety Plan to determine whether air or personnel monitoring will be required for the scope of work.

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
Petroleum Compounds and Petroleum Additives						
Benzene	PEL – 1 ppm TLV – 0.5 ppm (skin)	PEL STEL – 5 ppm IDLH – 500 ppm	Characteristic benzene odor.	Inhalation; dermal; ingestion; eye contact.	Skin (dermatitis); eye, respiratory tract irritant; headache; dizziness; nausea.	Carcinogen; CNS; eye damage; bone marrow; blood; skin; leukemia.
Coal tar pitch volatiles (aka polycyclic aromatic hydrocarbons pyrene, phenanthrene, chrysene, anthracene, and benzo[a]pyrene)	PEL – 0.2 mg/m^3	NIOSH REL – 0.1 mg/m^3 (cyclohexane-extractable fraction) IDLH – 80 mg/m^3	Black or dark-brown amorphous residue.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, skin; nose, throat irritation that may cause difficulty breathing.	Skin and lung cancer; damage to the reproductive system; thickening and darkening of the skin.
Ethylbenzene	PEL – 100 ppm TLV – 100 ppm	PEL STEL – 125 ppm TLV STEL – 125 ppm NIOSH REL – 100 ppm REL STEL – 125 ppm IDLH – 800 ppm	Pungent, aromatic odor.	Inhalation; dermal; ingestion; eye contact.	Skin, eye, mucous membrane irritant; headache; dizziness; drowsiness.	Eyes; respiratory tract; skin; CNS; blood; kidneys; liver.
2-Methylnaphthalene	Not established. 2-Methylnaphthalene is part of the naphthalenes family, but is not considered as hazardous as naphthalene. Limits for naphthalene should be used as a conservative approach.		Normally crystalline.	Inhalation; dermal; ingestion; eye contact.	Intoxication is most common following ingestion, but can occur after dermal or inhalation exposure. Eye irritant; conjunctivitis; superficial injury to cornea; diminished visual acuity; dermatitis; hypersensitivity; nausea and vomiting; skin irritation; headache; vomiting; fever; photosensitization; restlessness; lethargy; acute renal failure possible.	Anorexia; hemolysis; methemoglobinemia; hyperkalemia; anemia; cataracts. Seizures, coma may develop in severe intoxications.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
Methyl tertiary-butyl ether (MTBE)	No PEL established. TLV – 40 ppm	AIHA WEEL – 100 ppm	Flammable liquid with a distinctive, disagreeable odor.	Inhalation; dermal; ingestion.	Irritated nose, throat; headache; dizziness; nausea; sleepiness.	CNS, liver, kidney, gastrointestinal damage; potential carcinogen.
Naphthalene	PEL – 10 ppm TLV – 10 ppm	TLV STEL – 15 ppm NIOSH REL – 10 ppm REL STEL – 15 ppm IDLH – 250 ppm	Mothball-like odor.	Inhalation; dermal; ingestion; eye contact.	Skin, eye, mucous membrane irritant, nausea.	Eyes, blood, skin, liver, kidney, RBC, CNS.
Toluene	PEL – 100 ppm TLV – 50 ppm	NIOSH REL – 100 ppm TWA; 150 ppm STEL ILDH – 500 ppm	Sweet, pungent, benzene-like odor.	Eye contact.	Skin (dermatitis); eye, respiratory tract irritant; headache; dizziness; weakness; fatigue.	CNS; liver; kidneys; skin.
Xylenes	PEL – 100 ppm TLV – 100 ppm	TLV STEL – 500 ppm NIOSH REL – 100 ppm NIOSH REL STEL – 100 ppm IDLH – 900 ppm	Aromatic odor.	Inhalation; dermal; ingestion; eye contact.	Throat, skin irritant (dermatitis); headache; nausea; drowsiness; fatigue.	CNS, liver, kidneys, skin, gastrointestinal damage; eye damage.
Chlorinated Volatile Organic Compounds						
Carbon Tetrachloride	PEL – 2 ppm C – 25 ppm TLV – 5 ppm	IDLH – 300 ppm	Colorless liquid with a characteristic ether-like odor.	Inhalation, skin absorption, ingestion, skin and/or eye contact.	Irritation to eyes and skin; CNS depression; nausea, vomiting; liver and kidney injury; drowsiness, dizziness, incoordination.	Cancerous – liver. Liver and/or kidney damage. CNS, eyes, lungs, liver, kidneys, skin.
Chloroethane	PEL – 1,000 ppm TLV – 1,000 ppm	IDLH – 3,800 ppm	Colorless gas or liquid (below 54°F) with a pungent, ether-like odor.	Inhalation, skin absorption, ingestion, skin and/or eye contact.	Incoordination, inebriation, abdominal cramps.	Cardiac arrhythmias, cardiac arrest, liver and/or kidney damage. Liver, kidneys, respiratory system, CVS, CNS.
Chloroform	PEL – 2 ppm C – 50 ppm TLV – 10 ppm	WA STEL – 4 ppm IDLH – 500 ppm	Colorless liquid with a pleasant odor.	Inhalation, skin absorption, ingestion, skin and/or eye contact.	Irritation to eyes and skin, dizziness, mental dullness, nausea, confusion, headache, lassitude, anesthesia.	Cancerous – liver and kidneys. Anesthesia, damage to liver, damage to kidneys. Liver, kidneys, heart, eyes, skin, CNS.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
1,4-Dichlorobenzene	PEL – 75 ppm (450 mg/m^3) TLV – 10 ppm	IDLH – 1,000 ppm	Colorless or white crystalline solid with a mothball-like odor. Reacts to strong oxidizers.	Inhalation, skin absorption, ingestion, skin and/or eye contact.	Eye irritation, swelling periorbital, profuse rhinitis, headache, anorexia, nausea, vomiting, weight loss, jaundice, cirrhosis.	Cancerous – liver and kidney. Liver and/or kidney damage. Liver, respiratory system, eyes, kidneys, and skin.
Dichlorodifluoromethane	PEL – 1,000 ppm TLV – 1,000 ppm	IDLH – 15,000 ppm	Colorless gas with an ether-like odor at extremely high concentrations.	Inhalation, skin and/or eye contact.	Dizziness, tremor, asphyxia, unconsciousness, cardiac arrhythmias, cardiac arrest, frostbite.	CVS, peripheral nervous system.
1,1-Dichloroethane	PEL – 100 ppm (400 mg/m^3) TLV – 100 ppm	WA STEL – 150 ppm IDLH – 3,000 ppm	Colorless, oily liquid with a chloroform-like odor.	Inhalation, ingestion, skin and/or eye contact.	Irritation to skin, CNS depression, liver damage, kidney damage, lung damage.	Liver, kidney, and/or lung damage. Skin, liver, kidneys, lungs, CNS.
1,2-Dichloroethane	PEL – 1 ppm C – 100 ppm TLV – 10 ppm	WA STEL – 2 ppm IDLH – 1,000 ppm	Colorless liquid with a pleasant, chloroform-like odor. Decomposes slowly, becomes acidic and darkens in color.	Inhalation, ingestion, skin absorption, skin and/or eye contact.	Irritation to eyes, corneal opacity, CNS depression, nausea, vomiting, dermatitis.	Liver, kidney, and/or CVS damage. Eyes, skin, kidneys, liver, CNS, CVS.
1,1-Dichloroethene (vinylidene chloride)	No PEL TLV – 5 ppm	NIOSH considers this compound to be a carcinogen.	Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor.	Inhalation; skin absorption; ingestion; eye contact.	Irritation to eyes, skin, throat; dizziness; headache; nausea; dyspnea (breathing difficulty).	Liver, kidney dysfunction; pneumonitis; potential occupational liver and kidney carcinogen. **Target Organs:** Eyes, skin, respiratory system, CNS, liver, kidneys.
1,2-Dichloroethene (dichloroethylene)	PEL – TWA 200 ppm TLV – TWA 200 ppm	WA STEL – 250 ppm IDLH – 1,000 ppm	Solvent odor.	Inhalation; skin absorption; ingestion; eye contact.	Typical solvent symptoms.	Liver, kidney, CNS symptoms.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
Methylene chloride	PEL – 25 ppm TLV – 50 ppm	WA STEL – 125 ppm	Colorless liquid with a chloroform-like odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, skin; fatigue; weakness; somnolence (sleepiness, unnatural drowsiness); lightheadedness; numbness; tingling limbs; nausea.	Potential occupational carcinogen. **Target Organs:** Eyes, skin, CVS, CNS.
Tetrachloroethene (perchloroethylene)	PEL – 25 ppm TLV – 25 ppm	WA STEL – 38 ppm TLV STEL – 100 ppm IDLH – 150 ppm NIOSH considers this compound to be a carcinogen.	Colorless liquid with a mild, chloroform-like odor.	Inhalation; skin absorption; ingestion; eye contact.	Irritation to eyes, skin, nose, throat, respiratory system; nausea; flushed face, neck; vertigo (an illusion of movement); dizziness; lack of coordination; headache; skin erythema (redness).	Somnolence (sleepiness, unnatural drowsiness); liver damage; potential occupational liver carcinogen. **Target Organs:** Eyes, skin, respiratory system, liver, kidneys, CNS.
1,1,1-Trichloroethane (methyl chloroform)	PEL – TWA 350 ppm TLV – 350 ppm STEL – 450 ppm	NIOSH C – 350 ppm	Colorless liquid with a mild, chloroform-like odor.	Inhalation; skin absorption; ingestion; eye contact.	Irritation to eyes, skin; headache; CNS depressant; poor equilibrium; lassitude (weakness, exhaustion); depression; dermatitis.	Cardiac arrhythmias; liver damage. **Target Organs:** Eyes, skin, CNS, CVS, liver.
1,1,2-Trichloroethane	PEL TWA – 10 ppm (45 mg/m^3) (skin) TLV – 10 ppm	WA STEL – 20 ppm REL TWA – 10 ppm (45 mg/m^3) (skin)	Colorless liquid with a sweet, chloroform-like odor.	Inhalation; skin absorption; ingestion; eye contact.	Irritation to eyes, nose; CNS depressant; depression; dermatitis.	Liver, kidney damage; potential occupational liver carcinogen. **Target Organs**: Eyes, respiratory system, CNS, liver, kidneys.
Trichloroethene (trichloroethylene)	PEL – 50 ppm TLV – 50 ppm	WA STEL – 200 ppm PEL C – 200 ppm NIOSH considers trichloroethylene to be a carcinogen.	Colorless liquid (unless dyed blue) with a chloroform-like odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, skin; headache; vertigo (an illusion of movement); visual disturbance; fatigue; giddiness; tremor; nausea; somnolence (sleepiness, unnatural drowsiness); vomiting; dermatitis.	Cardiac arrhythmias; paresthesia; liver injury; potential occupational carcinogen of liver, kidney.
Vinyl chloride	PEL – 1 ppm TLV – 1 ppm	WA STEL – 5 ppm WA action level is 0.5 ppm TWA 8 hrs NIOSH considers this material to be a carcinogen.	Liquid with a pleasant odor at high concentrations.	Inhalation; dermal; eye contact.	Weakness; abdominal pain; pallor or cyanosis of extremities; liquid frostbite.	Gastrointestinal bleeding; enlarged liver; potential occupational liver carcinogen; damage to CNS, blood, respiratory system, lymphatic system.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
Other Organic Compounds						
Acetone	PEL – 750 ppm TLV – 500 ppm	WA STEL – 1,000 ppm NIOSH REL – 250 ppm TLV STEL – 750 ppm IDLH – 2,500 ppm	Fragrant, mint-like odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, nose, throat; headache; dizziness; dermatitis.	CNS depressant; depression; liver, kidney damage.
Benzo(a)pyrene equivalent	PEL – TWA 0.2 mg/m^3	WA STEL – 0.6 mg/m^3	Solid powder, dark-yellow, aromatic	Inhalation; ingestion; dermal; eye contact	Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing	Carcinogen
Bromoform	PEL – 0.5 ppm (5 mg/m^3) TLV – 0.5 ppm	WA STEL – 1.5 ppm IDLH – 850 ppm	Colorless to yellow liquid with a chloroform-like odor.	Inhalation, skin absorption, ingestion, skin and/or eye contact.	Irritation to eyes, skin, and respiratory system; CNS depression; liver and kidney damage.	Liver and/or kidney damage. Eyes, skin, respiratory system, CNS, liver, and kidneys.
2-Butanone (methyl ethyl ketone)	PEL – 200 ppm TLV – 200 ppm	WA STEL – 300 ppm NIOSH REL – 200 ppm REL STEL – 300 ppm TLV STEL – 300 ppm	Colorless liquid with a moderately sharp, fragrant, mint- or acetone-like odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, skin, nose; headache; dizziness; vomiting; dermatitis.	Eyes; skin; respiratory system; CNS.
Carbon disulfide	PEL – 4 ppm TLV – 10 ppm	WA STEL – 12 ppm PEL C – 30 ppm	Colorless to faint yellow liquid with a sweet ether-like odor.	Inhalation; dermal; ingestion; eye contact.	Dizziness; headache; poor sleep; fatigue; nervousness; eye, skin burns; dermatitis.	Anorexia; weight loss; ocular changes; psychosis; polyneuropathy; Parkinson-like syndrome; coronary heart disease; gastritis; kidney, liver injury; reproductive effects.
Dioxins and Furans	**OSHA and other health monitoring organizations have not established health-based action levels.** 2,3,7,8-tetrachloro-p-dibenzo-dioxin (2,3,7,8 TCDD) is considered the most toxic of the dioxins and furans group of compounds and is the indicator compound.		Colorless to white crystalline solid.	Inhalation; dermal; ingestion; eye contact.	Irritation eyes; allergic dermatitis, chloracne; porphyria; gastrointestinal disturbance.	Possible reproductive or teratogenic effects.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
2-Hexanone (methyl n-butyl ketone)	PEL – 5ppm TLV – 5 ppm	WA STEL – 10 ppm NIOSH REL – 1 ppm IDLH – 1,600 ppm	Colorless liquid with an acetone-like odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, nose; dermatitis; headache; drowsiness.	Damages to eyes, skin, respiratory system, CNS, peripheral nervous system (peripheral neuropathy: weakness, paresthesia).
Methane	None	Explosive limits: LEL: 5% by volume UEL: 15% by volume	Flammable gas that may displace oxygen	Risk of explosion or asphyxiation	Mood changes, slurred speech, vision problems, memory loss, nausea, vomiting, facial flushing and headache	None identified
Pentachlorophenol (PCP)	PEL – 0.5 mg/m^3	WA STEL – 1.5 mg/m^3 NIOSH REL – 0.5 mg/m^3 IDLH – 2.5 mg/m^3	Colorless to white crystalline solid with a benzene-like odor.	Inhalation; skin absorption; ingestion; skin, eye contact.	Irritation to eyes, nose, throat; sneezing; cough; lassitude (weakness, exhaustion); anorexia; weight loss; sweating; headache; dizziness; nausea; vomiting; dyspnea (breathing difficulty); chest pain; high fever; dermatitis.	Eyes; skin; respiratory system; CNS; CVS; liver; kidneys.
Per- and polyfluoroalkyl substances (PFAS)	**OSHA and other health monitoring organizations have not established health-based action levels.** Perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), perfluorobutanesulfonic acid (PFBS), and hexafluoropropylene oxide dimer acid hexafluoropropylene oxide (HFPO) are indicator compounds for the PFAS group of compounds.		Found in various forms.	Inhalation; dermal; eye; ingestion.	Irritation to eyes, skin, respiratory tract.	Possible carcinogen.
Polychlorinated biphenyls (PCBs)	PEL 0.5 – 1 mg/m^3 TLV 0.5 – 1 mg/m^3, depending on the species	WA STEL – 1.5 - 3 mg/m^3 NIOSH REL – 0.001 mg/m^3 NIOSH considers this material to be a carcinogen. IDLH – 5 mg/m^3	Pale or dark yellow odorless liquid.	Inhalation; dermal; ingestion. Skin absorption is a significant mode of exposure.	Irritation to eyes, skin, respiratory tract; chloroacne.	May cause reproductive, CNS, CVS, skin, eye, liver effects; cancer (leukemia).
Styrene	PEL – 50 ppm TLV – 20 ppm	WA STEL – 100 ppm PEL C – 200 ppm TLV STEL – 40 ppm NIOSH REL – 50 ppm	Colorless to yellow oily liquid with a sweet, floral odor.	Inhalation; dermal; ingestion; eye contact.	Irritation to eyes, nose, respiratory system; headache; fatigue; dizziness; confusion; malaise (vague feeling of discomfort); drowsiness; weakness; unsteady gait; narcosis.	Defatting dermatitis; possible liver injury; reproductive effects.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
2,4,6-Trinitrotoluene (TNT)	PEL 0.5 mg/m^3 TWA	WA STEL –1.5 mg/m^3	Colorless to pale yellow, odorless solid or crushed flakes.	Inhalation, skin absorption, ingestion, skin and/or eye contact.	Irritation to skin and mucous membranes; liver damage/jaundice; cyanosis; sneezing; cough and/or sore throat; peripheral neuropathy; muscle pain; kidney damage; cataract; sensitization dermatitis; leukocytosis (increased blood leukocytes); anemia; cardiac irregularities.	Eyes, skin, respiratory system, blood, liver, cardiovascular system, CNS, kidneys.
Pesticides and Herbicides						
Dieldrin	PEL – 0.25 mg/m^3 TWA – 0.25 mg/m^3	WA STEL – 0.75 mg/m^3 IDLH – 50 mg/m^3	Insecticide, colorless to light tan crystals with a mild, chemical odor.	Inhalation, skin absorption, ingestion, skin and eye contact.	Headache, dizziness; nausea, vomiting, malaise (vague feeling of discomfort), sweating; myoclonic limb jerks; clonic-tonic convulsions; coma.	CNS, liver, kidneys, skin.
Metals and Other Inorganic Materials						
Arsenic	PEL – 0.010 mg/m^3	NIOSH REL – CA C 0.002 mg/m^3 [15-minutes]	Metal: Silver-gray or tin-white, brittle, odorless solid.	Inhalation; skin absorption; skin and/or eye contact; ingestion.	Ulceration of nasal septum; peripheral neuropathy; gastrointestinal disturbances; dermatitis; respiratory irritation; hyperpigmentation of skin (potential occupational carcinogen).	Lung and lymphatic cancer; liver; kidneys; skin; lungs; lymphatic system.
Asbestos	Per Part 1910.1001 of Title 29 of the Code of Federal Regulations and NIOSH: PEL and REL – 0.1 fiber per cubic centimeter of air (0.1 fiber/cm^3)	OSHA considers asbestos to be a carcinogen.	White or greenish (chrysotile), blue (crocidolite), or gray-green (amosite) fibrous, odorless solids.	Inhalation; ingestion; skin, eye contact.	Eye irritation; breathing difficulty; gastrointestinal issues.	Eye irritation; asbestosis; mesothelioma; lung cancer; dyspnea; cancer of the gastrointestinal tract. **Target Organs**: Respiratory system, eyes.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
Beryllium	PEL – 0.0002 mg/m^3 STEL – 0.002 mg/m^3 TLV – 0.002 mg/m^3	IDLH – 4 mg/m^3	Metal – hard, brittle, gray-white solid.	Inhalation, skin and/or eye contact.	Irritation to eyes, dermatitis.	Cancerous – lung. Berylliosis: anorexia, weight loss, lassitude, chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency. Eyes, skin, respiratory system.
Barium	PEL – 0.5 mg/m^3 TLV – 0.5 mg/m^3	IDLH – 50 mg/m^3	White, colorless solid.	Inhalation, ingestion, skin and/or eye contact.	Irritation to eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasms.	Slow pulse, extrasystoles, hypokalemia. Eyes, skin, respiratory system, heart, CNS.
Cadmium	PEL – 0.005 mg/m^3		Odorless, yellow-brown, finely divided particulate dispersed in air.	Inhalation.	Pulmonary edema; dyspnea (breathing difficulty); cough; chest tightness; substernal (occurring beneath the sternum) pain; headache; chills; muscle aches; nausea; vomiting; diarrhea; emphysema; proteinuria; anosmia (loss of the sense of smell); mild anemia; potential occupational carcinogen.	Prostate and lung cancer; respiratory system; kidneys; blood.
Chromium	PEL – 0.5 mg/m^3 Cr (VI) – 0.005 mg/m^3	IDLH – 250 mg/m^3	Blue-white to steel-gray, lustrous, brittle, hard, odorless solid.	Inhalation, ingestion, skin and/or eye contact.	Irritation to eyes and skin.	Lung fibrosis. Eyes, skin, respiratory system.
Cobalt	PEL – 0.05 mg/m^3 TLV – 0.05 mg/m^3	WA STEL – 0.15 mg/m3 IDLH – 20 mg/m^3	Odorless, silver-gray to black solid.	Inhalation, ingestion, skin and/or eye contact.	Cough, dyspnea, wheezing, decreased pulmonary function, weight loss, dermatitis.	Diffuse nodular fibrosis, respiratory hypersensitivity, asthma. Skin, respiratory system.
Copper	PEL – 1 mg/m^3 TLV – 1 mg/m^3	WA STEL – 3 mg/m3 IDLH – 100 mg/m^3	Reddish, lustrous, malleable, odorless solid.	Inhalation, ingestion, skin and/or eye contact.	Irritation to eyes, nose, and pharynx, nasal septum perforation; metallic taste; dermatitis.	Lung, liver, and/or kidney damage; anemia. Eyes, skin, respiratory system, liver, kidneys.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
Cyanide (as CN)	PEL – 5 mg/m3	WA STEL – 10 mg/m3 NIOSH REL – 5 mg/m3	Usually joined with other chemicals, ranging from colorless gas to a white solid. Faint to bitter almond-like odor.	Inhalation; dermal; ingestion; eye contact.	Headache, lightheadedness, dizziness, nausea, vomiting, agitation, drowsiness, and irritation of the eyes, nose, throat, and respiratory tract, and rapid breathing with a sense of suffocation.	Nose bleeds and sores; thyroid function
Lead	PEL – 0.05 mg/m^3 TLV – 0.05 mg/m^3	IDLH – 100 mg/m^3	A heavy, flexible, soft, gray solid.	Inhalation; dermal; ingestion; eye contact.	Lassitude (weakness, exhaustion); abdominal pain; gingival lead line; tremor; irritation to eyes; hypotension.	Insomnia; facial pallor; anorexia; weight loss; malnutrition; constipation; colic; anemia; paralysis of wrist, ankles; kidney disease; encephalopathy; potential for damage to eyes, gastrointestinal tract, CNS, kidneys, blood, gingival tissue.
Mercury	PEL – 0.1 mg/m^3	NIOSH REL – Mercury vapor: TWA – 0.05 mg/m^3 [skin] Other: C – 0.1 mg/m^3 [skin]	Metal: Silver-white, heavy, odorless liquid. "Other" mercury compounds include all inorganic and aryl mercury compounds except (organo) alkyls.	Inhalation; skin absorption; ingestion; skin and/or eye contact.	Irritation to eyes, skin; cough; chest pain; dyspnea (breathing difficulty); bronchitis; pneumonitis; tremor; lassitude (weakness, exhaustion); insomnia; irritability; indecision; headache; stomatitis; salivation; gastrointestinal disturbance; anorexia; weight loss; proteinuria.	Eyes; skin; respiratory system; CNS; kidneys.
Nickel	PEL – 1 mg/m^3 TLV – 1 mg/m^3	WA STEL – 3 mg/m3 IDLH – 10 mg/m^3	Metal: lustrous, silvery, odorless solid.	Inhalation, ingestion, skin and/or eye contact.	Sensitization dermatitis, allergic asthma.	Cancerous – Lung and nasal. Pneumonitis. Nasal cavities, lungs, skin.
Selenium	PEL – 0.2 mg/m^3 TLV – 0.2 mg/m^3	WA STEL – 0.6 mg/m3 IDLH – 1 mg/m^3	Amorphous or crystalline, red to gray solid.	Inhalation, ingestion, skin and/or eye contact.	Irritation to eyes, skin, nose, throat; visual disturbance; headache; shills, fever; dyspnea, bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye and skin burns.	Anemia, liver necrosis, cirrhosis, kidney and/or spleen damage. Eyes, skin, respiratory system, liver, kidneys, blood, spleen.

HEALTH-BASED AND MONITORING INFORMATION FOR POTENTIAL SITE CONTAMINANTS

Chemical (or Class)	WA/OSHA PEL ACGIH TLV	Other Pertinent Limits	Properties	Routes of Exposure or Irritation	Acute Health Effects	Chronic Health Effects/ Target Organs
Vanadium	PEL – 0.05 mg/m^3	WA STEL – 0.15 mg/m^3 IDLH – 35 mg/m^3 C – 0.5 mg/m^3	Yellow-orange powder.	Inhalation, ingestion, skin and/or eye contact.	Irritation to eyes, skin, throat; green tongue; metallic taste; eczema; cough; wheezing; fine rales.	Bronchitis, dyspnea. Eyes, skin, respiratory system.

ATTACHMENT 5

Air Monitoring Log
Calibration/Check Log – Air Monitoring Equipment

AIR MONITORING LOG

Date	Time	Location	Source/Area/ Breathing Zone	Instrument	Concentration/Units	Sampled by

CALIBRATION/CHECK LOG – AIR MONITORING EQUIPMENT

Date	Instrument/ Model No.	Serial No.	Battery Check OK?	Zero Adjust OK?	Calibration Gas (ppm)	Reading (ppm)	Leak Check	Performed By	Comments

ATTACHMENT 6

Utility Clearance Log

UTILITY CLEARANCE LOG

Project Name: _____ **Project Number:** _____

Location: _____ **Date of Work:** _____

Completed by: _____

Instructions. This log must be completed by a Farallon staff member **before** any Farallon-directed ground disturbing activities (e.g., test pit excavation or drilling operations). This form must be completed by the team member who conducts the utility locate for the project scope of work (SOW), and used by the field crew who will be executing the ground disturbance activities.

GROUND DISTURBANCE ACTIVITIES MAY NOT COMMENCE UNTIL UTILITY LOCATES HAVE BEEN COMPLETED

Farallon is responsible for having underground utilities and structures located and marked when completing ground disturbance activities. All soil disturbing activities (e.g., drilling or excavation) within 2 feet of a known utility must be completed using hand tools.

Public utility searches are required for all projects via state-specific 811 dig tickets. Private utility locate services must be hired to locate service laterals and other buried utilities (e.g., on-site electric distribution lines, irrigation pipes) on private property.

Utility Locate Information and Checklist

☐ Attach map showing drilling and/or excavation sites and found utilities

☐ One-Call Utility Notification Ticket Number: _____

Utilities notified via One-Call ticket:

Company Name	Utility Responsible for (e.g., electrical, sewer)	Contact Information	Date Response Received

☐ Private Locate Information

Company name: _____

Date of locate: _____

Equipment used:_____

☐ Anticipated lithology at the site: _____

Type of pre-clearance to be used (hand-auger or air knife/vac truck):

_____

☐ Photograph all soil disturbance locations and download to project file

☐ Review historical site information

☐ Review utilities and SOW locations with the Site Contact:

Name: _____ Phone: _____

Utilities and Structures found within the project area at the Site

Utility Type	Utility Name	Public Utilities Marked (Y/N)	Private Utilities/Laterals Marked (Y/N)	Marking Method (Flags, paint on pavement, wooden stakes, etc.)	Location, Depth Marked on Attached Map (Y/N)
Petroleum product lines					
Natural gas line					
Water line					
Sewer line					
Storm drain					
Telephone cable					
Electric power line					
Product tank					
Septic tank/drain field					
Overhead lines					
Other					

Include applicable items in this table with the attached map to document found utilities at your site. Be sure to include the site features, SOW locations, scale bar (e.g., 1 square = 5 feet), directional indicator (North arrow), description, distances, and depths of found utilities or other aboveground, overhead, or subsurface structures, including anomalies or unknowns.

Variance Request Review and Approval

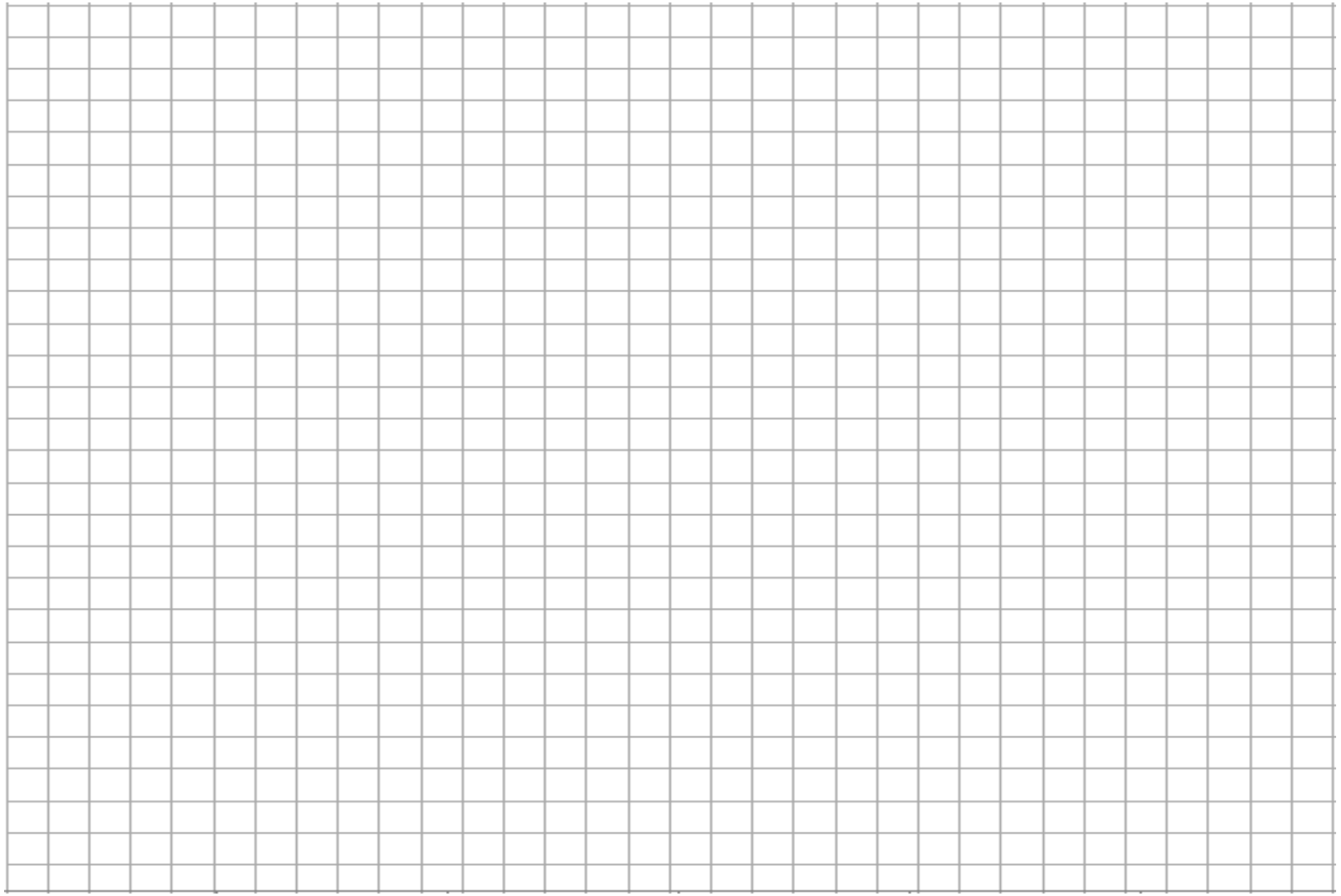
If applicable, document the requested variance information below, and include the approval date and signatures of the Project Manager and Safety Team members.

Type of variance requested	Applicable locations, and justification	PM Review	Safety Team review and approval
Request to not pre-clear location to 5 feet below ground surface			
Request to work within 5 feet of a known utility			
Other, please describe			

Electric = **RED**	*Gas-Oil-Steam* = **YELLOW**	*Comm-CATV* = **ORANGE**	*Water* = **BLUE/PURPLE**	*Sewer* = **GREEN**	*Temp Survey* = **PINK**

Project Utility and Subsurface Structure Map

Project Name:
Date:
Scale:



Use this page to document found utilities at your site. Be sure to include the site features, SOW locations, scale bar (e.g., 1 square = 5 feet), directional indicator (North arrow), description, distances, and depths of found utilities or other aboveground, overhead, or subsurface structures, including anomalies or unknowns.

ATTACHMENT 7

Incident Report Form

FARALLON CONSULTING

INCIDENT REPORT FORM INSTRUCTIONS

The following process should be followed to submit an Incident Report Form to the Health and Safety Committee at Farallon Consulting, L.L.C.

1. Enter information into the form in Microsoft Word and save the draft document into the project folder under P:/Project/Field_Lab/Safety.

2. Email a link for the completed draft Incident Report Form to safety@farallonconsulting.com. The Corporate Health and Safety Coordinator (HSC) will review the form and provide comments or questions back to you.

3. Address any comments or questions and either resubmit to the HSC for additional review, if requested, or provide the HSC with the final signed and dated copy of the completed Incident Report Form. Attach photos on a separate document.

4. The HSC will route the completed Incident Report Form through the injured employee's Group Manager and the applicable Regional Operations Manager for signature.

INCIDENT REPORT FORM

This report must be completed promptly after the incident. Within 24 hours of the incident, the completed report must be reviewed and signed by the employee's Group Manager and submitted to safety@farallonconsulting.com. This should occur even if the employee is not available to review and sign.

Document the incident with photographs if possible (place in separate document). For environmental releases, discuss possible regulatory spill reporting with the Project Principal.

If there is an injury or fatality, immediately call your Health and Safety Coordinator.

INCIDENT REPORT INFORMATION	
Date of incident, injury, or onset of illness: Click or tap to enter a date.	Time of incident, injury, or onset of illness: ☐ AM ☐ PM
Date Farallon notified of incident: Click or tap to enter a date.	Time Farallon notified: ☐ AM ☐ PM
Date of this report: Click or tap to enter a date.	Project Number (if applicable):
Farallon employee reporting incident:	To whom reported at Farallon?

WHO WAS INVOLVED IN INCIDENT (list names and note company if not Farallon employee)		
Farallon Employee(s)	☐ None	
Non-Farallon Employee(s)	☐ None	

INCIDENT DESCRIPTION		
Location of Incident	Address (street, city, state)	
	Location on property (building, floor, GPS coordinates, etc.)	
	Other description information	
Provide detailed description of incident. Include specific activities during incident (lifting, pushing, walking, etc.)		
Describe the equipment, materials, or chemicals that directly caused the incident or injury		
Describe actions taken/to be taken to avoid future incidents from same cause		

INJURY OR ILLNESS INFORMATION ☐ No Injury or Illness	
Describe the specific injury or illness (e.g., puncture, cut, contusion, strain, fracture, skin rash, etc.):	
Body part(s) affected (e.g., back, left wrist, right eye, etc.):	
If seen by Health Care Provider, please provide:	Name: Address: Phone No.:
Treated in Emergency Room: ☐ Yes ☐ No	Hospitalized Overnight as Inpatient: ☐ Yes ☐ No

INCIDENT REPORT FORM

MOTOR VEHICLE ACCIDENT (MVA) Please provide photos ☐ Not a Motor Vehicle Accident
If the incident involved two or more vehicles (at least one moving), including parking lot collisions, please also complete the Farallon Motor Vehicle Accident Report found in G:\Forms and Templates\Health and Safety\Forms Logs Checklist.

PROPERTY DAMAGE/THEFT (Including utilities) ☐ No Damage/Theft (Please provide photos. Do not use this section for incidents involving moving vehicle(s).	
Owner Name of Damaged/Stolen Property	
Owner address (if not incident location)	
Phone No. / Email address	
Description of Damage or Stolen Property:	
Property Owner Insurance information:	
Was (or will) a police report be filed? ☐ Yes ☐ No	

Witness Name:	Address:	Phone No.:
Witness Name:	Address:	Phone No.:

SIGNATURES OF EMPLOYEE AND REVIEWERS				
FARALLON PERSONNEL ROLES	NAME (PRINT)	SIGNATURE	TITLE	DATE
Employee				
Project Manager				

HEALTH AND SAFETY FINDINGS AND RECOMMENDED ACTIONS				
	NAME (PRINT)	SIGNATURE	TITLE	DATE
Corporate Health and Safety Officer				

Distribution List: Group Manager of Farallon employee(s) involved in incident
Regional Operations Manager

ATTACHMENT 8

Near Miss Report Form

NEAR MISS AND SAFETY OBSERVATION REPORT INSTRUCTIONS

The following process should be followed to submit a Near Miss and Safety Observation Report to the Health and Safety Committee at Farallon Consulting, L.L.C.

1. Enter information into the form in Microsoft Word and save the draft document into the project folder under P:/Project/Field_Lab/Safety.

2. Email a link for the completed draft Near Miss and Safety Observation Report to safety@farallonconsulting.com. The Corporate Health and Safety Coordinator (HSC) will review the form and provide comments or questions back to you.

3. Address any comments or questions and either resubmit to the HSC for additional review, if requested, or provide the HSC with the final signed and dated copy of the completed Near Miss and Safety Observation Report.

NEAR MISS REPORT

Employees involved in or witnessing a near miss or making a safety observation should complete this form. These are important indicators of potentially harmful future accidents, and they can provide valuable insights to preventing personal injury and/or property damage on future projects. Please submit the form to safety@farallonconsulting.com

- A near miss is an occurrence that did not result in any personal injury, property damage, environmental release, or production interruption, but could have under slightly different circumstances.
- A safety observation is witnessing any activity that places a person or property at risk of injury, accident, or damage but may not fit the definition of a near miss. For the purposes of this report, a safety observation is considered a near miss.

PROJECT INFORMATION			
Farallon PN:		Project Name:	
Site Address:		City/State:	
NEAR MISS INFORMATION			
Date of near miss: Click or tap to enter a date.		Time of near miss: ☐AM ☐ PM	
Near Miss Category: Choose an item.			
Employee or Non-Employees Involved in Near Miss:			
Exact Location Onsite where Incident Occurred:			
Description of Near Miss			
Corrective Action Taken			
Lessons Learned			
To whom did employee first report the near miss?		Date reported:	Click or tap to enter a date.
		Time reported:	☐ AM ☐ PM

SIGNATURES			
FARALLON PERSONNEL ROLES	NAME AND TITLE	SIGNATURE	DATE
Farallon employee completing form			
Corporate Health and Safety Coordinator			

APPENDIX D
INADVERTENT DISCOVERY PLAN

REMEDIAL INVESTIGATION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

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): Emerald Gateway Site Location: 3301 South Norfolk Street, Seattle/Tukwila Washington

Project Lead/Organization: Prologis 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:	Pete Kingston	Name:	
Organization:	Farallon Consulting, L.L.C	Organization:	
Phone:	206-200-2346	Phone:	
Email:	pkingston@farallonconsulting.com	Email:	

Ecology Contacts (completed by Ecology Project Manager)

Ecology Project Manager		Alternate or Cultural Resource Contact	
Name:		Name:	
Program:		Program:	
Phone:		Phone:	
Email:		Email:	

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:	Duwamish Tribe
Name:	Laura Murphy	Name:	Nancy Sackma
Title:	Archaeologist	Title:	Cultural Preservation Officer
Phone:	253-876-3272	Phone:	206-856-2564
Email:	laura.murphy@muckleshoot.nsn.u	Email:	nancys@duwamishtribe.org
Tribe:	Snoqualmie Indian Tribe	Tribe:	Stillaguamish Tribe of Indians
Name:	Aaron Webster	Name:	Kerry Lyste
Title:	Archaeologist	Title:	THPO
Phone:	425-466-0263	Phone:	360-652-7362
Email:	aaron@snoqualmietribe.us	Email:	klyste@stillaguamish.co

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: King County Medical Examiner, 206-731-3232
   - Local Law Enforcement main name and phone: Tukwila Police Dept. non emergency, 206-241-2121
   - Local Non-Emergency phone number (911 if without a non-emergency number): see 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.

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

Suquamish Tribe
Stephanie Trudel, THPO
360-394-8533
strudel@suquamish.nsn.us

Tulalip Tribes
Richard Young, Cultural Resources
425-239-0182
ryoung@tulaliptribes-nsn.gov

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.*

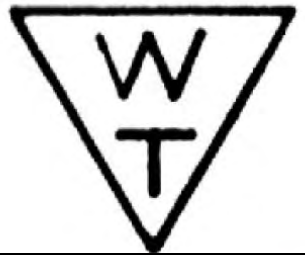
Right, from Top to Bottom: *Coins, token, spectacles and Montgomery Ward pitchfork toy discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

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...

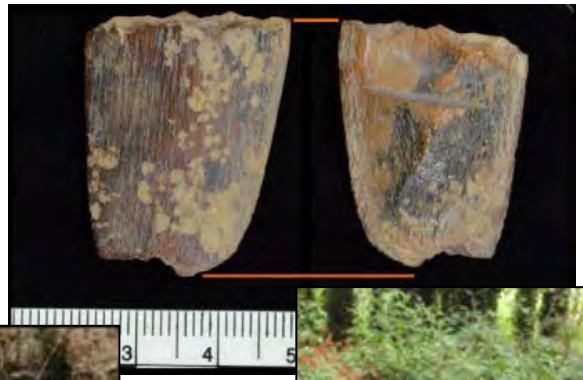
Potential human remains.

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!*