STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action by:	AGREED ORDER
Prologis-Exchange 3301 South Norfolk LLC	No. DE 16659

TO: Prologis-Exchange 3301 South Norfolk LLC
Janet Frentzel
Vice President, Global Environmental and Engineering
Prologis, Inc.
Pier 1, Bay 1
San Francisco, California 94111

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I. INTRODUCTION

The mutual objective of the State of Washington, Department of Ecology (Ecology) and Prologis-Exchange 3301 South Norfolk LLC (Prologis) under this Agreed Order (Order) is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Order requires Prologis to conduct an interim action to be performed during development and construction, to complete a Site Remedial Investigation (RI), Feasibility Study (FS), and to prepare a preliminary draft Cleanup Action Plan (DCAP) for the Site located at 3301 South Norfolk Street, Seattle, Washington, as set out in the Scope of Work (Exhibit B) and in the Schedule of Deliverables (Exhibit C). Ecology believes the actions required by this Order are in the public interest.

II. JURISDICTION

This Agreed Order is issued pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D.050(1).

III. PARTIES BOUND

This Agreed Order shall apply to and be binding upon the Parties to this Order, and their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Order and to execute and legally bind such party to comply with this Order. Prologis agrees to undertake all actions required by the terms and conditions of this Order. Prologis agrees to complete the Scope of Work prior to conducting the final cleanup action at the Site. No change in ownership or corporate status shall alter Prologis' responsibility under this Order. Prologis shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Order.

IV. DEFINITIONS

Unless otherwise specified herein, the definitions set forth in RCW 70.105D, WAC 173-204, and WAC 173-340 shall control the meanings of the terms in this Order.

A. Site: The Site is commonly referred to as Emerald Gateway Site. The Site constitutes a facility under RCW 70.105D.020(8). The Site is defined by where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located. Based upon factors currently known to Ecology, the Site is generally located at 3301 South Norfolk Street, Seattle, Washington, as shown in the Property Location Diagram (Exhibit A).

B. Parties: Refers to the State of Washington, Department of Ecology and Prologis-Exchange 3301 South Norfolk LLC.

C. Potentially Liable Persons (PLP(s)): Refers to Prologis-Exchange 3301 South Norfolk LLC.

D. Agreed Order or Order: Refers to this Order and each of the exhibits to this Order. All exhibits are integral and enforceable parts of this Order.

V. FINDINGS OF FACT

Ecology makes the following findings of fact, without any express or implied admissions of such facts by Prologis:

A. Based upon factors currently known to Ecology, the Site is in Seattle and Tukwila, Washington, and is generally located at 3301 South Norfolk Street, as shown in the Property Location Diagram (Exhibit A). The Ecology Facility Site ID is 73338176 and the Cleanup Site ID is 6584. The real property owned by Prologis (Property) consists of 29 King County parcels, parcel numbers 000340 0015, 000340 0024, 000340 0041, 000340 0042, 000340 0046, 000340 0049, 032304 9024, 032304 9028, 032304 9045, 032304 9048, 032304 9058, 032304 9061, 032304 9072, 032304 9073, 032304 9080, 032304 9128, 032304 9171, 032304 9228, 032304 9229, 032304 9230, 032304 9240, 042304 9066, 042304 9099, 042304 9101, 032304 9062, 042304 9015, 042304 9102, 032304 9070, and 042304 9184, which covers approximately 63 acres. The Site is in the vicinity of the Lower Duwamish Waterway.

B. Prologis is the Property owner as indicated by the Special Warranty Deed recorded in King County, Washington, November 2016.

C. Prologis is a Delaware limited liability company.

D. The Property is located in an industrial area of Seattle/Tukwila, Washington. Numerous buildings and smaller storage structures, all constructed between 1952 and 2012, are present on the Property. The buildings on the 10230 East Marginal Way South property (Northwest Auto Wrecking) were demolished by 2009.

E. From the 1950s until recently or the present, the Property consisted primarily of two separate properties having different uses:

- 3301 South Norfolk Street property on the northern, eastern, and southern portions of the Site was historically used for commercial warehousing of food products by Unified/Associated Grocers or predecessors, and included truck maintenance and repair operations; truck refueling facilities and associated underground storage tanks (USTs). Additional historical operations associated with the 3301 South Norfolk Street property included an automobile service station formerly located on the northwestern portion of the Site and a dry cleaner formerly located on the southwestern portion of the Site.
- The 10230 East Marginal Way South property on the western portion of the Site was historically used for automobile wrecking and parts salvaging by Northwest Auto Wrecking, and is currently vacant.

Prior to these recent or current uses, the Property was used for agricultural purposes or was occupied by commercial businesses along East Marginal Way South.

F. Releases of petroleum hydrocarbon constituents, metals, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls to soil and groundwater were identified during environmental investigations and independent remedial actions conducted at the Site. The suspected and confirmed source areas are located proximate to former UST systems and truck maintenance and repair operations at the Site, as well as the portions of the Property where auto wrecking and parts salvaging were conducted.

G. Numerous prior assessment documents have been prepared for the Site, and several independent remedial actions have been performed under the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP). The property included three VCP sites. However, the VCP sites did not encompass the entire property and additional investigative and independent remedial actions have also been conducted outside the VCP sites. The Site is no longer participating in the VCP. Several independent investigations and remedial actions have been conducted at the Site between 1989 and the present. The results of these investigations and remedial actions are summarized in the Draft Interim Action Work Plan. The Draft Interim Action Work Plan is part of this Order and is attached as Exhibit D.

H. Environmental investigations conducted at the Site to date revealed the presence of the following: (1) petroleum-related constituents in soil and/or groundwater at concentrations exceeding MTCA cleanup levels; (2) dissolved arsenic at concentrations exceeding the MTCA cleanup level in groundwater beneath the Site; and (3) other constituents, including VOCs, metals, PAHs, and PCBs, detected in various media in excess of the most stringent preliminary cleanup levels.

I. Environmental investigations conducted at the Site are documented in a series of reports (Environmental Reports), including the following:

- Dalton, Olmsted, and Fuglevand, Inc, Status Report – Unified Grocers UST Cleanup, 3301 South Norfolk Street, Seattle, Washington. VCP Project No. NW1807. Aug. 14, 2014.
- Dalton, Olmsted, and Fuglevand, Inc, Status Report – NW Auto Wrecking Cleanup, 10230 East Marginal Way South, Tukwila, Washington. VCP Project No. NW1812. Aug. 14, 2014.
- Farallon Consulting, L.L.C., Remedial Investigation, Focused Feasibility Study, and Cleanup Action Plan, 3301 South Norfolk Street and 10100, 10200, and 10230 East Marginal Way South, Seattle/Tukwila, Washington. Jan. 29, 2019.

- Terra Associates, Inc. Site Remediation, Old "Humble Oil" Service Station, 10056 E. Marginal Way South, Tukwila, Washington. Apr. 22, 1991.

J. Prologis intends to redevelop the Property into a warehouse and distribution center. The planned redevelopment will require extensive reconfiguration of the existing surface features and stormwater infrastructure at the property. Prologis intends to conduct an interim cleanup action concurrently with Property redevelopment.

K. Based upon the information presented in the Environmental Reports, the State of Washington, Department of Ecology has determined that remedial action is required.

VI. ECOLOGY DETERMINATIONS

Ecology makes the following determinations, without any express or implied admissions of such determinations (and underlying facts) by Prologis.

A. Prologis is an "owner" as defined in RCW 70.105D.020(22) of a "facility" as defined in RCW 70.105D.020(8).

B. Based upon all factors known to Ecology, a "release" or "threatened release" of "hazardous substance(s)" as defined in RCW 70.105D.020(32) and (13), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued a PLP status letter to Prologis dated April 18, 2019, pursuant to RCW 70.105D.040, .020(26), and WAC 173-340-500. Ecology provided notice and opportunity for comment. Prologis provided written notice accepting its status as a PLP for the Site on April 29, 2019. Ecology concluded that credible evidence supported a finding of potential liability. Ecology issued a determination that Prologis is a PLP under RCW 70.105D.040 and notified Prologis of this determination by letter dated May 2, 2019.

D. Pursuant to RCW 70.105D.030(1) and .050(1), Ecology may require PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the foregoing facts, Ecology believes the remedial actions required by this Order are in the public interest.

E. Under WAC 173-340-430, an interim action is a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance, that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed, or that is needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study, or design of a cleanup action plan. Here, the proposed redevelopment will involve extensive reconfiguration of the entire Property, including environmental media affected by contamination. Without conducting an interim action in tandem with redevelopment, redevelopment may alter pathways for exposure to hazardous substances at the Site and preclude future remedial actions at the Site. Based on these circumstances, Ecology has determined that an interim action in tandem with redevelopment is permissible and warranted under WAC 173-340-430. Either party may propose an additional interim action under this Order. If the Parties are in agreement concerning the additional interim action, the Parties will follow the process in Section VII.E (Work to Be Performed). If the Parties are not in agreement, Ecology reserves its authority to require interim action(s) under a separate order or other enforcement action under RCW 70.105D, or to undertake the interim action itself.

VII. WORK TO BE PERFORMED

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that Prologis take the following remedial actions at the Site. These remedial actions must be conducted in accordance with WAC 173-340 and 173-204 unless otherwise specifically provided for herein.

A. Prologis will complete an Interim Action Design Report; implement an Interim Action Work Plan; prepare a Work Plan to conduct a Remedial Investigation (RI Work Plan); complete a Remedial Investigation (RI) for the Site; complete a Feasibility Study (FS) for the Site; and submit a preliminary draft Cleanup Action Plan (DCAP) for the Site in accordance with the Scope of Work and Schedule of Deliverables, Exhibits B and C, and all other requirements of this Order. The following naming conventions shall be used for applicable documents: Agency Review Draft (designation for the first time Ecology receives a document); Public Review Draft

(designates a document ready for public comment); Final (designation for a document after public comment and/or after Ecology approval); and the preliminary Draft Cleanup Action Plan (designation for the Prologis version of the DCAP).

B. Prologis shall not conduct the interim action until Ecology approves all deliverables under the Interim Action Work Plan.

C. Prologis shall implement the RI Work Plan and complete the RI in accordance with the requirements of WAC 173-340-350. Prologis shall conduct the FS according to the requirements of WAC 173-340-350(8); the FS shall include a reasonable number and type of cleanup option alternatives for the cleanup action at the Site. Prologis shall provide Ecology with an Agency Review Draft RI Report and an Agency Review Draft FS Report. Subject to Ecology's approval, these Reports may be submitted together as an Agency Review Draft RI/FS Report. Prologis may submit a combined Public Review Draft RI/FS Report.

D. If Prologis learns of a significant change in conditions at the Site, including but not limited to a statistically significant increase in contaminant and/or chemical concentrations in soil, groundwater, surface water, air, and/or sediments, Prologis, within seven (7) days of learning of the change in condition, shall notify Ecology in writing of said change and provide Ecology with any reports or records (including laboratory analyses, sampling results) relating to the change in conditions.

E. Prologis shall submit to Ecology written Progress Reports that describe the actions taken during the previous reporting period to implement the requirements of this Order. All Progress Reports shall be submitted according to the Schedule (Exhibit C). Unless otherwise specified by Ecology, Progress Reports and any other documents submitted pursuant to this Order shall be sent by electronic mail to Ecology's project coordinator. The Progress Reports shall include the following:

1. A list of on-site activities that have taken place during the month.

2. Detailed description of any deviations from required tasks not otherwise documented in project plans or amendment requests.

3. Description of all deviations from the Scope of Work and Schedule of Deliverables (Exhibit B and C) during the current month, and any planned deviations in the upcoming month.

4. For any deviations in schedule, a plan for recovering lost time and maintaining compliance with the schedule.

5. All raw data (including laboratory analyses) received during the previous quarter (if not previously submitted to Ecology), together with a detailed description of the underlying samples collected.

6. A list of deliverables for the upcoming month if different from the schedule.

F. All plans or other deliverables submitted by Prologis for Ecology's review and approval under the Scope of Work and Schedule shall, upon Ecology's approval, become integral and enforceable parts of this Order. Unless otherwise specified by this Order or by Ecology, any documents submitted pursuant to this Order shall be sent by certified mail, return receipt requested, to Ecology's project coordinator.

G. If the parties agree that an additional interim action, beyond the Interim Action already identified, is necessary under Section VI.E (Ecology Determinations), Prologis shall prepare and submit to Ecology a new Draft Interim Action Work Plan, including a scope of work and schedule. Ecology will provide public notice and opportunity to comment on the new Draft Interim Action Work Plan in accordance with WAC 173-340-600(16). Prologis shall not conduct the additional interim action until Ecology approves the new Draft Interim Action Work Plan. Upon approval by Ecology, the new Final Interim Action Work Plan becomes an integral and enforceable part of this Order, and Prologis is required to conduct the interim action in accordance with the approved new Final Interim Action Work Plan.

H. If Ecology determines that Prologis has failed to make sufficient progress or failed to implement a remedial action, in whole or in part, Ecology may, after notice to Prologis, perform any or all portions of the remedial action or at Ecology's discretion allow Prologis opportunity to correct. In an emergency, Ecology is not required to provide notice to Prologis, or an opportunity

for dispute resolution. Prologis shall reimburse Ecology for the costs of doing such work in accordance with Section VIII.A (Remedial Action Costs). Ecology reserves the right to enforce requirements of this Order under Section X (Enforcement).

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

VIII. TERMS AND CONDITIONS

A. Payment of Remedial Action Costs

Prologis shall pay to Ecology costs incurred by Ecology pursuant to this Order and consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under RCW 70.105D, including remedial actions and Order preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the issuance of this Order. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). For all Ecology costs incurred, Prologis shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

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

B. Designated Project Coordinators

The project coordinator for Ecology is:

Jing Liu
3190 160th Avenue SE
Bellevue, WA 98008
425-649-4310
jliu461@ecy.wa.gov

The project coordinator for Prologis is:

Peter Jewett, L.G., L.E.G., Principal
Farallon Consulting
975 5th Avenue NW
Issaquah, WA 98027
425-295-0802
pjewett@farallonconsulting.com

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

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

C. Performance

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

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

All construction work performed pursuant to this Order shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered by the State of Washington, except as otherwise provided for by RCW 18.43.130.

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

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

D. Access

Ecology or any Ecology authorized representative shall have access to enter and freely move about all property at the Site that Prologis either owns, controls, or has access rights to at all reasonable times, respectful of the rights of tenants and occupants of the Site, for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing Prologis' progress in carrying out the terms of this Order; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by Prologis. Prologis shall make all reasonable efforts to secure access rights for those properties within the Site not owned or controlled by Prologis where remedial activities or investigations will be performed pursuant to this Order. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by Prologis unless an emergency prevents such notice. All persons who access the Site pursuant to this section shall comply with any applicable health and safety

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

E. Sampling, Data Submittal, and Availability

With respect to the implementation of this Order, Prologis shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to Be Performed), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, Prologis shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by Prologis pursuant to implementation of this Order. Prologis shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow Prologis and/or its authorized representative to take split or duplicate samples of any samples collected by Ecology pursuant to the implementation of this Order, provided that doing so does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section VIII.D (Access), Ecology shall notify Prologis prior to any sample collection activity unless an emergency prevents such notice.

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

F. Public Participation

Ecology shall maintain the responsibility for public participation required in connection with this Order. However, Prologis shall cooperate with Ecology, and shall:

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

distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings.

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

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

4. When requested by Ecology, arrange and/or continue information repositories to be located at the following locations:

a. South Park Library
8604 8th Avenue S, Seattle, WA 98108

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

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

G. Retention of Records

During the pendency of this Order, and for ten (10) years from the date of completion of work performed pursuant to this Order, Prologis shall preserve all records, reports, documents, and

underlying data in its possession relevant to the implementation of this Order and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, Prologis shall make all records available to Ecology and allow access for review within a reasonable time.

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

H. Resolution of Disputes

1. In the event that Prologis elects to invoke dispute resolution Prologis must utilize the procedure set forth below.

a. Upon the triggering event (receipt of Ecology's project coordinator's written decision or an itemized billing statement), Prologis has fourteen (14) calendar days within which to notify Ecology's project coordinator in writing of its dispute (Informal Dispute Notice).

b. The Parties' project coordinators shall then confer in an effort to resolve the dispute informally. The parties shall informally confer for up to fourteen (14) calendar days from receipt of the Informal Dispute Notice. If the project coordinators cannot resolve the dispute within those 14 calendar days, then within seven (7) calendar days Ecology's project coordinator shall issue a written decision (Informal Dispute Decision) stating: the nature of the dispute; Prologis' position with regards to the dispute; Ecology's position with regards to the dispute; and the extent of resolution reached by informal discussion.

c. Prologis may then request regional management review of the dispute. This request (Formal Dispute Notice) must be submitted in writing to the Northwest Region Toxics Cleanup Section Manager within seven (7) calendar days of receipt of Ecology's

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

d. The Section Manager shall conduct a review of the dispute and shall issue a written decision regarding the dispute (Decision on Dispute) within thirty (30) calendar days of receipt of the Formal Dispute Notice. The Decision on Dispute shall be Ecology's final decision on the disputed matter.

e. The timelines in this section may be extended by agreement of the Parties.

2. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used.

3. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Order, unless Ecology agrees in writing to a schedule extension.

4. In case of a dispute, failure to either proceed with the work required by this Order or timely invoke dispute resolution may result in Ecology's determination that insufficient progress is being made in preparation of a deliverable, and may result in Ecology undertaking the work under Section VII.F (Work to Be Performed) or initiating enforcement under Section X (Enforcement).

I. Extension of Schedule

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

a. The deadline that is sought to be extended.

b. The length of the extension sought.

c. The reason(s) for the extension.

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

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

a. Circumstances beyond the reasonable control and despite the due diligence of Prologis including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by Prologis.

b. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty.

c. Endangerment as described in Section VIII.K (Endangerment).

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

3. Ecology shall act upon any Prologis' written request for extension in a timely fashion. Ecology shall give Prologis written notification of any extensions granted pursuant to this Order. A requested extension shall not be effective until approved by Ecology. Unless the extension is a substantial change, it shall not be necessary to amend this Order pursuant to Section VIII.J (Amendment of Order) when a schedule extension is granted.

4. At Prologis' request, an extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of one of the following:

a. Delays in the issuance of a necessary permit which was applied for in a timely manner.

b. Other circumstances deemed exceptional or extraordinary by Ecology.

c. Endangerment as described in Section VIII.K (Endangerment).

J. Amendment of Order

The project coordinators may verbally agree to minor changes to the work to be performed without formally amending this Order. Minor changes will be documented in writing by Ecology within seven (7) days of verbal agreement.

Except as provided in Section VIII.L (Reservation of Rights), substantial changes to the work to be performed shall require formal amendment of this Order. This Order may only be formally amended by the written consent of both Ecology and Prologis. Ecology will provide its written consent to a formal amendment only after public notice and opportunity to comment on the formal amendment.

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

K. Endangerment

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

In the event Prologis determines that any activity being performed at the Site under this Order is creating or has the potential to create a danger to human health or the environment, Prologis may cease such activities. Prologis shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction, Prologis shall provide Ecology with documentation of the

basis for the determination or cessation of such activities. If Ecology disagrees with Prologis' cessation of activities, it may direct Prologis to resume such activities.

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

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

L. Reservation of Rights

This Order is not a settlement under RCW 70.105D. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any of Ecology's rights or authority. Ecology will not, however, bring an action against Prologis to recover remedial action costs paid to and received by Ecology under this Order. In addition, Ecology will not take additional enforcement actions against Prologis regarding remedial actions required by this Order, provided Prologis complies with this Order.

Ecology nevertheless reserves its rights under RCW 70.105D, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health or the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

By entering into this Order, Prologis does not admit to any liability for the Site. Although Prologis is committing to conducting the work required by this Order under the terms of this Order, Prologis expressly reserves all rights available under law, including but not limited to the right to seek cost recovery or contribution against third parties, and the right to assert any defenses to liability in the event of enforcement.

M. Transfer of Interest in Property

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by Prologis without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to Prologis' transfer of any interest in all or any portion of the Site, and during the effective period of this Order, Prologis shall provide a copy of this Order to any prospective purchaser, lessee, transferee, assignee, or other successor in said interest. Upon transfer of any interest, Prologis shall notify all transferees of the restrictions on the activities and uses of the Property under this Order and incorporate any such use restrictions into the transfer documents. Prologis shall notify Ecology of any transfer of interest at least thirty (30) days prior to said transfer, provided that no such notice is required of leases to tenants.

N. Compliance with Applicable Laws

1. *Applicable Laws.* All actions carried out by Prologis pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits or approvals, except as provided in RCW 70.105D.090. At this time, no federal, state, or local requirements have been identified as being applicable to the actions required by this Order. Prologis has a continuing obligation to identify additional applicable federal, state, and local requirements which apply to actions carried out pursuant to this Order, and to comply with those requirements. As additional federal, state, and local requirements are identified by Ecology or Prologis, Ecology will document in writing if they are applicable to actions carried out pursuant to this Order, and Prologis must implement those requirements.

2. *Relevant and Appropriate Requirements.* All actions carried out by Prologis pursuant to this Order shall be done in accordance with relevant and appropriate requirements identified by Ecology. At this time, no relevant and appropriate requirements have been identified as being applicable to the actions required by this Order. If additional relevant and appropriate requirements are identified by Ecology or Prologis, Ecology will document in writing if they are

applicable to actions carried out pursuant to this Order and Prologis must implement those requirements.

3. Pursuant to RCW 70.105D.090(1), Prologis may be exempt from the procedural requirements of RCW 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 and of any laws requiring or authorizing local government permits or approvals. However, Prologis shall comply with the substantive requirements of such permits or approvals. For permits and approvals covered under RCW 70.105D.090(1) that have been issued by local government, the Parties agree that Ecology has the non-exclusive ability under this Order to enforce those local government permits and/or approvals. At this time, no state or local permits or approvals have been identified as being applicable but procedurally exempt under this section.

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

Pursuant to RCW 70.105D.090(2), in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the state to

administer any federal law, the exemption shall not apply and Prologis shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits or approvals.

O. Indemnification

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

IX. SATISFACTION OF ORDER

The provisions of this Order shall be deemed satisfied upon Prologis' receipt of written notification from Ecology that Prologis has completed the remedial activity required by this Order, as amended by any modifications, and that Prologis has complied with all other provisions of this Agreed Order.

X. ENFORCEMENT

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. A liable party who refuses, without sufficient cause, to comply with any term of this Order will be liable for:

1. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply.

2. Civil penalties of up to twenty-five thousand dollars ($25,000) per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: 1/15/2020

PROLOGIS-EXCHANGE 3301 SOUTH NORFOLK LLC, a Delaware Limited Liability Company

Authorized Person
Janet Frentzel
Vice President of Prologis, Inc.,
a Maryland Corporation
Pier 1, Bay 1
San Francisco, CA 94111
415-733-9431

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Robert Warren
Section Manager
Toxics Cleanup Program
Northwest Regional Office
425-649-7054

KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

AIRPORT WAY SOUTH

LOWER DUWAMISH WATERWAY

SEATTLE

TUKWILA

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

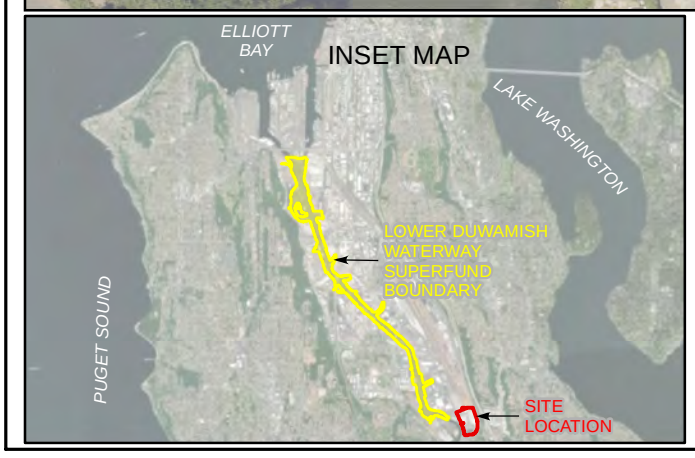

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EXHIBIT A

PROPERTY LOCATION DIAGRAM
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/18/2019 | Disc Reference:

Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\Reg_Interaction\Pre-Remedial Design Work Plan\Exhibit-A_SiteLocationDiagram_w-Inset_LowerLeft.mxd

EXHIBIT B – SCOPE OF WORK

3301 South Norfolk Street, Seattle, WA

PURPOSE

The work under this Agreed Order (AO) involves conducting interim action(s), a Remedial Investigation (RI) and Feasibility Study (FS), and preparing a preliminary Draft Cleanup Action Plan (DCAP) to select a cleanup alternative. The purpose of the RI, FS, and preliminary DCAP for the Emerald Gateway Site (the Site) is to provide sufficient data, analysis, and evaluations to enable Ecology to select a cleanup alternative for the Site.

Prologis-Exchange 3301 South Norfolk LLC (hereinafter referred to as Prologis) shall coordinate with Ecology throughout the work under this AO, and will keep Ecology informed of any changes, issues, or problems as they develop.

The Scope of Work (SOW) is divided into eight major tasks as follows:

Task 1. Interim Action(s)
Task 2. RI Work Plan
Task 3. Remedial Investigation
Task 4. Feasibility Study
Task 5. SEPA Compliance
Task 6. Public Participation
Task 7. Preliminary DCAP
Task 8. Progress Reports

Policy 840 Environmental Information Management System (EIM)

> Ecology has updated Policy 840 related to data submittal requirements for TCP sites. Policy 840 requires environmental monitoring data collected at TCP sites as part of site investigations and cleanups to be submitted into EIM at the time of submittal for Ecology review of any report containing this data.

TASK 1. INTERIM ACTION(S)

Interim actions are remedial actions that partially address the cleanup of a site and that may occur at any time during the cleanup process. Interim actions are conducted because:

- they are technically necessary to reduce a threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to a hazardous substance;
- they correct a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed; or

- they are needed to provide for completion of the remedial investigation/feasibility study or design of the cleanup action

Interim actions will be implemented in accordance with WAC 173- 340-430 and the AO, and will be designed in a manner that will not foreclose reasonable alternatives for any final cleanup action that may be required. In accordance with WAC 173-340-430(1), an interim action may constitute the cleanup action for a site if the interim action is subsequently shown to comply with WAC 173-340-350 through 173-340-390.

The proposed redevelopment will require extensive reconfiguration of the entire Site, and residual contamination at the Site is present within the areas proposed for redevelopment. Without conducting an interim action in tandem with redevelopment, redevelopment may alter pathways for exposure to hazardous substances at the Site and preclude future remedial actions at the Site. Based on these circumstances, Ecology has determined that an interim action in tandem with redevelopment is permissible and warranted under WAC 173-340-430.

Prologis has prepared a Public Review Draft Interim Action Work Plan (IAWP) to this AO as Exhibit D with detail commensurate with the work to be performed. The scope of the proposed interim actions may include, but are not limited to, the activities as listed below

- Removal of contaminated soil and off-site disposal at a permitted facility
- Groundwater Remediation
- Dewatering and treatment
- Replacement and closure of stormwater conveyances or other structures such as conduits, vaults, catch basins, etc.
- Removal of underground storage tanks and pipes
- Removal of old drain fields or former surface impoundments
- Proper decommissioning of wells
- Removal of contaminated building or other structural material
- Compliance Monitoring

The interim action will also take into account sampling data obtained from the pre-interim action design investigation which will be completed prior to the implementation of the interim action. An Interim Action Design Report will document the results from the pre-interim action design investigation, provide an updated conceptual site model based on the results from the investigation, establish the remediation levels for the interim action, and provide the final design components of the interim action. The Interim Action Design Report shall include a Sampling and Analysis Plan (SAP)/Quality Assurance Project Plan (QAPP). Refer to Task 2 for a description of the requirements for SAP/QAPP. Prologis shall implement the interim action in accordance with the Interim Action Work Plan (Exhibit D) and the Interim Action Design Report.

Additional Interim Actions:

If additional interim actions are to be performed, Prologis will prepare and submit for Ecology approval an Agency Review Draft Interim Action Work Plan with detail commensurate with the work to be performed. The Agency Review Draft IAWP shall include, as appropriate:

- Description of the interim action including its purpose, general requirements, and relationship to the (final) cleanup action (to the extent known);
- Summary of relevant information, including at a minimum existing site conditions and alternative interim actions considered;
- Information regarding design and construction requirements, including a proposed schedule and personnel roles and responsibilities;
- Compliance Monitoring Plan;
- SAP/QAPP;
- Permits required.

Prologis will also submit a copy of the Health and Safety Plan for the project. Prologis will be responsible for complying with the State Environmental Policy Act (SEPA) Rules including preparing and submitting an environmental checklist for any interim actions, and will assist Ecology with presentations at any additional meetings or hearings that might be necessary for SEPA compliance or as part of the Public Participation Plan.

Prologis shall prepare and submit the Agency Review Draft Interim Action Work Plan including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review. Prologis shall incorporate Ecology's comments and then prepare and submit three (3) hard copies of the Public Review Draft Interim Action Work Plan as well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for distribution and public comment. After a public notice and comment period for the Public Review Draft IAWP (and SEPA determination), Ecology will approve the IAWP (if appropriate) and the document will be considered Final. Prologis shall prepare and submit one hard copy of the Final Interim Action Work Plan as well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats. Once approved by Ecology, Prologis will implement the interim action according with the approved schedule.

Prior to implementing the Interim Action Work Plan, Prologis shall prepare the Agency Review Interim Action Design Report and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review. Prologis shall incorporate Ecology's comments and then prepare and submit one hard copy of the Final Interim Action Design Reportas well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats.

Upon successful completion of the work, an Agency Review Draft Interim Action Report will be prepared as a separate deliverable. Prologis shall prepare the Agency Review Draft Interim Action Report and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and approval. After incorporating Ecology's comments on the Agency Review Draft Interim Action Report and after Ecology approval, Prologis shall prepare one hard copy of the Final Interim Action Report as well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats, and submit themto Ecology.

TASK 2. RI WORK PLAN

Prologis shall prepare a Remedial Investigation Work Plan (Work Plan). The Work Plan shall include an overall description and schedule of all RI activities. The Work Plan shall clearly describe the project management strategy for implementing and reporting on RI activities. The

responsibility and authority of all organizations and key personnel involved in conducting the RI will be outlined.

A Key Project Meeting will be held prior to submittal of the RI Work Plan. The purpose of the Remedial Investigation Planning Meeting is to review requirements for the Work Plan and plan Remedial Investigation field work, discuss the preliminary Conceptual Site Model, and identify project data needs.

The Work Plan shall describe general facility information; site history and conditions; including previous operations; past field investigations, including any data collection and analysis of soils, air, groundwater, surface water, stormwater, catch basin solids and sediments; a conceptual site model showing contaminants, migration pathways in all environmental media, and potential receptors; geology and groundwater system characteristics; past, current, and future land use; identification of natural resources and ecological receptors; and hazardous substances and their sources, in compliance with Washington Administrative Code (WAC) 173-340-350 and WAC 173-204-560.

As part of the project background, existing environmental data, including data collected during the pre-interim action design investigation and the interim action, on site soil, groundwater, surface water, stormwater, catch basin solids and sediments will be compiled and evaluated for data gaps. The data gaps will be used as the basis for conducting additional site investigations, if necessary.

The RI Work Plan will also identify specific data collection procedures in a Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) as part of the Work Plan in compliance with WAC 173-340-820 and WAC 173-204-600 for defining the nature and extent of contamination. Prologis will also submit a copy of the Health and Safety Plan (HASP) for the project. The SAP will identify the proposed number and location of all environmental samples and methods, including soil borings, groundwater monitoring wells, soil, groundwater, stormwater, seep, and catch basin samples, approximate depths, and includes a QAPP. The SAP will describe the sampling objectives, the rationale for the sampling approach (based upon the identified data gaps), and plans for data use, and shall provide a detailed description of sampling tasks. The SAP shall describe specifications for sample identifiers; sampling equipment; the type, number, and location of samples to be collected; the analyses to be performed; descriptions of sampling equipment and methods to be used; sample documentation; sample containers, collection and handling; data and records management; and schedule.

The Quality Assurance Project Plan (QAPP) will be prepared in accordance with the Guidance for Quality Assurance Project Plans, QA/R-5 and requirements of the EPA Contract Laboratory Program. The QAPP will also follow Ecology's Guidelines for Preparing Quality Assurance Project Plans for Environmental Studies (Revised December 2016)[1] and Sediment Cleanup User's Manual (Revised December 2017)[2]. Laboratories must meet the accreditation standards established in WAC 173-50. Data quality objectives will reflect the criteria or threshold values used for the source control evaluation.

The SAP, including the QAPP, will be submitted to Ecology for review and approval. As with all environmental work at the site, work may not begin without written approval from Ecology. The

plan shall provide seven (7) days notice to Ecology prior to beginning sampling. Ecology may obtain split samples.

Prologis or their contractors shall submit all new sampling data generated under this SAP and any other recently collected data to Ecology for entry into the Environmental Information Management System (EIM) in accordance with WAC 173-340-840(5) and Ecology's Toxics Cleanup Program Policy 840: Data Submittal Requirements. Only validated data will be entered into the EIM database within 30 days of submittal.

RI Work Plan tasks and subtasks may include, but is not limited to soil, ground water, stormwater, sediments and catch basin sampling and analysis, as necessary to address data gaps identified in the Work Plan. In addition, the following must be included in the Work Plan:

- A preliminary conceptual site model for the Site including evaluation of all potential pathways and potential receptors that may exist for contaminants of concern at the Site.
- Sampling and analysis of stormwater and catch basin solids to determine whether the stormwater system is a source of contamination to sediments;
- Evaluate the potential to contaminate or recontaminate sediments, including analysis of the following pathways:
  - Direct discharges
  - Stormwater discharges
  - Overland flow
  - Groundwater discharges and seeps
  - Soil Erosion
  - Site operations
  - Spills, dumping, leaks, housekeeping, and management practices
- Define the nature and extent of contamination based on screening levels protective of all receptors at and downgradient of the Site

Prologis will provide Ecology with an Agency Review Draft Work Plan. Once Ecology reviews and approves the Work Plan, it will be considered the Final Work Plan. The Work Plan shall not be implemented until approved by Ecology. Once approved by Ecology, Prologis will implement the Final Work Plan according to the schedule contained in this Exhibit.

Prologis shall prepare the Agency Review Draft RI Work Plan and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and comment. After incorporating Ecology's comments on the Agency Review Draft Work Plan and after Ecology approval, Prologis shall prepare and submit one hard copy of the Final Work Plan , as well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology.

TASK 3. REMEDIAL INVESTIGATION

Prologis shall conduct a RI that meets the requirements of WAC 173-340-350(7) and WAC 173-204-560 according to the Work Plan as approved by Ecology. The RI will determine the nature and extent of contamination exceeding preliminary Model Toxics Control Act (MTCA) cleanup

levels and other regulatory requirements. The RI must provide sufficient data and information to define the nature and extent of contamination.

Field sampling and analysis will be completed in general accordance with the SAP and QAPP. Deviation(s) from the approved SAP and QAPP must be communicated to Ecology immediately and documented as required by Ecology.

Prologis shall provide interim data reports and updates to Ecology as new site data and information become available. Laboratory analysis data shall also be provided in electronic format when it has been validated. Raw laboratory data will be provided to Ecology upon request.

Prior to submittal of the Agency Review Draft RI Report, a Key Project Meeting will be held. During the Remedial Investigation Pre-Report Check-In, Ecology and Prologis will review available data and an updated conceptual site model and discuss the content and organization of the Draft RI Report.

Prologis shall compile the results of the Site investigation into an Agency Review Draft RI Report. Prologis shall prepare the Agency Review Draft RI Report and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and comment.

After incorporating Ecology's comments on the Agency Review Draft RI Report, Prologis shall prepare three (3) hard copies of a Public Review Draft RI Report and submit them, as well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for distribution and public comment. Electronic survey data for monitoring locations, electronic lab data, and GIS maps of contaminant distribution shall also be provided for both the Agency Review Draft RI Report and Public Review Draft RI Reports either in the report or as attachments. The RI Report will not be considered Final until after a public review and comment period.

If the data collected during this investigation is insufficient to define the nature and extent of contamination, and/or to select a cleanup alternative, an additional phase of investigation shall be conducted to define the extent of contamination.

TASK 4. FEASIBILITY STUDY

Prologis shall use the information obtained in the RI to prepare an Agency Review Draft FS that meets the applicable requirements of WAC 173-340-350(8) according to the Schedule in this exhibit. The Agency Review Draft FS will evaluate remedial alternatives for site cleanup, consistent with MTCA and SMS requirements to ensure protection of human health and the environment by eliminating, reducing, or otherwise controlling risk posed through each exposure pathway and migration route.

Prior to beginning the FS, a Key Project Meeting will be held to review applicable state and federal laws, potential remedial alternatives and establish points of compliance.

The Agency Review Draft FS will provide a detailed analysis of each remedial alternative according to the applicable requirements of WAC 173-340-350, MTCA Remedial Investigation and Feasibility Study and WAC 173-204-560, SMS Cleanup Study. The remedial alternatives will be evaluated for compliance with the applicable requirements of WAC 173-340-360, Selection of Cleanup Actions, and WAC 173-204-560(4) including a detailed evaluation of remedial alternatives relative to the following criteria:

- Compliance with Cleanup Standards and Applicable Laws
- Protection of Human Health
- Protection of the Environment
- Provision for a Reasonable Restoration Time Frame
- Use of Permanent Solutions to the Maximum Extent Practicable
- The Degree to which Recycling, Reuse, and Waste Minimization are Employed
- Short-term Effectiveness
- Long-Term Effectiveness
- Net Environmental Benefit
- Implementability
- Provision for Compliance Monitoring
- Cost-Effectiveness
- Prospective Community Acceptance

The remedial alternative that is judged to best satisfy the evaluation criteria will be identified. Justification for the selection will be provided, and the recommended remedial alternative further developed, in the FS Report.

Prologis shall prepare the Agency Review Draft FS and submit them, including one electronic copy in Word (.doc) and Adobe (.pdf) formats, to Ecology for review. After addressing Ecology's comments on the Agency Review Draft FS, Prologis shall prepare three (3) hard copies of the Public Review Draft FS and submit them, as well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for distribution and public comment. The FS will not be considered Final until after a public review and comment period.

In accordance with Section VII.C (Work to Be Performed) of the AO, and subject to Ecology's advance approval, Prologis may choose to submit both the Agency Review Draft RI Report and Agency Draft Feasibility Study (FS) to Ecology as a combined Agency Review Draft RI/FS Report. In this case, after incorporating Ecology's comments on the Agency Review Draft RI/FS Report, Prologis shall prepare a Public Review Draft RI/FS Report and submit them to Ecology for distribution and public comment. However, 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.

TASK 5. SEPA COMPLIANCE

Prologis shall be responsible for complying with the State Environmental Policy Act (SEPA) Rules including preparing and submitting an environmental checklist, if required. If the result of the

threshold determination is a determination of significance (DS), Prologis shall be responsible for the preparation of Draft and final environmental impact statements. Prologis shall assist Ecology with coordinating SEPA public involvement requirements with MTCA public involvement requirements whenever possible, such that public comment periods and meetings or hearings can be held concurrently, if required.

TASK 6. PUBLIC PARTICIPATION

Prologis shall support Ecology in presenting the Public Review Draft RI Report and the Public Review Draft FS Reports and SEPA evaluations at one public meeting or hearing. Prologis will assist Ecology with presentations at any additional meetings or hearings that might be necessary for SEPA compliance or as part of the Public Participation Plan.

After the public comment periods are completed, Prologis shall prepare an Agency Review Draft Responsiveness Summary that addresses public comments. Prologis shall prepare the Agency Review Draft Responsiveness Summary and submit them to Ecology for review and approval, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats.

After addressing Ecology's comments and after Ecology approval, Prologis shall prepare one hard copy of the Final Responsiveness Summary and submit them to Ecology for distribution, as well as one electronic copy each in Word (.doc) and Adobe (.pdf) formats.

TASK 7. PRELIMINARY DRAFT CLEANUP ACTION PLAN

Upon Ecology approval of the Public Review Draft Remedial Investigation Report and Public Review Draft Feasibility Study (or Public Review Draft RI/FS Report), a Key Project Meeting will be held regarding the Cleanup Action Plan. The Cleanup Action Plan Meeting will be used to review plans for developing the Agency Review preliminary Draft Cleanup Action Plan (DCAP).

Prologis shall prepare an Agency Review preliminary DCAP in accordance with WAC 173-340-380 that provides a proposed remedial action to address the contamination present on the Site. Where contaminated sediments are included in the remedial action, the cleanup plan will comply with WAC 173-204-580, in addition to the MTCA requirements cited above. The preliminary DCAP shall include a general description of the proposed remedial actions, cleanup standards developed from the RI/FS and rationale regarding their selection, a schedule for implementation, description of any institutional controls proposed, and a summary of applicable local, state, and federal laws pertinent to the proposed cleanup actions.

Prologis will submit an Agency Review preliminary DCAP for Ecology's review and approval. The Agency Review preliminary DCAP will include, but not be limited to, the information listed under WAC 173-340-380. Prologis shall prepare the Agency Review preliminary DCAP and submit them, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats, to Ecology for review and approval.

After receiving Ecology's comments on the Agency Review preliminary DCAP, if any, Prologis shall revise the preliminary DCAP to address Ecology's comments and submit it to Ecology, including one electronic copy each in Word (.doc) and Adobe (.pdf) formats.

TASK 8. PROGRESS REPORTS

Prologis will submit Progress Reports at a monthly frequency to Ecology, this frequency will be revisited after completion of the interim action until satisfaction of the AO, in accordance with Section VII.(E) of the AO. In addition, during implementation of the interim action(s), Prologis will provide monthly email status updates to Ecology on the 15th of each month. If this day is a weekend or holiday, the email status updates will be submitted to Ecology on the next business day. In a month that a quarterly Progress Report is due, the email status update due on the 15th is not required.

Progress Reports will be submitted to the Ecology project coordinator by the 15th of the month following the reporting period. If this day is a weekend or holiday, Progress Reports will be submitted to Ecology on the next business day. At a minimum, Progress Reports will contain the following information regarding the preceding reporting period:

- A description of the actions which have been taken to comply with the AO;
- Summaries of sampling and testing reports and other data reports received by Prologis;
- Summaries of deviations from approved Work Plans;
- Summaries of contacts with representatives of the local community, public interest groups, press, and federal, state, or tribal governments;
- Summaries of problems or anticipated problems in meeting the schedule or objectives set forth in the SOW and Work Plan;
- Summaries of solutions developed and implemented or planned to address any actual or anticipated problems or delays;
- Changes in key personnel; and
- A description of work planned for the next reporting period.

EXHIBIT C: SCHEDULE OF DELIVERABLES

Deliverable	**Due Date**
Monthly Progress Reports	Due on the 15th each month, beginning after the first full month following the effective date of this AO
Agency Review Draft Interim Action Design Report	Within 30 days of receipt of validated analytical data from Pre-Interim Action Design Investigation
Final Interim Action Design Report	15 days after receipt of Ecology comments
Implement Interim Action Work Plan	No later than 90 days after the Final Interim Action Design Report and issuance of relevant Site permits (e.g., grading and development permits).
Agency Review Draft Interim Action Report	60 days following the Ecology approved completion schedule included in the Final Interim Action Design Report.
Final Interim Action Report	30 days after receipt of Ecology comments
Agency Review Draft Remedial Investigation Work Plan	No later than 180 days after the effective date of this AO and issuance of relevant Site permits
Final Remedial Investigation Work Plan	30 days after receipt of Ecology comments
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.

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle
Oregon
Portland | Baker City
California
Oakland | Folsom | Irvine

INTERIM ACTION WORK PLAN

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

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 1071-026

For:
Prologis-Exchange 3301 South Norfolk LLC
Pier 1, Bay 1
San Francisco, California 94111

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Prepared by:

Pete Kingston, L.G.
Senior Geologist

Reviewed by:

Peter Jewett, L.G., L.E.G.
Principal Engineering Geologist

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
CFR	Code of Federal Regulations
COPCs	constituents of potential concern
DOF	Dalton, Olmstead & Fuglevand, Inc.
DRO	total petroleum hydrocarbons as diesel-range organics
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
Farallon	Farallon Consulting, L.L.C.
Former NWAW Property	the former Northwest Auto Wrecking, Inc. property at 10230 East Marginal Way South on the Property
FS	Feasibility Study
Global	Global Environmental
GRO	total petroleum hydrocarbons as gasoline-range organics
HASP	Health and Safety Plan
IAWP	*Interim Action Work Plan, Emerald Gateway, 3301 South Norfolk Street, Seattle, Washington* dated August 12, 2019, prepared by Farallon Consulting, L.L.C. (this report)
LDW	Lower Duwamish Waterway
MTCA	Washington State Model Toxics Control Act Cleanup Regulation

ORO	total petroleum hydrocarbons as oil-range organics
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCULs	Preliminary Cleanup Levels
Prologis	Prologis-Exchange 3301 South Norfolk LLC
Property	the Emerald Gateway Site at 3301 South Norfolk Street in Seattle and Tukwila, Washington
RCW	Revised Code of Washington
RI	Remedial Investigation
Terra	Terra Associates, Inc.
UST	underground storage tank
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WSDOT	Washington State Department of Transportation

EXECUTIVE SUMMARY

Farallon Consulting, L.L.C. has prepared this Interim Action Work Plan on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) to present the scope of work for an interim action to be conducted at the Emerald Gateway Site at 3301 South Norfolk Street in Seattle and Tukwila, Washington (herein referred to as the Property). This Interim Action Work Plan is Exhibit D of an Agreed Order between Prologis and the Washington State Department of Ecology (Ecology). Implementation of this Interim Action Work Plan will meet the requirements of the Agreed Order.

The Property consists of approximately 63 acres and is a combination of two separate properties that have had different uses:

- The 3301 South Norfolk Street property on the northern, eastern, and southern portions of the Property, which historically was used for commercial warehousing of food products by Unified/Associated Grocers or predecessors, and included truck maintenance and repair operations, truck refueling facilities, and associated underground storage tanks. Additional historical operations associated with the 3301 South Norfolk Street property included automobile service stations formerly located on the northwestern portion of the Property, and a dry cleaner formerly located on the southwestern portion of the Property.
- The 10230 East Marginal Way South property on the west-central portion of the Property, which was used for automobile wrecking and parts salvaging by Northwest Auto Wrecking, Inc. and is currently vacant.

Subsurface investigations have been conducted at the Property since 1989. Based on the results of the subsurface investigations, petroleum hydrocarbon constituents, metals, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls have been detected at concentrations exceeding regulatory screening levels in one or more of the following media: soil and groundwater. Numerous remedial actions have been conducted at the Property between 1989 and 2019 to reduce concentrations of contaminants.

Before this interim action is implemented, a pre-interim action design investigation will be conducted to collect additional data to perform screening of environmental chemical concentrations and transport pathways using Ecology Preliminary Cleanup Levels that were developed for upland sites in the Lower Duwamish Waterway. Following the pre-interim action design investigation and before the Interim Action Work Plan is implemented, a Draft Interim Action Design Report will be prepared and submitted to Ecology for review and approval. The Draft Interim Action Design Report will document the results from the pre-interim action design investigation, provide an updated conceptual site model based on the results from the investigation, establish the remediation levels for the interim action, and provide the final design components of the interim action.

This interim action partially addresses contamination with petroleum hydrocarbon constituents, metals, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls in soil and groundwater. The interim action will be conducted concurrent with Property redevelopment, which will correct

a problem that may become substantially worse or cost substantially more to address if delayed, because extensive reconfiguration of the Property, including new structures, is part of the planned redevelopment.

The scope of work for the interim action includes:

- **Impacted Soil Excavation.** Soil with concentrations of petroleum hydrocarbons exceeding remediation levels will be excavated to the maximum extent practicable in two areas at the Property. Excavated soil will be transported to a permitted off-site facility for disposal. Additional excavation areas may be included in the scope of the interim action depending on the results from comparing pre-interim action design investigation data to the Preliminary Cleanup Levels.
- **Dewatering and Treatment.** Dewatering may be necessary to allow for excavation of contaminated soil located below the water table. If necessary, dewatering wastewater will be pumped to aboveground tanks, pretreated on the Property, and discharged to surface water under a Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program.
- **Contingency Excavation.** Any contaminant materials encountered during redevelopment activities that exceed remediation levels will be excavated to the maximum extent practicable and transported to a permitted off-site facility for disposal.
- **Reconfiguration of Stormwater Infrastructure.** Existing stormwater infrastructure at the Property will be removed or abandoned in-place. New catch basins and conveyance piping will be installed to collect and convey stormwater across the entire Property before it is treated and discharged to the Lower Duwamish Waterway.

The projected start date for the interim action is fall of 2019 in conjunction with redevelopment of the Property. The start date of the interim action will be confirmed with Ecology following approval of the Interim Action Design Report, and once final permits or authorizations have been obtained and/or confirmed for the Construction Stormwater General Permit and from the City of Tukwila, the lead jurisdiction for the redevelopment. The completion of the interim action will be documented in an Interim Action Report.

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Interim Action Work Plan (IAWP) on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) to describe the interim action activities planned for the Emerald Gateway Site at 3301 South Norfolk Street in Seattle and Tukwila, Washington (herein referred to as the Property) (Figure 1). The interim action will be performed consistent with the cleanup requirements of the Washington State Model Toxics Control Act Cleanup Regulation (MTCA), as established in Chapter 173-340 of the Washington Administrative Code (WAC 173-340).

This IAWP is Exhibit D of an Agreed Order between Prologis and the Washington State Department of Ecology (Ecology). The Agreed Order requires Prologis to prepare an Interim Action Design Report, implement an Interim Action Work Plan, prepare a work plan to conduct a Remedial Investigation (RI), complete an RI, complete a Feasibility Study (FS), and prepare a draft Cleanup Action Plan for the Emerald Gateway Site. The interim action will be conducted in conjunction with redevelopment of the Property by Prologis into a warehouse and distribution center. Redevelopment will require extensive reconfiguration of the existing surface features and stormwater infrastructure. Hazardous building material surveys, abatement, and demolition will occur prior to the interim action and are not addressed in this IAWP. A preliminary conceptual redevelopment plan is provided as Appendix A.

The Property is adjacent to the Lower Duwamish Waterway (LDW) across East Marginal Way South (Figure 2). The LDW is on the National Priorities List. The U.S. Environmental Protection Agency (EPA) (2014a) published a final Record of Decision for the LDW Superfund site, which presented the selected remedy for cleanup of sediments in the LDW. In support of the investigation and cleanup of the LDW, Ecology is leading upland source control activities, consistent with a Memorandum of Agreement with EPA (2014b).

To support the source control efforts and prevent recontamination of sediments in the LDW, Ecology (2019) 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. Selection of PCULs applicable to this interim action will be based on the analytical results for soil and groundwater samples collected during a pre-interim action design investigation, which will be conducted to collect additional data to evaluate initial screening levels for chemicals based on the preliminary conceptual site model. These data will be used to support the design of the interim action and development of a site-wide RI and FS.

1.1 PURPOSE

The purpose of this interim action is to partially clean up soil and groundwater contaminated with petroleum hydrocarbon constituents, metals (arsenic, cadmium, copper, lead, manganese, mercury, and zinc), polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs), collectively referred to herein as the constituents of potential concern (COPCs), to correct a

problem that may become substantially worse or cost substantially more to address if delayed as a result of extensive reconfiguration of the Property during redevelopment.

Information obtained during the design and implementation of the interim action will inform the RI, FS, and final cleanup process.

1.2 DOCUMENT ORGANIZATION

This IAWP has been organized into the following sections:

- **Section 2**, **Project Background**, provides the Property description and history, and summaries of the Property geology and hydrogeology, previous environmental investigations and remedial actions conducted at the Property, and the proposed pre-interim action design investigation.
- **Section 3**, **Preliminary Conceptual Site Model**, discusses the Ecology PCULs, the remediation levels for the interim action, the confirmed and suspected source areas, the COPCs, and the media of concern.
- **Section 4**, **Permits and Other Regulatory Requirements**, summarizes applicable local, state, and federal laws pertaining to the interim action.
- **Section 5**, **Interim Action Scope of Work**, describes the Property preparation and mobilization, monitoring well decommissioning, contaminated soil excavation, and stormwater conveyance.
- **Section 6**, **Compliance Monitoring**, describes the protection, performance, and confirmational monitoring that will be conducted as part of the interim action.
- **Section 7**, **Schedule and Reporting**, provides a schedule for implementation of the interim action and the reporting requirements.
- **Section 8**, **References**, lists the documents cited in this IAWP.
- **Section 9**, **Limitations**, provides Farallon's standard limitations applicable to this IAWP.

2.0 PROJECT BACKGROUND

This section provides a description of the Property location, land use, and zoning; a summary of historical uses of the Property; a description of the local geology and hydrology; a summary of previous investigations and remedial actions conducted at the Property, and a description of the proposed pre-interim action design investigation.

2.1 PROPERTY DESCRIPTION

The Property consists of 29 King County parcels on approximately 63 acres of land that overlaps the City of Seattle and the City of Tukwila, Washington[1] (Figure 2). The Property is in an industrial area zoned for industrial and manufacturing uses in both the City of Seattle and the City of Tukwila.

Ten main buildings and several smaller storage structures, all constructed between 1952 and 2012, are present on the Property (Figure 2). The main buildings on the Property are:

- An office building on the northern portion (Office Building).
- A dry grocery warehouse on the eastern portion (Dry Grocery Warehouse).
- A refrigerated perishables warehouse on the southern portion (Perishables Warehouse).
- A returns building on the central portion (Returns Building).
- A truck-wash building on the south-central portion (Former Truck Wash).
- A former trailer maintenance shop on the north-central portion (Former Trailer Maintenance Shop).
- A former truck repair shop on the north-central portion (Former Truck Repair Shop).
- A maintenance shop on the southwestern portion (Former South Maintenance Shop).
- An office building previously occupied by banking institutions on the northwestern portion (Former Bank Building).
- A walkup/drive-through cafe building and former Humble Oil service station on the northwestern corner (Former Old Humble Oil Service Station).

The west-central portion of the Property contains unpaved surfaces; the remainder of the Property is covered by buildings or asphalt- or concrete-paved surfaces. Access to the Property is gained from East Marginal Way South through a guarded entrance gate near the western Property boundary.

[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.

2.2 PROPERTY HISTORY

The Property consists primarily of two separate properties that have had different uses:

- The 3301 South Norfolk Street property on the northern, eastern, and southern portions of the Property, which historically was used for commercial warehousing of food products by Unified/Associated Grocers or predecessors, and included truck maintenance and repair operations, truck refueling facilities, and associated underground storage tanks (USTs). Additional historical operations associated with the 3301 South Norfolk Street property included automobile service stations formerly located on the northwestern portion of the Property, and a dry cleaner formerly located on the southwestern portion of the Property.
- The 10230 East Marginal Way South property on the west-central portion of the Property, which was used for automobile wrecking and parts salvaging by Northwest Auto Wrecking, Inc., and currently is vacant (herein referred to as the Former NWAW Property).

The Property was shown on historical documents reviewed as primarily undeveloped land in the late 1800s, with a railroad spur extending through the central portion of the Property in the early 1900s. By the 1930s, a majority of the Property was used for agricultural purposes, and various small commercial-style buildings were present along East Marginal Way South. Commercial buildings along East Marginal Way South included automobile service stations and a dry cleaner. The dry cleaner operated on the Property from as early as 1931 until at least 1961. By 1953, the Dry Grocery Warehouse, the Office Building, and the Former Truck Repair Shop were present on the northern and eastern portions of the Property, and trailer parking was apparent along the western portion of the Property. Automobile wrecking activities associated with the Former NWAW Property were apparent in 1965; hotels and trailer parking were identified on the western portion of the Property in 1966; the Old Humble Oil service station appeared on the northwestern portion of the Property in 1969; the Dry Grocery Warehouse was expanded southward in 1977; and the Perishables Warehouse and the Former Bank Building were present in 1980. The Former NWAW Property appeared to be cleared of structures and automobiles by 2009, and remains undeveloped (Farallon 2019a).

2.3 GEOLOGY AND HYDROLOGY

A summary of the geology and hydrology of the Property is provided below.

2.3.1 Geology

The Property 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 that overlies alluvial deposits.

Based on descriptions from previous environmental investigations conducted at the Property, the general area consists of fill material extending from the ground surface to a depth of 4 to 10 feet below ground surface (bgs). 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 depth of 55 feet bgs (Farallon 2019a).

2.3.2 Hydrology

Unconfined groundwater, as measured in borings and groundwater monitoring wells at the Property, is present at depths of between approximately 5 and 12 feet bgs. Groundwater elevations calculated during previous investigations conducted at the Property indicated that groundwater flow direction is west-southwest, toward the LDW (Farallon 2019a). Groundwater contour maps prepared by others are provided as Appendix B.

2.3.3 Stormwater

According to the City of Seattle (2019), stormwater from the 3301 South Norfolk Street portion of the Property is collected in catch basins located along the northern and central portions of the Property. Stormwater on the central portion of the Property flows to a 60-inch-diameter Washington State Department of Transportation (WSDOT) storm drain that conveys stormwater from Interstate 5 to the LDW. The Interstate 5 drainage line bisects the Property from east to west. Stormwater on the northern portion of the Property is collected and conveyed to the City of Seattle storm drain system at South Norfolk Street, which receives stormwater from surrounding properties and discharges directly into the LDW. Stormwater on the Former NWAW Property infiltrates directly into soil; no stormwater collection or conveyance features are present on the Former NWAW Property (Sound Environmental Strategies 2007b).

2.4 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

Subsurface investigations and remedial actions have been conducted at the Property since 1989. Previous environmental reports subdivided the Property into investigation areas based on operational history. This section summarizes the activities and results from previous investigations and interim actions conducted in each investigation area of the Property. Figure 2 shows the location of historical site features. Locations of investigation areas are shown on Figure 3. Figure 4 shows sample locations and former remedial excavation areas. Figures 5A, 5B, 5C, 6, 7A, 7B, 7C, and 8 through 15 present analytical results for COPCs compared to the most-stringent PCULs. While there is insufficient information at this time to determine which PCULs to apply at the Emerald Gateway Site, the most stringent PCULs were selected to illustrate potential contaminant exceedances. Tables 1 through 12 present analytical results for soil, groundwater, soil gas, stormwater, and catch basin solids. Tables 3, 5, 8, and 9 include only the detected chemicals analyzed. Results of all the analyzed chemicals will be provided in the site-wide RI and FS, including detection limits. Table 13 provides a list of the COPCs that have exceeded the most-stringent PCULs.

2.4.1 Area 1: Dry Grocery Warehouse

Area 1 is on the eastern portion of the Property, where heating oil USTs UST-A through UST-C reportedly were present beneath an expanded footprint of the current Dry Grocery Warehouse building (Figures 2 and 3). According to original building plans reviewed during an assessment conducted by Terra Associates, Inc. (Terra) (2001) in 2001, UST-A and UST-B were removed, and UST-C was abandoned in-place. The location of UST-C is unknown, but is assumed to be in the same general area as the other two USTs (Figure 2).

A geophysical survey performed at the Property did not identify the presence of an abandoned in-place UST, although the survey was limited by reinforcement steel in the underlying concrete slab, and the presence of thick fill material overlying the UST area. Petroleum hydrocarbon constituents were not detected at concentrations exceeding laboratory reporting limits in reconnaissance groundwater samples collected in 2001 from five borings south and west of the former USTs outside the current building footprint in down-gradient locations relative to the former USTs (Figures 6 and 8; Table 6) (Terra 2001).

2.4.2 Area 2: Perishables Warehouse

Area 2 is on the southern portion of the Property, where diesel fuel UST-D formerly was present (Figures 2 and 3). The UST was removed in 1992 (Terra 2001).

Total petroleum hydrocarbons as diesel-range organics (DRO) were detected at a concentration exceeding the PCULs in a soil sample collected proximate to former UST-D in 2001 (Figure 5A; Table 1). DRO, total petroleum hydrocarbons as gasoline-range organics (GRO), and benzene were detected at concentrations exceeding PCULs in a reconnaissance groundwater sample collected proximate to former UST-D. DRO, GRO, and volatile petroleum constituents were not detected at concentrations exceeding laboratory reporting limits or PCULs in a groundwater sample collected from monitoring well MW-101 installed down-gradient of former UST-D (Figures 6 and 8; Table 6).

Soil excavation activities were implemented proximate to former UST-D. During excavation of contaminated soil, it was discovered that former UST-D formerly was contained in a concrete vault (Terra 2002). The soil and water contents of the vault were removed, and the vault was backfilled with controlled-density fill. Subsequent excavating along the exterior sides of the vault removed soil containing residual DRO. DRO was detected at a concentration exceeding PCULs in a single soil sample collected proximate to the former UST. DRO and total petroleum hydrocarbons as oil-range organics (ORO) were not detected at concentrations exceeding PCULs in the remaining confirmational soil samples collected proximate to former UST-D (Figure 5A; Table 1).

In 2016, borings F-1 and F-2 were advanced adjacent to the vault for collection of soil and reconnaissance groundwater samples for laboratory analysis for select COPCs (Farallon 2019a). A single soil sample was collected from each boring. DRO, total naphthalenes, fluorene, phenanthrene, benzo(a)anthracene, and total low molecular weight PAHs were detected at concentrations exceeding PCULs in the soil sample collected from boring F-1 (Figures 5A and 13; Tables 1 and 2). Other analytes were detected at concentrations less than PCULs or laboratory reporting limits in the soil samples collected from borings F-1 and F-2 (Figures 5A, 7A, and 10; Tables 1, 2, and 5). DRO and ORO were detected at concentrations exceeding PCULs in the reconnaissance groundwater sample collected from boring F-2. Concentrations of 1-methylnaphthalene exceeded PCULs in the groundwater sample collected from down-gradient monitoring well MW-101. DRO and ORO were not detected at concentrations exceeding PCULs in the groundwater sample collected from boring F-1 and down-gradient monitoring well MW-101 (Figures 6, 8, and 16; Tables 6 through 8).

Dissolved arsenic was detected at concentrations exceeding PCULs in the reconnaissance groundwater samples collected from borings F-1 and F-2, and in the groundwater sample collected from monitoring well MW-101 (Figure 12; Table 9) (Farallon 2019a).

2.4.3 Area 3: Former Truck Wash

Area 3 is on the southern portion of the Property, north of Area 2, and consists of the former Truck Wash, which reportedly contained multiple USTs of unknown number designated as UST-E (Figure 2) (Terra 2001). The USTs reportedly were installed but never placed into service. A geophysical survey identified an area of disturbed soil in the assumed location of UST E. No field-screening evidence of petroleum releases to soil was identified in two borings advanced in the UST-E area, and petroleum hydrocarbon constituents were not detected at concentrations exceeding laboratory reporting limits in reconnaissance groundwater samples collected from the borings (Figures 6 and 8; Table 6).

2.4.4 Area 4: Former Fueling Area

Area 4 is on the south-central portion of the Property and was formerly used for fueling trucks (Figure 3). Three 20,000-gallon USTs were installed in 1979: the western UST for gasoline storage; and the central and eastern USTs for diesel fuel storage (Global Environmental [Global] 1998). In 1998, the USTs were re-lined to meet upgrade requirements. At that time, the eastern diesel fuel UST, designated UST-F, was found to be compromised, and was removed, along with 67 tons of diesel fuel-impacted soil (Global 1998). A petroleum release also was identified proximate to the fuel dispenser island, where approximately 150 tons of petroleum-impacted soil was removed. GRO, DRO, and related volatile petroleum constituents were detected at concentrations less than PCULs in confirmational soil samples collected proximate to the UST and the dispenser island, with the exception of benzene, which was detected at a concentration exceeding the PCULs in a soil sample collected from the bottom of the excavation near the southwestern corner of the dispenser island (Figure 7A; Table 1) (Global 1998). The benzene-impacted soil apparently was left in-place. Petroleum hydrocarbon constituents and related volatile components were not detected in a groundwater sample collected from monitoring well MW-2, located near the western side of the UST bed, down-gradient of the USTs (Figures 6 and 8; Table 6). Monitoring well MW-2 was decommissioned; no additional monitoring wells are located in Area 4.

In 2001, petroleum-stained soil was observed in surface soil proximate to the northern edge of the UST cover slab (Terra 2001). The staining appeared to be the result of rainfall repeatedly washing minor fuel spills off the side of the slab. A reconnaissance groundwater sample was collected from boring P4-1, located down-gradient of the staining. ORO was detected at a concentration exceeding the PCULs in the reconnaissance groundwater sample collected (Figure 6; Table 6). In 2002, approximately 2 cubic yards of petroleum-impacted soil was removed (Terra 2002). Confirmational soil samples were collected at the limits of the excavation. DRO was detected at a concentration exceeding PCULs in a single soil sample collected following soil removal. DRO and ORO were not detected at concentrations exceeding PCULs in the remaining confirmational soil samples collected (Table 1).

In 2001, a reconnaissance groundwater sample was collected from boring P10-3, located up-gradient of the former fueling area (Terra 2001). Petroleum hydrocarbon constituents, VOCs, and PAHs were not detected at concentrations exceeding laboratory reporting limits, with the exception of phthalates, which were detected but attributed to laboratory contamination (Figures 6, 8, 14, and 16; Tables 6 through 8).

The USTs reportedly were upgraded again in 2004 (Global Diving and Salvage, Inc. 2004). DRO and ORO were detected at concentrations exceeding PCULs in two reconnaissance groundwater samples collected proximate to the USTs and dispenser island in 2007 (Figure 6; Table 6) (Dalton, Olmstead & Fuglevand, Inc. [DOF] 2007). GRO was not detected in the 2007 reconnaissance groundwater samples; the samples were not analyzed for volatile petroleum constituents.

In 2016, borings F-5 and F-7 through F-10 were advanced for collection of soil and reconnaissance groundwater samples (Farallon 2019a). Petroleum hydrocarbon constituents were not detected at concentrations exceeding laboratory reporting limits in soil samples collected from the borings (Figure 5A and 7A; Table 1). DRO was detected at concentrations exceeding PCULs in the reconnaissance groundwater samples collected from borings F-7 through F-10; ORO was detected at concentrations exceeding PCULs in the reconnaissance groundwater samples collected from borings F-8 and F-10. The highest concentrations of DRO and ORO in groundwater were detected in samples collected from borings F-8 and F-10, located down-gradient of the USTs (Figure 6; Table 6).

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 were collected at the limits of the excavation for removal of the UST and petroleum-impacted soil. Petroleum hydrocarbon constituents were not detected at concentrations exceeding PCULs in the confirmational soil samples (Figures 5A and 7A; Table 1). Benzene-impacted soil left in-place beneath the fuel dispenser excavation conducted in 1998 was not excavated at this time.

2.4.5 Area 5: Former Trailer Maintenance Shop

Area 5 is on the north-central portion of the Property and was formerly used for trailer repair and maintenance (Figures 2 and 3) (Terra 2001). Soil and reconnaissance groundwater samples were collected from five borings advanced around the exterior of the shop in 2001. Soil samples were analyzed for petroleum hydrocarbon constituents; groundwater samples were analyzed for petroleum hydrocarbon constituents, volatile organic compounds (VOCs), and PAHs. DRO was detected at a concentration exceeding the PCULs in one soil sample collected at a depth of 7 to 9 feet bgs (Figure 5B; Table 1). Concentrations of analytes detected in groundwater samples were less than laboratory reporting limits, with the exception of one sample in which methylene chloride and phthalates were detected but attributed to laboratory contamination.

In 2016, borings F-11 through F-14 were advanced proximate to the Former Trailer Maintenance Shop for collection of soil and reconnaissance groundwater samples (Farallon 2019a). Soil samples were analyzed for petroleum hydrocarbon constituents, VOCs, and PAHs. Petroleum hydrocarbon constituents, PAHs, and VOCs were detected at concentrations less than PCULs in soil samples collected from the borings (Figures 5B, 7B, 13, and 14; Tables 1 through 3). Groundwater samples were analyzed for petroleum hydrocarbon constituents, VOCs, PAHs, and dissolved arsenic. Petroleum hydrocarbon constituents, VOCs, dissolved arsenic, and PAHs were detected at concentrations less than PCULs in reconnaissance groundwater samples collected from the borings, with the exception of dissolved arsenic, which was detected at a concentration exceeding the PCUL in the reconnaissance groundwater sample collected from boring F-14 (Figure 12; Table 9).

2.4.6 Area 6: Former Truck Repair Shop

Area 6 is on the northern portion of the Property in an area historically used for truck repair and maintenance operations (Figures 2 and 3) (Terra 2001). Four former USTs were used in this area: 10,000-gallon diesel fuel UST-G; 10,000-gallon gasoline UST-H; 1,000-gallon gasoline UST-I; and 500-gallon waste-oil UST-J. The USTs reportedly were removed in the late 1980s. Subsurface investigations were conducted in 2001 and 2007, which included the advancement of 16 borings and installation of 11 monitoring wells. Petroleum constituents were detected at concentrations exceeding PCULs in soil and groundwater.

In July and August 2007, approximately 12,200 tons of petroleum-impacted soil and 17,500 gallons of petroleum-impacted groundwater were excavated from Area 6 for off-Property disposal. Soil was excavated to depths ranging from 9 to 15 feet bgs (DOF 2009c). The excavation was backfilled with inert fill and mixed with oxygen-release compound to enhance natural degradation of residual petroleum hydrocarbons.

Results for confirmational soil samples indicated that soil containing petroleum hydrocarbon constituents at concentrations exceeding PCULs remained at the extents of the excavation and at depths below 15 feet bgs proximate to the southwestern corner of the north-adjacent Office Building. Petroleum-contaminated soil could not be excavated below 15 feet bgs proximate to the Office Building due to access limitations (DOF 2009c).

Following completion of the soil excavation, monitoring wells MW-AG1 and MW-AG2 were installed to supplement existing monitoring wells MW-4, MW-203, and MW-207 to provide a network of five monitoring wells around the Area 6 excavation area (DOF 2009d). Soil samples were not collected during installation of the monitoring wells. Petroleum hydrocarbon constituents were not detected at a concentration exceeding laboratory reporting limits in groundwater samples collected during four groundwater monitoring events performed between November 2009 and March 2011 (Table 6).

In 2016, borings F-15 through F-18 were advanced in Area 6 for collection of soil gas and reconnaissance groundwater samples, and collection of groundwater samples from monitoring wells MW-AG1, MW-AG2, MW-4, MW-203, and MW-207 for laboratory analysis (Farallon 2019a). The soil gas sampling was performed to evaluate the vapor intrusion pathway proximate

to the area of residual petroleum impact and the north-adjacent Office Building. The groundwater sampling was performed to evaluate current groundwater conditions.

Benzene, naphthalene, and chloroform were detected at concentrations exceeding PCULs in soil gas samples collected from borings F-17 and F-18 (Table 10) (Farallon 2019a).

Petroleum hydrocarbon constituents were detected at concentrations less than PCULs or were not detected at concentrations exceeding laboratory reporting limits in reconnaissance groundwater samples and groundwater samples collected from monitoring wells. The only exceptions were DRO, GRO, benzene, and ethylbenzene, which were detected at concentrations exceeding PCULs in the reconnaissance groundwater sample collected from boring F-17, located down-gradient of the area of known petroleum impact (Figures 6 and 8; Table 6). Dissolved arsenic was detected at concentrations exceeding the PCULs in the reconnaissance groundwater sample collected from boring F-18, and in groundwater samples collected from monitoring wells MW-4 and MW-207 (Figure 12; Table 9) (Farallon 2019a).

2.4.7 Area 7: Former Automobile Service Stations

Area 7 is on the western portion of the Property where one or more historical automobile service stations may have operated (Figures 2 and 3).

In 2001, a geophysical survey was performed in Area 7. Five borings were advanced to investigate anomalies encountered during the geophysical survey (Terra 2001). Reconnaissance groundwater samples were analyzed from five borings and soil samples were analyzed from two of the five borings. Petroleum constituents were not detected at a concentration exceeding laboratory reporting limits in any of the soil samples (Figures 5C and 7C; Table 1). GRO and benzene were detected at concentrations exceeding PCULs in one reconnaissance groundwater sample (Figure 8; Table 6). Petroleum constituents were not detected at concentrations exceeding PCULs in reconnaissance groundwater samples collected from the borings, with the exception of benzene and ethylbenzene, which were detected at concentrations exceeding PCULs in the reconnaissance groundwater sample collected from boring P7-1 (Figures 6 and 8; Table 6).

Subsequent testing conducted in Area 7 by DOF (2009a) included advancing five borings and five shallow hand-auger borings. Soil samples were only analyzed from the shallow hand-auger boings. DRO, ORO, GRO, and the metals arsenic, cadmium, and lead were detected at concentrations less than PCULs in the soil samples analyzed (Figures 5C, 7C, and 10; Tables 1 and 5). A single reconnaissance groundwater sample was collected from boring P-DOF-2. Petroleum constituents and VOCs were not detected at a concentration exceeding laboratory reporting limits in the reconnaissance groundwater sample (Figures 6, 8, and 16; Tables 6 and 8).

Petroleum hydrocarbon constituents, PAHs, VOCs, and metals were not detected at a concentration exceeding laboratory reporting limits in the groundwater samples collected from DOF-1 (Figures 6, 8; 11, 12, 14, and 16; Tables 6 through 9).

2.4.8 Area 8: Returns Building

Area 8 is on the central portion of the Property, and was identified during a 2001 investigation by Terra (2001) as a potential fueling facility based on review of a 1966 Sanborn map. Terra (2001) subsequently conducted a geophysical survey, but did not identify evidence of USTs. Terra advanced three borings proximate to fueling facility features shown on the Sanborn map (Figures 2 and 3). Soil samples collected from the borings did not show field evidence of petroleum hydrocarbons; no samples were submitted for analysis. DRO, ORO, and GRO were not detected at a concentration exceeding laboratory reporting limits in reconnaissance groundwater samples collected from the borings (Figures 6 and 8; Table 6).

2.4.9 Area 9: Former Employee Parking Lot

Area 9 is southwest of the Office Building on the northern portion of the Property (Figures 2 and 3) (Terra 2001). During a 2001 investigation by Terra, a suspected fuel UST was identified on historical drawings. A subsurface geophysical survey conducted by Terra did not identify the presence of a UST in the area. Terra advanced two borings proximate to the assumed UST location to assess for the potential presence of petroleum hydrocarbon constituents in soil and groundwater. Soil samples collected from the borings did not show field evidence of petroleum hydrocarbons; no samples were submitted for analysis. DRO, ORO, and GRO were not detected at concentrations exceeding laboratory reporting limits in reconnaissance groundwater samples collected from the borings (Figures 6 and 8; Table 6).

2.4.10 Area 10: Up-Gradient Areas

Area 10 represents potential contaminant sources up-gradient and off the Property to the east (Figures 2 and 3) (Terra 2001). Terra advanced borings P10-2, P10-4, and P10-5 near the eastern Property boundary to screen for potential chemical impact to groundwater. Petroleum hydrocarbon constituents, VOCs, and PAHs were not detected at concentrations exceeding laboratory reporting limits in the reconnaissance groundwater samples collected from the borings, with the exception of phthalates, which were detected but attributed to laboratory contamination (Figures 6, 8, 14, and 16; Tables 6 through 8).

2.4.11 Area 11: Former South Maintenance Shop

Area 11 is on the southwestern portion of the Property, where two USTs were encountered and removed by a utility contractor in 1995 during installation of a subsurface water line (Figures 2 and 3) (Global 1996). Archive records indicated that the USTs were associated with former dry-cleaning operations conducted on this portion of the Property by Wolff Cleaners. The USTs consisted of 450-gallon vertically installed UST-L and 300-gallon horizontally installed UST-K. Analysis of the UST contents and of soil samples collected adjacent to the USTs suggested that Stoddard solvent was previously stored in the USTs (Global 1996). No chlorinated dry-cleaning solvents such as tetrachloroethene or trichloroethene were detected at a concentration exceeding laboratory reporting limits in the soil samples collected proximate to the former USTs.

In 2007, boring P-DOF-2 was advanced down-gradient of the former USTs. A reconnaissance groundwater sample was collected for laboratory analysis. DRO, ORO, GRO, and petroleum

hydrocarbon constituents were not detected at concentrations exceeding laboratory reporting limits in the reconnaissance groundwater sample; however, the laboratory reporting limits for DRO and ORO exceeded the PCULs (Figures 6 and 8; Table 6).

In 2016, borings F-20 through F-23 were advanced at accessible locations to evaluate subsurface conditions proximate to the Former South Maintenance Shop. Soil samples were collected for laboratory analysis from borings F-20 and F-22, and reconnaissance groundwater samples were collected for laboratory analysis from borings F-20 through F-23. Petroleum hydrocarbon constituents, VOCs, PAHs, and arsenic either were detected at concentrations less than PCULs or were not detected at a concentration exceeding laboratory reporting limits in the soil and reconnaissance groundwater samples collected from the borings. One exception was DRO, which was detected at a concentration exceeding the PCULs in the reconnaissance groundwater sample collected from boring F-23, located south of the Former South Maintenance Shop (Figures 5A, 6, 7A, 8, and 12 through 16; Tables 1 through 3 and 6 through 8).

2.4.12 Area 12: Former Old Humble Oil Service Station

Area 12 is at the northwestern corner of the Property, and is the former location of an automobile service station known as "Old Humble Oil" at 10056 East Marginal Way South (Figure 2 and 3). Five USTs formerly were present at Area 12: 6,000-gallon gasoline UST-M; 6,000-gallon diesel fuel UST-N; 6,000-gallon gasoline UST-O; 600-gallon heating oil UST-P; and waste-oil UST-Q, which later was discovered to be a dry well (Figure 2). Area 12 also contained a pump island, a septic tank, and an oil-water separator. All features related to Old Humble Oil were removed in 1989 (Terra 1991).

Petroleum releases were identified at the former service station, primarily associated with a 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 Property (Terra 1991).

Subsequent groundwater extraction from two monitoring wells located down-gradient of the identified releases was performed periodically. Results from additional groundwater monitoring performed until 1993 indicated that concentrations of petroleum constituents in groundwater had decreased over time (Terra 1993) to below PCULs. VOCs and dissolved lead were not detected at concentrations exceeding PCULs in groundwater samples collected in February 1993. A report prepared by others documenting the groundwater results is provided as Appendix C.

Additional soil sampling was performed along the northern Property boundary in 1998 to screen an area of petroleum-impacted soil using updated analytical methods (Terra 1998). DRO or ORO was not detected at a concentration exceeding PCULs in the soil samples collected from the borings (Figure 5C; Table 1). Based on the cumulative results, Ecology (1998) issued an No Further Action determination for Area 12 in December 1998.

In 2007, boring P-DOF-1 was advanced near the western property line proximate to the former down-gradient monitoring well on Area 12 to collect a reconnaissance groundwater sample to confirm previous groundwater analytical results (DOF 2007). Petroleum hydrocarbon constituents and VOCs were not detected at concentrations exceeding laboratory reporting limits or less than

PCULs in the reconnaissance groundwater sample collected from the boring; however, the laboratory reporting limits for DRO and ORO slightly exceeded the PCULs (Figures 6 and 8; Tables 6 and 8).

2.4.13 Area 13: Former Northwest Auto Wrecking Property

Area 13 is on the western portion of the Property and is referred to as the Former NWAW Property, which was used for automobile wrecking and parts salvaging from 1958 until approximately 2007 (Figure 2 and 3) (DOF 2008b). Area 13 historically was surrounded on the northern, eastern, and southern sides by the 3301 South Norfolk Street property. The western portion of Area 13 contained several structures and features, including a garage with hydraulic hoists, aboveground waste-oil storage tanks, a gasoline UST, several stove-oil USTs, a relic UST area, and a parts cleaning and dismantling shop (Figure 2). Asphaltic pavement was present around the buildings and on the extreme northern portion of Area 13. The remaining portions of Area 13 were used primarily to store wrecked automobiles and parts on bare ground or other unpaved surfaces. Access roads were paved with concrete. The northeastern portion of Area 13 contained several soil stockpiles and fill areas, including: a petroleum-impacted soil stockpile totaling approximately 2,800 cubic yards (North Stockpile) that was generated in 1993 from excavation of a petroleum spill on the 3301 South Norfolk Street property; a lead-containing soil stockpile totaling approximately 3,000 cubic yards (LCS Stockpile) that was generated in 1993 during excavation of surface soil containing crushed battery casings; and a battery chip fill area (DOF 2008b).

In 1996, a subsurface investigation was conducted during due diligence for the Former Bank Building to assess the NWAW Property as a potential source of contamination. Four borings were advanced proximate to the parcel boundary between the Former Bank Building and the Former NWAW Property (GeoTech Consultants, Inc. 1996). Soil samples were submitted from three of the borings for laboratory analysis for petroleum hydrocarbon constituents and VOCs. Petroleum hydrocarbon constituents and VOCs were not detected at concentrations exceeding PCULs in soil samples collected from the borings (Figures 5C, 7C; and 15; Tables 1 and 3).

Voluntary remedial actions on Area 13 began under Ecology oversight in 2007, and were performed in phases through 2010 (Sound Environmental Strategies 2007a; DOF 2008a, 2009a, 2009b, 2010). The remedial actions included:

- Analyzing soil samples to profile the North Stockpile for disposal off the Property;
- Excavating surface soil containing petroleum hydrocarbons, PCBs, PAHs, and metals;
- Stabilizing the LCS Stockpile, which was considered dangerous waste due to elevated lead concentrations, for disposal off the Property;
- Demolishing existing structures;
- Removing concrete pavement for crushing for use as backfill material on Area 13;
- Investigating the historical stove-oil USTs in the western portion of Area 13;
- Removing relic USTs and associated impacted soil for disposal off the Property;

- Removing hydraulic hoists and associated petroleum-impacted soil for disposal off the Property;
- Removing a gasoline UST and associated petroleum-impacted soil for disposal off the Property; and
- Excavating petroleum-impacted soil from a mid-1990s spill from the northeastern portion of Area 13 for disposal off the Property.

The remedial actions included disposal off the Property 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 Property. Confirmational soil samples were collected at the extent of the remedial excavations. Results of confirmational soil sampling are summarized below:

- 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 concentrations (Figures 5C and 7C; Table 1);
- PCBs were detected at a concentration exceeding PCULs in a single soil sample collected (Figure 9; Table 4);
- Metals, including arsenic, barium, cadmium, copper, lead, and zinc, were detected at concentrations exceeding PCULs in soil samples collected (Figure 10; Table 5); and
- cPAHs and HVOCs were not detected at concentrations exceeding PCULs in soil samples collected (Figures 13 and 15; Tables 2 and 3).

Subsequent to the completion of remedial actions in Area 13, Ecology's Voluntary Cleanup Program (2011a) 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. It should be noted that the Voluntary Cleanup Program determination was based on comparison of the COPC concentrations with the MTCA Method A groundwater and soil (unrestricted land use) cleanup levels. The MTCA Method A cleanup levels are generally higher than the most stringent PCULs for the COPCs identified at the Property.

Groundwater monitoring wells DOF-1 through DOF-5 located on Area 13 were sampled six times between November 2009 and August 2014 (DOF 2014). In 2016, Farallon sampled groundwater monitoring wells DOF-1 through DOF-4 to confirm the August 2014 groundwater monitoring data, and to assess current groundwater conditions. In addition, a reconnaissance groundwater sample was collected from boring P10-1. Results of groundwater sampling are summarized below:

- ORO, GRO, benzene, and 1-methylnaphthalene have been detected at concentrations exceeding PCULs in monitoring well DOF-2 during groundwater monitoring events conducted since 2009. Petroleum hydrocarbon constituents were not detected at concentrations exceeding laboratory reporting limits or were less than PCULs in the remaining monitoring wells (Figures 6 and 8; Tables 6 and 7).

- Benzene, naphthalene, and 1-methylnaphthalene were detected at concentrations exceeding PCULs in the reconnaissance groundwater sample collected from boring P10-1 (Figures 6, 8, and 14; Tables 6 and 7).
- VOCs were not detected at concentrations exceeding laboratory reporting limits or were less than PCULs in groundwater samples collected from boring P10-1 in 2001 and in monitoring wells from 2009 to 2016 (Figure 16; Table 8).
- Arsenic and manganese were detected at concentrations exceeding PCULs in several wells during groundwater monitoring events conducted since 2009 (Figures 11 and 12; Table 9).

2.4.14 Stormwater Compliance Sampling

Stormwater from the Property discharges to the LDW under an Industrial Stormwater General Permit issued to Unified Grocers, Inc. Stormwater discharge samples were collected from three catch basins, which are shown on Figure 1, provided in Appendix D. The three catch basins are located in the following catchment areas (DOF 2016):

- Sample location S1 is located in a catchment area west of the Dry Grocery Warehouse proximate to Areas 5 and 6;
- Sample location S2 is located in a catchment area north of the Perishables Warehouse and includes Areas 2 through 4; and
- Sample location S3 is located in a catchment area proximate to Area 11.

The Industrial Stormwater General Permit required quarterly sampling of pH, turbidity, total suspended solids, zinc, and copper. Concentrations of zinc and copper in stormwater discharged from the Property to the LDW have exceeded Industrial Stormwater General Permit benchmarks (Table 11).

In 2014, Leidos (2015) on behalf of Ecology, conducted a stormwater compliance inspection of the Property, which included collection of one stormwater sample and three catch basin solids samples from two catch basins located on the Property. Sample locations are shown on Figure N-2, provided in Appendix D. Sample results are summarized in Tables 11 and 12.

The stormwater sample was collected from manhole MH-60, located on the eastern portion of the Property (Appendix D). Stormwater is conveyed from manhole MH-60 to a City of Seattle storm drain line along South Norfolk Street that discharges to the LDW. Copper, mercury, and zinc concentrations exceeded the chronic marine Water Quality Criteria (WAC 173-201A) in the stormwater sample. Total PCBs and PAHs exceeded the human health Water Quality Criteria in the stormwater sample.

Catch basin solids samples were collected from manhole MH-60. Concentrations of mercury, zinc, PCBs, dioxins/furans, PAHs, phthalates, n-nitrosodiphenylamine, and petroleum hydrocarbons exceeded PCUL Screening Level 8, protection of sediment via bank erosion or soil transport through a storm drain.

One catch basin solids sample was collected from manhole MH-76, located on the central portion of the Property (Appendix D). Piping from manhole MH-76 connects with the WSDOT mainline that extends through the Property. Concentrations of PCBs, dioxins/furans, PAHs, phthalates, and petroleum hydrocarbons exceeded PCUL Screening Level 8, protection of sediment via bank erosion or soil transport through a storm drain.

2.5 PRE-INTERIM ACTION DESIGN INVESTIGATION

A Draft for Agency Review Sampling and Analysis Plan for a pre-interim action design investigation to be conducted at the Property was approved by Ecology on June 20, 2019 (Farallon 2019b).

The pre-interim action design investigation includes:

- Advancement of 12 borings and collection of soil samples;
- Collection of reconnaissance groundwater samples from three borings;
- Installation and development of three monitoring wells;
- Redevelopment of 11 existing monitoring wells;
- Collection of depth-to-groundwater measurements and groundwater sampling from 14 monitoring wells;
- Completion of a tidal study; and
- Preparation of an Interim Action Design Report, which will include a Health and Safety Plan (HASP) and Sampling and Analysis Plan in accordance with WAC 173-340-810 and 173-340-820.

The objective of the pre-interim action design investigation is to collect additional data to evaluate the chemical concentrations, to identify COPCs, to evaluate potential transport pathways to the LDW, and to complete a preliminary conceptual site model.

Following the pre-interim action design investigation and before the Interim Action Work Plan is implemented, a Draft Interim Action Design Report will be prepared and submitted to Ecology for review and approval. The Draft Interim Action Design Report will document and compile the results from the pre-interim action design investigation and historical site investigations, provide an updated conceptual site model based on the results from the investigation, establish the remediation levels applicable for the interim action, and provide the final design components of the interim action.

3.0 PRELIMINARY CONCEPTUAL SITE MODEL

A sufficient amount of data documenting subsurface conditions have been obtained at the Property to develop a preliminary design of the interim action. The preliminary conceptual site model is based on available data. The preliminary conceptual site model is dynamic, and will be refined throughout the interim action process as additional information becomes available, including the results from the pre-interim action design investigation.

3.1 PRELIMINARY REMEDIATION LEVELS

Ecology (2018) published PCULs for the LDW that apply to upland sites that may have environmental transport pathways to the LDW and may impact surface water, sediments, or organisms in the LDW. Preliminary screening of analytical data generated during previous investigations identified COPCs and potential transport pathways to the LDW. A compound was selected as a COPC for the Property if concentrations exceeded the most-stringent PCULs. Analytical data for soil samples that were removed during previous interim actions conducted at the Property were excluded from preliminary screening.

The preliminary remediation levels for soil and groundwater at the Property are the most stringent PCULs. Table 13 shows the COPCs identified for the Property based on historical data compared to the most-stringent PCULs. The final remediation levels will be developed in accordance with WAC 173-340-355 and provided in the Interim Action Design Report. The Interim Action Design Report will compile analytical results from the pre-interim action design investigation, and historical data from the Emerald Gateway Site, to further evaluate COPCs and the transport pathways for the Property to determine appropriate remediation levels before the interim action is implemented.

3.2 CONFIRMED AND SUSPECTED SOURCE AREAS

A source area is defined as the location of a release of a hazardous substance that has affected one or more media of concern at the Property. The confirmed source areas are proximate to former UST systems and maintenance operations at the Property. The confirmed source areas are listed below:

- Area 2: Perishables Warehouse;
- Area 4: Former Fueling Area;
- Area 5: Former Trailer Maintenance Shop;
- Area 6: Former Truck Repair Shop;
- Area 11: Former South Maintenance Shop; and
- Area 13: Former NWAW Property.

3.3 CONSTITUENTS OF POTENTIAL CONCERN

The COPCs for the Property for consideration in this IAWP are the compounds that have been detected at concentrations exceeding the most-stringent PCULs in soil, groundwater, stormwater, and catch basin solids samples collected at the Property.

The COPCs for soil and groundwater are:

- DRO;
- ORO;
- GRO;
- PCBs;
- PAHs;
- VOCs; and
- Metals (arsenic, cadmium, copper, lead, manganese, mercury, and zinc).

3.4 MEDIA OF CONCERN

Soil and groundwater are the affected media of concern at the Property.

Vapor intrusion and stormwater also have been documented as pathways of concern. The vapor and stormwater pathways will be evaluated in the RI and FS.

Historical concentrations of GRO and benzene detected in soil, groundwater, and soil gas in Area 6 suggest that there is a potential for vapor intrusion into buildings following Property redevelopment. The potential for vapor intrusion at the Property will be mitigated by the removal of contaminated soil, and by the dewatering and disposal of contaminated groundwater from the Property. If excavation of residual petroleum hydrocarbon constituents is not practicable prior to building construction, additional vapor mitigation measures will be proposed and established after discussion with Ecology.

Stormwater and catch basin solids were confirmed as pathways of contaminant transport at the Property. Redevelopment will result in new stormwater infrastructure with new catch basins, conveyance piping, and treatment capabilities. New stormwater infrastructure will not eliminate this pathway; however, the potential for contamination will be greatly reduced through the removal of the current infrastructure, and through the use of appropriate best management practices to control potential sources of contamination to the new stormwater infrastructure.

4.0 PERMITS AND OTHER REGULATORY REQUIREMENTS

This section summarizes applicable local, state, and federal laws pertaining to the interim action, and the permitting and substantive requirements applicable to the interim action.

4.1 APPLICABLE LOCAL, STATE, AND FEDERAL LAWS

Pursuant to WAC 173-340-710, the interim action will comply with applicable local, state, and federal laws. The local, state, and federal laws that are anticipated to be the applicable requirements for an interim action, and encompass applicable regulatory guidelines. The cleanup standards, waste disposal criteria, and documentation standards are:

- MTCA (WAC 173-340);
- The Water Quality Standards for Groundwaters of the State of Washington (WAC 173-200);
- The Hazardous Waste Management Act (Chapter 70.105 of the Revised Code of Washington [RCW 70.105]);
- Washington State Solid Waste Management Laws and Regulations (RCW 70.95; WAC 173-351 and 173-304);
- Dangerous Waste Regulations (WAC 173-303);
- Accreditation of Environmental Laboratories (WAC 173-50);
- The Occupational Safety and Health Act (Part 1910 of Title 29 of the Code of Federal Regulations [29 CFR 1910] and WAC 296-62);
- The State Environmental Policy Act (RCW 43.21; WAC 197-11 and 173-802);
- The State National Pollutant Discharge Elimination System Program (WAC 173-220);
- The State Waste Discharge General Permit Program (WAC 173-226);
- Maximum Contaminant Levels, National Primary Drinking Water Regulations (WAC 246-290-310 and 46 CFR 141);
- Safety Standards for Construction Work (WAC 296-155);
- Minimum Standards for Construction and Maintenance of Wells (WAC 173-160); and
- Applicable local permits and ordinances indicated by the City of Seattle/City of Tukwila Municipal Code.

4.2 PERMITTING AND SUBSTANTIVE REQUIREMENTS

The following sections describe the permitting and substantive requirements applicable to the interim action.

4.2.1 State Environmental Policy Act

The State Environmental Policy Act (SEPA) (WAC 197-11) and the SEPA procedures (WAC 173-802) provide the framework for state agencies to evaluate the environmental consequences of a project and ensure appropriate measures are taken to mitigate environmental impacts. SEPA is applicable to the redevelopment project. Prologis has prepared and submitted a SEPA Checklist for the redevelopment project, which included details for the interim action. During preparation of the SEPA Checklist, there was significant cooperation between Prologis, Ecology, and the City of Tukwila. Prior to commencement of the redevelopment and interim action, the City of Tukwila will determine whether the project will have a significant adverse impact on the environment. The City of Tukwila and City of Seattle will provide a Land Use Permit and Master Use Permit, respectively, following review of the SEPA Checklist.

4.2.2 City of Tukwila Development Permit

Prologis will obtain a Development Permit from the City of Tukwila for the redevelopment project.

4.2.3 City of Tukwila and City of Seattle Grading Permits

Prologis will obtain grading permits from the City of Tukwila and City of Seattle. Substantive requirements of the grading permits include erosion control, which is addressed by implementation of best management practices in accordance with a project-specific temporary erosion and sediment control plan.

4.2.4 Construction Stormwater General Permit

Construction-generated dewatering water or stormwater will need to comply with the requirements of a National Pollution Discharge Elimination System Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program. The Administrative Order will establish Indicator Levels for the project based on known contaminants for compliance with Water Quality Standards for the Surface Water of the State of Washington (WAC 173-200). The Administrative Order defines the conditions and actions necessary to comply with the Construction Stormwater General Permit.

4.2.5 Historical and Cultural Resource Protection

As required by state law, appropriate measures will be taken to evaluate the potential presence of historical, archaeological, or cultural resources. In 2017, Prologis completed a Cultural Resources Assessment, which was submitted to the Department of Archaeology and Historic Preservation. The Department of Archaeology and Historic Preservation concurred with the findings of the Cultural Resources Assessment requiring archeological monitoring during excavations with potential to intersect native soils. In addition, Prologis will prepare a Monitoring and Inadvertent Discovery Plan for the project.

4.2.6 Washington State Shoreline Management Act

Redevelopment work must be compliant with the City of Tukwila's Shoreline Master Program, which was locally developed by the City of Tukwila per the requirements of the Washington State

Shoreline Management Act. Prologis will obtain a Shoreline Substantial Development Permit from the City of Tukwila, if necessary.

5.0 INTERIM ACTION SCOPE OF WORK

Investigations conducted at the Property have identified COPCs in soil, groundwater, soil gas, stormwater, and catch basin solids at concentrations exceeding PCULs. The interim action will eliminate and/or reduce the threat to human health and the environment during Property redevelopment. The interim action will take advantage of the previously unavailable access to the subsurface provided by the proposed redevelopment project. Components of the interim action include excavation of impacted soil to eliminate source material, and installation of a new stormwater conveyance and treatment system for the development.

Based on the available data, the investigation areas and the remediation or mitigation that will be conducted in conjunction with Property redevelopment are discussed below. The interim action scope of work will be revised following the pre-interim action design investigation, and documented in the Interim Action Design Plan.

- **Area 2: Perishables Warehouse:** excavation of soil with DRO proximate to former UST-D to the maximum extent practicable during redevelopment. Natural attenuation processes are expected to remedy limited groundwater impacts following soil source removal, and will be further evaluated during the site-wide RI and FS.
- **Area 4: Former Fueling Area**: excavation of contaminated soil/source removal was conducted in March and April 2019 during UST decommissioning. The results for the reconnaissance groundwater sample to be collected during the pre-interim action design investigation down-gradient of the former fueling area will be evaluated before the interim action is implemented. If the results from the pre-interim action design investigation indicate that potential source material is present proximate to the Former Fueling Area, impacted soil will be excavated to the maximum extent practicable in conjunction with redevelopment of the Property.
- **Area 6: Former Truck Repair Shop:** excavation of soil with residual GRO and benzene proximate to the southeastern corner of the north-adjacent Office Building. The soil will be accessible for removal following demolition of the Office Building during redevelopment of the Property. The soil source removal is expected to facilitate natural attenuation processes in groundwater to reduce DRO, GRO, and benzene detected at concentrations exceeding PCULs in a reconnaissance groundwater sample collected a short distance down-gradient of the area of residual GRO and benzene soil contamination.
- **Area 11: Former South Maintenance Shop:** additional groundwater characterization during the pre-interim action design investigation to determine whether DRO detected in a reconnaissance groundwater sample collected in the storage yard area of the Former South Maintenance Shop is representative of groundwater in Area 11. If the results from the pre-interim action design investigation indicate that potential source material is present proximate to the Former South Maintenance Shop, impacted media will be excavated to the maximum extent practicable in conjunction with redevelopment of the Property.

- **Contingency Excavation Areas:** This interim action includes a contingency to permanently remove any contaminant source materials exceeding remediation levels, to the maximum extent practicable, that may be encountered during redevelopment activities. If contaminant source materials are encountered that exceed remediation levels, removal of the source will be expected to be conducted using the same procedures described in this IAWP.

5.1 SITE PREPARATION AND MOBILIZATION

Before the redevelopment project is initiated, site controls will be established to ensure that the work zone is properly secured. The entire perimeter of the Property will be fenced, and points of ingress and egress will be clearly marked. The access points to the Property will be monitored by authorized personnel during construction activities.

Before excavation activities are initiated, temporary erosion- and sediment-control measures will be established as part of the redevelopment project. Once all temporary erosion- and sediment-control measures have been implemented in accordance with the construction project plan, construction equipment and supplies will be mobilized to the Property.

5.2 MONITORING WELL DECOMMISSIONING

Monitoring wells within the footprint of the redevelopment area, including monitoring wells MW-4, MW-101, MW-203, MW-207, MW-AG1, MW-AG2, DOF-4, and DOF-5, will be decommissioned by a licensed well driller in accordance with the Washington State Water Well Construction Act, RCW 18.104 (WAC 173-160-460). Following well decommissioning, the required documentation will be submitted to Ecology. Excavation activities will not begin until the monitoring wells have been decommissioned.

Monitoring wells located on the western boundary of the Property, including DOF-1 through DOF-3 and the monitoring wells that will be installed during the pre-interim action design investigation, may be retained for future compliance sampling if they can be protected during redevelopment activities. If the monitoring wells cannot be protected, they will be decommissioned in accordance with the Washington State Water Well Construction Act.

5.3 CONTAMINATED SOIL EXCAVATION

Prior to the start of excavation, the limits of soil with concentrations of one or more COPCs exceeding remediation levels will be staked in the field. Following the stripping of surface asphalt pavement and concrete, soil containing concentrations of COPCs exceeding remediation levels will be removed to the maximum extent practicable and disposed of at a licensed disposal facility. Interim action excavation areas may be revised based on the results from the pre-interim action design investigation and observations during excavation.

The excavation subcontractor will excavate and segregate contaminated soil from uncontaminated soil under the direction of a Farallon Scientist. Soil containing concentrations of one or more COPCs exceeding remediation levels will be loaded directly into haul trucks, as practicable, for transport off the Property.

The Site Management Plan (Appendix E) provides the protocols for segregation and classification of soil during excavation activities. Soil will be classified for disposal based on the Ecology (2011b) *Guidance for Remediation of Petroleum Contaminated Sites*, revised June 2016, and the disposal criteria for the selected disposal facility. Based on its category, soil will be managed as nonhazardous waste and transported to a facility permitted to receive the specific soil category for treatment and/or disposal.

Soil that does not exceed PCULs will be removed and stockpiled on the Property for re-use as backfill, if suitable for use as structural fill. During excavation, a Farallon Scientist will examine soil for evidence of contamination such as visual staining or sheen, petroleum-like odors, or concentrations of measurable organic vapors exceeding measured background levels obtained using a photoionization detector.

Soil with field evidence of COPCs will be segregated from observed clean soil, stockpiled separately, and sampled for analysis to assess options for disposal or reuse. Contaminated soil will be stockpiled on plastic sheeting and covered to prevent potential contamination of clean soil. Three soil samples will be collected from contaminated soil stockpiles of up to 100 cubic yards, and five samples will be collected from contaminated soil stockpiles of 101 to 500 cubic yards. Soil samples will be collected from contaminated soil stockpiles and analyzed in accordance with the Ecology (2011b) guidance, and the criteria for the selected disposal facility.

5.3.1 Dewatering and Treatment

Dewatering may be necessary to allow for excavation of impacted soil located below the water table. If necessary, generated wastewater will be pumped to aboveground tanks, pretreated on the Property, and discharged to surface water under a Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program. The Administrative Order will establish Indicator Levels for the project based on known contaminants for compliance with Water Quality Standards for the Surface Water of the State of Washington. The Administrative Order defines the conditions and actions necessary to comply with the Construction Stormwater General Permit.

5.3.2 Soil Disposal Facility

The Waste Management Columbia Ridge Landfill in Arlington, Oregon and the Republic Services Roosevelt Regional Landfill in Roosevelt, Washington are the preferred Subtitle D disposal facilities for contaminated soil excavated during the interim action. A waste profile will be submitted to the selected disposal facility for approval before contaminated soil is excavated.

5.4 STORMWATER CONVEYANCE

Redevelopment includes reconfiguration of the stormwater infrastructure at the Property. The existing stormwater infrastructure, including the 60-inch-diameter WSDOT storm drain, will be removed or decommissioned. A new storm drain transecting the Property before discharging to the LDW will be installed for WSDOT. New catch basins, new conveyance piping, and a new stormwater treatment system will be installed to collect stormwater across the entire Property before it is conveyed to the LDW.

Installation of the new 60-inch-diameter WSDOT storm drain will require excavation of soil. During excavation, a Farallon Scientist will examine soil for evidence of contamination such as visual staining or sheen, petroleum-like odors, or concentrations of measurable organic vapors exceeding measured background levels obtained using a photoionization detector.

Soil with field evidence of COPCs will be segregated from observed clean soil, stockpiled separately, and sampled for laboratory analysis to assess options for disposal or reuse. Contaminated soil will be stockpiled on plastic sheeting and covered to prevent potential contamination of clean soil. Soil samples will be collected from contaminated soil stockpiles and analyzed in accordance with the Ecology (2011b) guidance, and the criteria for the selected disposal facility.

6.0 COMPLIANCE MONITORING

Three types of compliance monitoring have been identified for remedial actions performed under MTCA (WAC 173-340-410): protection monitoring, performance monitoring, and confirmational monitoring. A paraphrased purpose for each is presented below (WAC 173-340-410[1]):

- **Protection Monitoring:** confirm whether human health and the environment are adequately protected during the interim action.
- **Performance Monitoring:** confirm that the interim action has attained the remediation levels at the point of compliance.
- **Confirmational Monitoring:** confirm the long-term effectiveness of the interim action once remediation levels or other performance standards have been attained.

Additional details for compliance monitoring will be provided in the Sampling and Analysis Plan that will be included in the Interim Action Design Report.

6.1 PROTECTION MONITORING

A HASP will be prepared for the interim action that meets the minimum requirements for such a plan identified in federal (29 CFR 1910.120 and 29 CFR 1926) and state (WAC 173-340-810 and 296) regulations. The HASP identifies all known physical, chemical, and biological hazards; hazard monitoring protocols; and administrative and engineering controls required to mitigate the identified hazards. The HASP will be included as an appendix to the Interim Action Design Report.

6.2 PERFORMANCE MONITORING

Performance monitoring will provide soil analytical results to refine and/or identify the presence of COPCs in each interim action excavation area with confirmed or evidence of potentially contaminated soil. The soil analytical results will define whether COPCs are present at concentrations exceeding remediation levels and, if contamination is present, the lateral and vertical extent of excavation and off-Property disposal to achieve the remediation levels established for the COPCs.

Performance monitoring will involve collecting in-situ samples for laboratory analysis to quantify concentrations of COPCs in soil. Discrete soil samples will be collected from the centers of excavation grids and the excavation bottom and sidewalls to guide the excavation and to serve as confirmational samples where remediation levels are attained. If concentrations of COPCs exceed remediation levels and additional excavation is not feasible, analytical results from the performance samples will be incorporated into the RI conceptual site model and addressed in the FS and the Cleanup Action Plan.

A contingency for performance samples will be retained in the event that an unknown condition such as a UST or piping or other unknown variance is encountered during the course of the

excavation. In such a case, performance monitoring for soil will be conducted, and the analytical results will direct the advancement of the excavation and will characterize the soil for disposal.

6.2.1 Soil Sampling Frequency

The frequency of performance soil sampling will be dependent on the existing sampling data and qualitative indications of potentially contaminated soil observed by the Farallon Scientist using the field-screening methods described in Section 5.5, Contaminated Soil Excavation. The frequency of performance soil sampling may be higher near the lateral and vertical limits of an excavation area to provide sufficient samples for confirmational monitoring. Soil sampling frequency will be provided in the Sampling and Analysis Plan that will be included in the Interim Action Design Report.

6.2.2 Soil Sample Locations

The locations of the performance soil samples will be dependent on existing sampling results, excavation progress each day, and the configuration of the final excavation limits. The soil sample locations will be selected at the discretion of the Farallon Scientist based on the grid excavation areas and field-screening observations of soil conditions.

6.3 CONFIRMATIONAL MONITORING

Confirmational monitoring will be conducted at each excavation location once performance monitoring results indicate that the cleanup standards have been attained at the limits of each excavation. Confirmational monitoring will consist of collecting in-situ soil samples from the base and sidewalls of the final limits of each completed excavation area. Performance monitoring soil sample locations will be used as confirmational soil sampling points in cases where the analytical results for the performance soil samples confirm that remediation levels have been attained at the limits of each excavation area. Confirmational soil samples will be collected from the final limits of each excavation area using the sampling methodology described in Section 6.2.1, Soil Sampling Frequency.

7.0 SCHEDULE AND REPORTING

Following the pre-interim action design investigation and before implementing the Interim Action Work Plan, a Draft Interim Action Design Report will be prepared and submitted to Ecology for review and approval. The Draft Interim Action Design Report will document the results from the pre-interim action design investigation, provide an updated conceptual site model based on the results from the investigation, establish the final remediation levels applicable to the interim action, provide the final design components of the interim action, and establish a schedule of deliverables for the interim action activities. Work on the Interim Action will not commence until Ecology has concurred with the proposed Interim Action Design Report.

Upon completion of the interim action detailed in this IAWP and the forthcoming Interim Action Design Report, and in accordance with the Agreed Order, an Agency Review Draft Interim Action Report will be submitted within 60 days completion of the interim action per the Ecology-approved completion schedule to be included in the Interim Action Design Report. The Interim Action Report will be submitted to Ecology for review and comment, and will describe the activities and the results from the interim action. Ecology comments will be incorporated into the Final Interim Action Report.

Pursuant to WAC 173-340-840(5), all sampling data will be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to be Performed), Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

The start date of the interim action will be confirmed with Ecology once the final permits or authorizations have been obtained and/or confirmed for the Construction Stormwater General Permit and from the City of Seattle and/or City of Tukwila, and all relevant deliverables under this IAWP have been approved by Ecology.

8.0 REFERENCES

City of Seattle. Seattle Public Utilities GIS Map Data for the Property. 2019. <https://www.seattle.gov/utilities/services/gis>. (May 2019.)

Dalton, Olmstead & Fuglevand, Inc. (DOF). 2007. *Environmental Assessment Summary, Associated Grocers Site, Seattle/Tukwila, Washington.* Prepared for 3301 South Norfolk LLC. March 19.

———. 2008a. *Remedial Progress Report and Additional Site Characterization Work Plan, Northwest Auto Wrecking Site, Seattle/Tukwila, Washington, TCP IC Number NW1812.* Prepared for 10230 East Marginal Way LLC. March.

———. 2008b. Memorandum Regarding NW Auto Wrecking Site, Seattle, Washington. From Matt Dalton. To Dale Myers, Department of Ecology. April 3.

———. 2009a. *Remedial Action Report, Northwest Auto Wrecking Site, Seattle/Tukwila, Washington, TCP ID Number NW1812.* Prepared for 10230 East Marginal Way LLC. March 31.

———. 2009b. Memorandum Regarding Remedial Action Report, NW Auto Wrecking Site, TCP ID – NW1812. From Matt Dalton. To Dale Myers, Department of Ecology. April 1.

———. 2009c. *Remedial Action Report, AOC No. 6 – Unified Grocers Site (Formerly Associated Grocers), Seattle/Tukwila*, Washington. May.

———. 2009d. Memorandum Regarding Path Forward, Further Action Letter, Unified Grocers Site, Seattle, Washington. From Matt Dalton. To Mikel Hanson, Sabey Corp. November 11.

———. 2010. Letter Regarding Soil Cleanup, Northwest Auto Wrecking, Facility/Site No.: 2287, VCP No.: NW1812. From Matthew G. Dalton. To Dale Myers, Department of Ecology. November 24.

———. 2014. Memorandum on the Subject Environmental Site Assessment (ESA) Status, Former Northwest Auto Wrecking Site, Seattle, Washington. From Matt Dalton. To Mikel Hansen, Sabey Corp. September 29.

———. 2016. Memorandum on the Stormwater Issues, United Grocers Facility, 2201 South Norfolk St., Seattle, WA 98118. From Matt Dalton and Dave Cooper. To Mikel Hansen and Ken Stickley, Sabey Corp. March 8.

Farallon Consulting, L.L.C. (Farallon). 2019a. *Remedial Investigation, Focused Feasibility Study, and Cleanup Action Plan, 3301 South Norfolk Street and 10100, 10200, and 10230 East Marginal Way South, Seattle/Tukwila, Washington.* Prepared for Prologis, Inc. January 29.

———. 2019b. *Sampling and Analysis Plan, Pre-Interim Action Design Investigation, Emerald Gateway Site, 3301 South Norfolk Street, Seattle/Tukwila, Washington.* Prepared for Prologis-Exchange 3301 South Norfolk LLC. June 21.

Geotech Consultants, Inc. 1996. Letter Regarding Phase II Environmental Site Assessment, Credit Union of the Pacific, 10200 East Marginal Way South, Seattle, Washington. From Sean P. O'Brien. To Joe Yenich, Ewing and Clark. March 13.

Global Diving and Salvage, Inc. 2004. *Underground Storage Tank Retrofit/Repair Checklist.* Prepared on Behalf of Associated Grocers, 3301 South Norfolk, Seattle, Washington 98124. July 23.

Global Environmental (Global). 1996. Letter and Attachments Pertaining to Tank Decommissioning at Seattle Plant, Maintenance (Building K) off East Marginal Way. From Greg Fladseth. To Ray Gooding, Associated Grocers. May 8.

———. 1998. *Underground Storage Tank Site Assessment.* Prepared for Associated Grocers, Seattle, Washington.

Leidos. 2015. *Lower Duwamish Waterway, NPDES Inspection Sampling Support Technical Memorandum.* Prepared for Ecology. June 2015.

Sound Environmental Strategies. 2007a. *Subsurface Investigation Report and Remedial Approach for Cleanup.* Northwest Auto Wrecking Property, 10230 East Marginal Way South, Tukwila, Washington. Prepared for Benaroya Companies. February 23.

———. 2007b. Memorandum on the Investigation of Possible Sewer Connections of the Northwest Auto Wrecking Property to the Norfolk Combined Sewer Overflow in the Duwamish River. NW Auto Wrecking, 10230 East Marginal Way South, Tukwila, Washington. From Justin E. Kanoff. To Marc Nemirow, Benaroya Companies. March 7.

Terra Associates, Inc. (Terra). 1991. Letter on the Subject Site Remediation, Old "Humble Oil" Service Station, 10056 E. Marginal Way South, Tukwila, Washington. From Charles R. Lie and Anil Butail. To Jim Troxel, Supermarket Development Corporation. April 22.

———. 1993. Letter on the Subject Ongoing Groundwater Sampling, Old "Humble Oil" Service Station, 10065 E. Marginal Way, Tukwila, Washington. From Anil Butail. To Jim Troxel, Supermarket Development Corporation. April 14.

———. 1998. Letter on the Subject Supplemental Soil Sampling, Old Humble Oil Station, 10065 East Marginal Way South, Tukwila, Washington. From Charles Lie and Anil Butail. To

Joanne Polayes, Washington State Department of Ecology Toxics Cleanup Program. December 12.

———. 2001. *Level II Environmental Assessment, Associated Grocers Seattle Warehouse, East Marginal Way and South Norfolk Street, Seattle, Washington.* Prepared for CII – A GMAC Commercial Mortgage Corporation. September 6.

———. 2002. *Level III Environmental Assessment (Remediation) Areas of Concern 2 and 4, Associated Grocers Seattle Warehouse, East Marginal Way and South Norfolk Street, Seattle, Washington.* Prepared for Associated Grocers. May 22.

U.S. Environmental Protection Agency (EPA). 2014a. *Record of Decision, Lower Duwamish Waterway Superfund Site.* November.

———. 2014b. *Lower Duwamish Waterway Site Memorandum of Agreement between the United States Environmental Protection Agency and the Washington State Department of Ecology.* November 20.

Washington State Department of Ecology (Ecology). 1991. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks.* Publication No. 90-52. Revised April 2003. February.

———. 1998. Letter Regarding Independent Remedial Action, Old "Humble Oil" Service Station, 10056 E. Marginal Way South, Tukwila, WA. From Joanne Polayes. To Dale Chandler, Supermarket Development Corporation. December 29.

———. 2011a. Letter Regarding Partial Sufficiency and Further Action at the Following Site: Northwest Auto Wrecking, 10230 E Marginal Way South, Tukwila, Facility/Site No.: 2287, VCP No.: NW1812. From Dale Myers. To Matthew Dalton, Dalton Olmsted & Fuglevand. January 24.

———. 2011b. *Guidance for Remediation of Petroleum Contaminated Soils.* Publication No. 10-09-057. Revised June 2016. September.

———. 2018. *Lower Duwamish Waterway Preliminary Cleanup Level Workbook Supplemental Information.* Revised April 2019. December.

9.0 LIMITATIONS

9.1 GENERAL LIMITATION

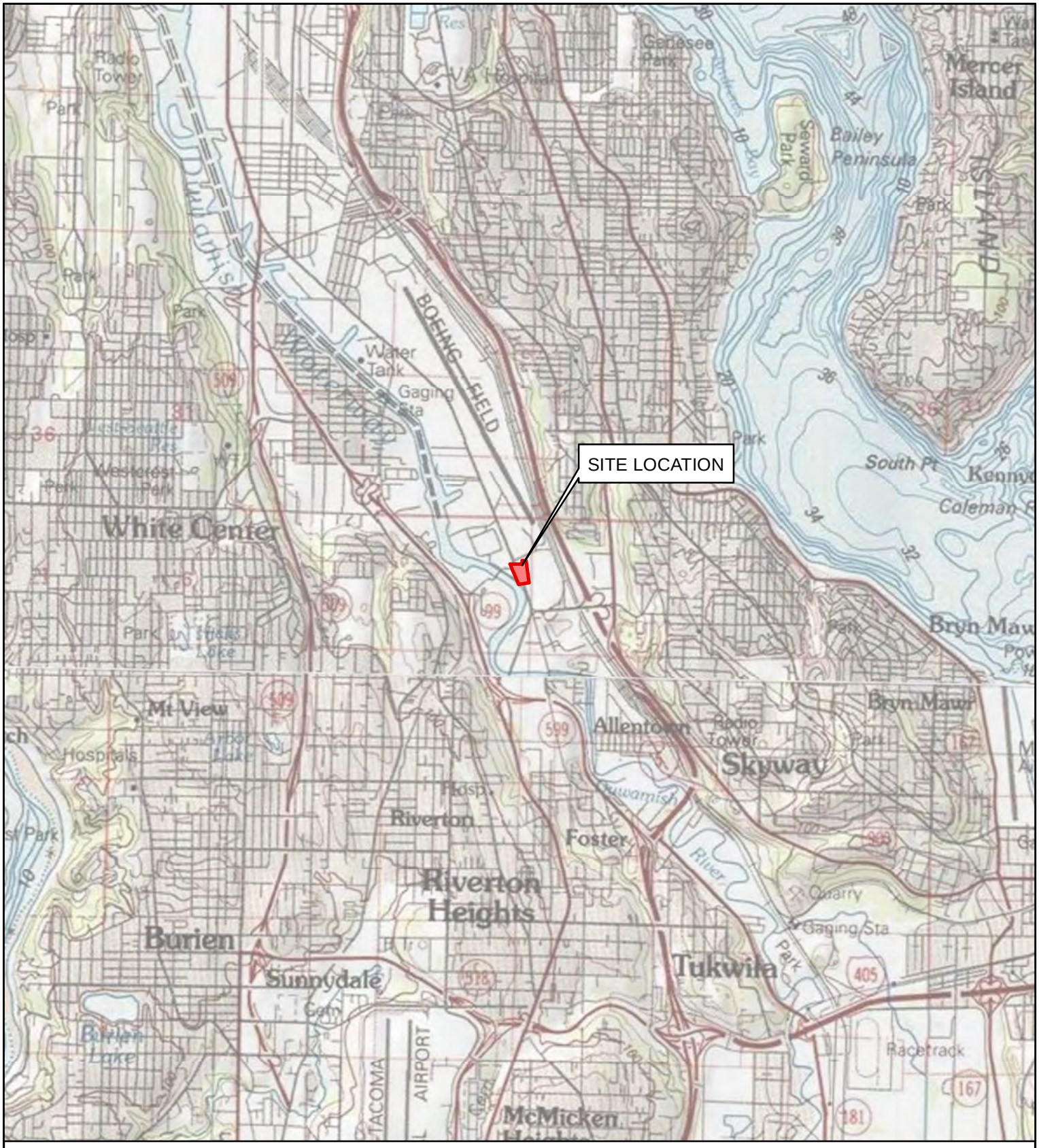
This report/assessment has been prepared in accordance with the contract for services between Farallon and Prologis-Exchange 3301 South Norfolk LLC, and currently accepted industry standards. No other warranties, representations, or certifications are made.

This report/assessment has been prepared for the exclusive use of Prologis-Exchange 3301 South Norfolk LLC to address the unique needs of Prologis-Exchange 3301 South Norfolk LLC at the Property at a specific point in time. No one other than Prologis-Exchange 3301 South Norfolk LLC 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

INTERIM ACTION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026



REFERENCE: 7.5 MINUTE USGS QUADRANGLE RENTON, WASHINGTON, DATED 2013

0 5,000
SCALE IN FEET

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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: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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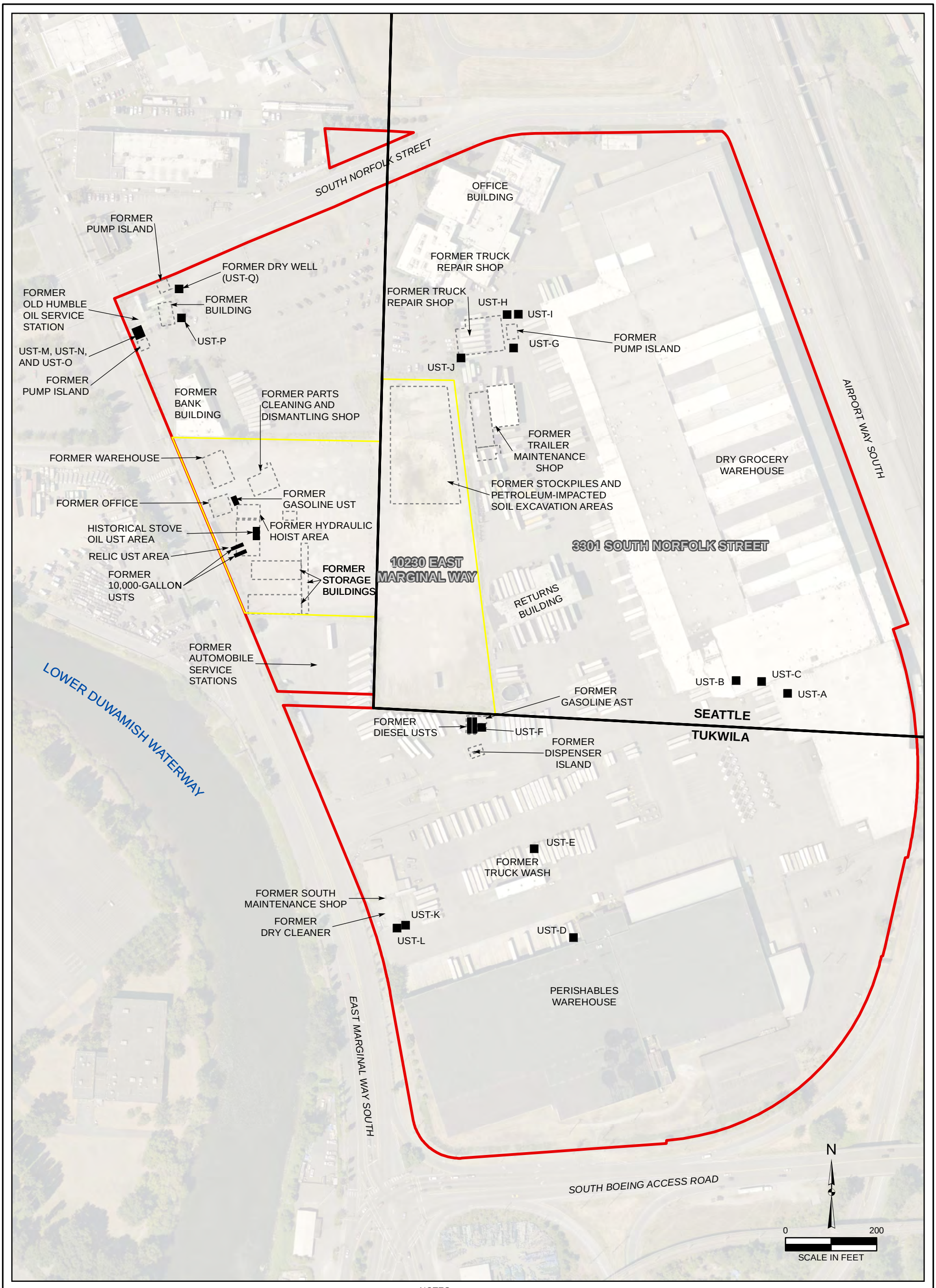

LEGEND

- PROPERTY BOUNDARY
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)
- SITE BOUNDARY

AST = ABOVEGROUND STORAGE TANK

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

PROPERTY PLAN WITH
HISTORICAL SITE FEATURES
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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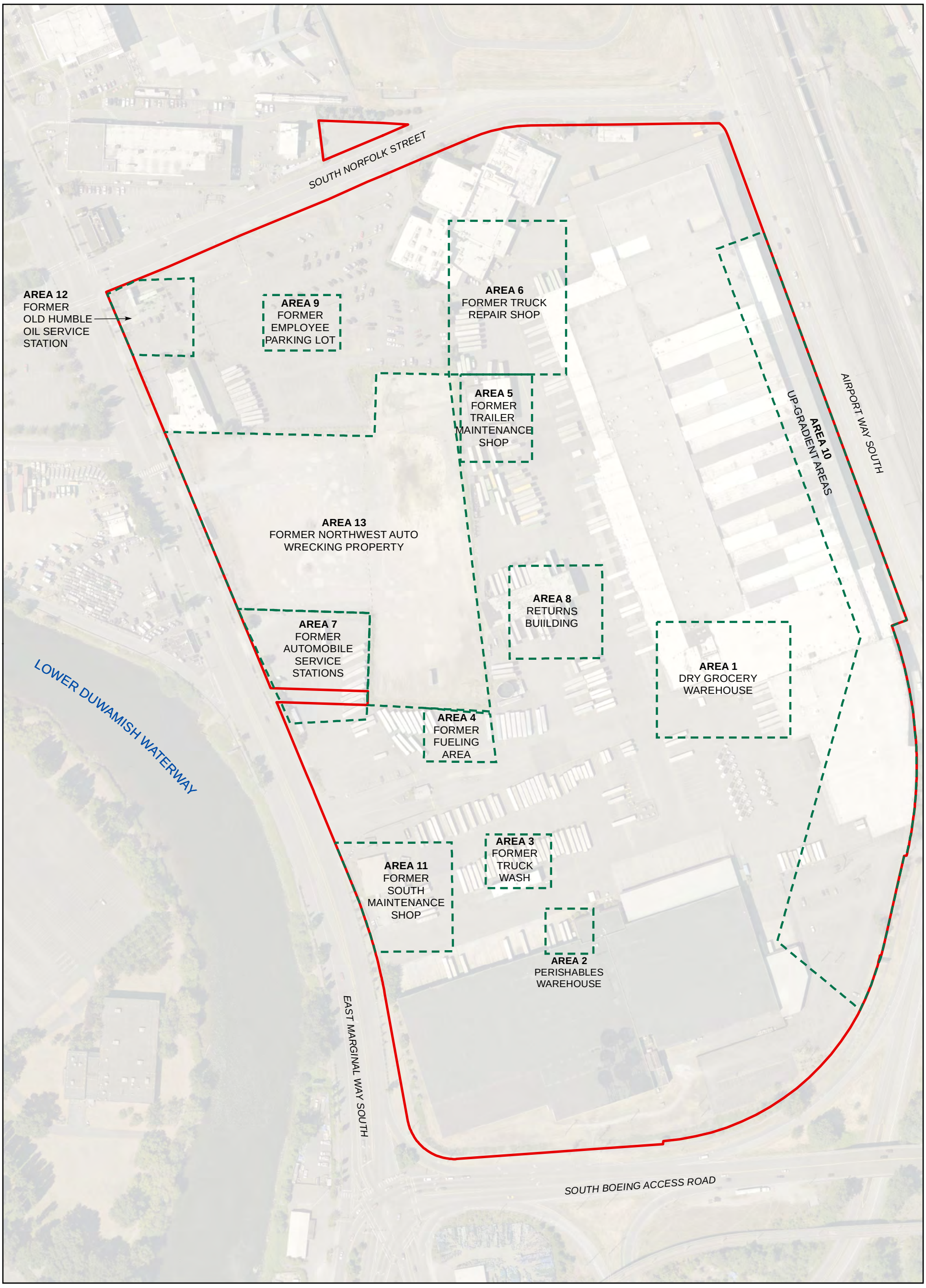

NOTES:
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LEGEND

- INVESTIGATION AREA
- SITE BOUNDARY

N

0 200

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FIGURE 3

INVESTIGATION AREAS
EMERALD GATEWAY SITE
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KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

OFFICE BUILDING

TRANSFORMER

TRANSFORMER

AIRPORT WAY SOUTH

DRY GROCERY WAREHOUSE

TRANSFORMER

RETURNS BUIILDING

LOWER DUWAMISH WATERWAY

EAST MARGINAL WAY SOUTH

PERISHABLES WAREHOUSE

SOUTH BOEING ACCESS ROAD

LEGEND

- BORING
- SOIL SAMPLE
- TEST PIT
- MONITORING WELL
- MONITORING WELL (ABANDONED)
- RECOVERY SUMP
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- SITE BOUNDARY

N

0 200

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FIGURE 4

PROPERTY PLAN WITH SAMPLE LOCATIONS
AND FORMER REMEDIAL EXCAVATION AREAS
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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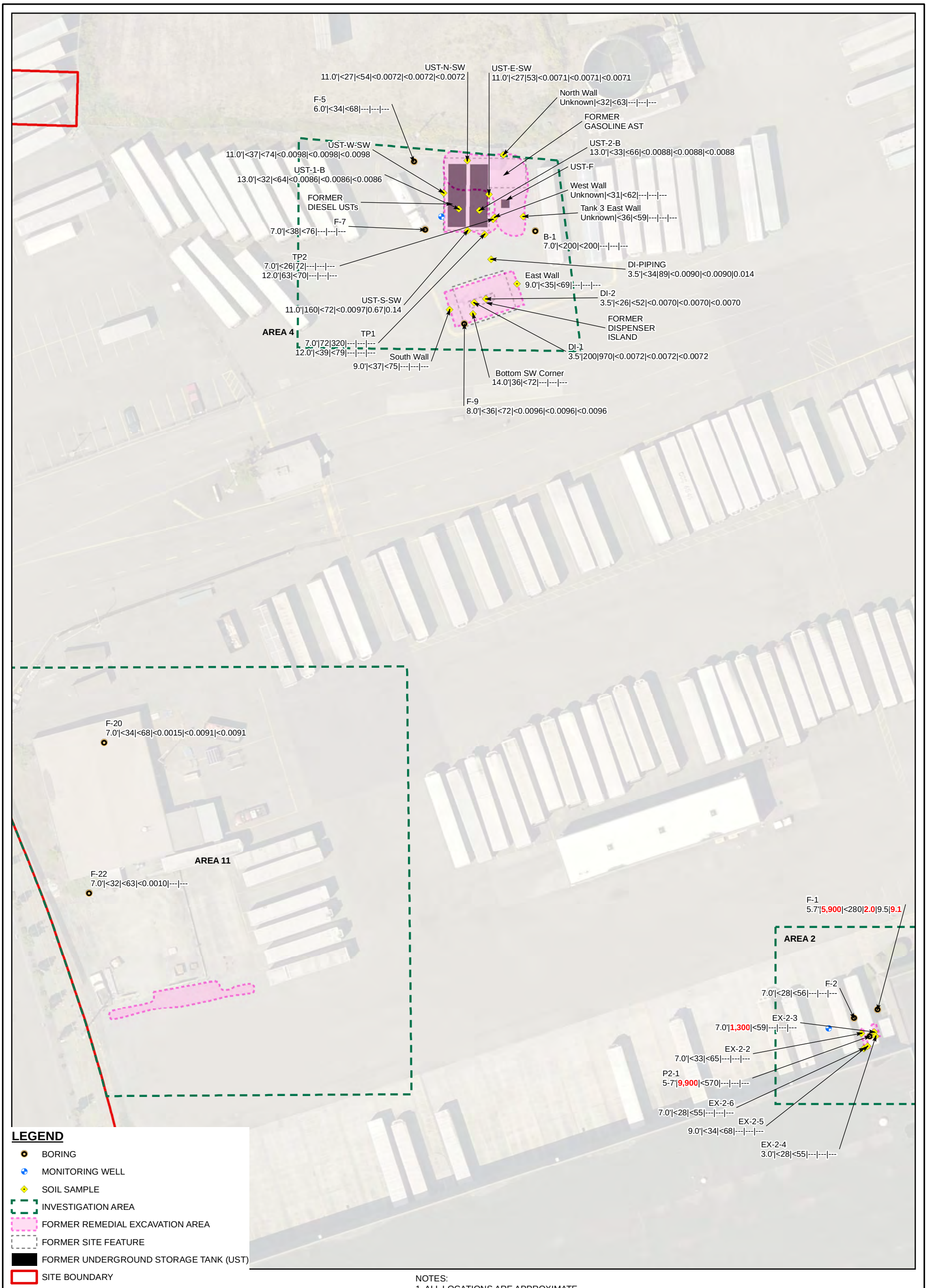

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | DRO | ORO | NAPHTHALENE | 1-MN | 2-MN
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
1-MN = 1-METHYLNAPHTHALENE
2-MN = 2-METHYLNAPHTHALENE
AST = ABOVEGROUND STORAGE TANK

N

0 50
SCALE IN FEET

NOTES:
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FIGURE 5A

SAMPLE LOCATIONS WITH
SOIL ANALYTICAL RESULTS FOR DRO AND ORO
AREAS 2, 4, AND 11
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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AREA 6

P-DOF-6.1
8.0'|<72|<144|---|---|---

CS-SW27
9.0'|33|<14|---|---|---

CS-SW25
9.0'|<5.6|<11|---|---|---

CS-SW26
9.0'|44|<14|---|---|---

CS-SW24
8.0'|<5.6|<11|---|---|---

CS-B35
15.0'|<6.5|<13|---|---|---

CS-B34
10.0'|<5.3|11|---|---|---

CS-B17
15.0'|<6.1|<12|---|---|---

CS-SW10
8.0'|<5.4|<11|---|---|---

CS-B33
10.0'|<7.2|<14|---|---|---

CS-SW23
8.0'|<6.1|<12|---|---|---

CS-SW22
7.0'|<5.8|<12|---|---|---

CS-B18
15.0'|<6.9|<14|---|---|---

CS-B19
13.5'|<6.3|<12|---|---|---

CS-B32
10.0'|<7.5|15|---|---|---

CS-SW09
8.0'|<6.6|15|---|---|---

PS-SW03
6.5'|<6.5|<13|---|---|---

CS-B16
15.0'|12|22|---|---|---

CS-B20
12.0'|<6.8|16|---|---|---

CS-B13
15.0'|<7|18|---|---|---

CS-B14
15.0'|<7|21|---|---|---

CS-SW21
6.0'|16|15|---|---|---

PS-B01
7.5'|6.7|<12.0|---|---|---

CS-B31
9.0'|<7.6|22|---|---|---

P6-7
9-11'|<67|<130|---|---|---

CS-B15
16.0'|**300**|47|---|---|---

CS-SW02
7.5'|6.9|13|---|---|---

CS-B09
11.5'|12|32|---|---|---

CS-B22
11.5'|<6.5|<13|---|---|---

CS-SW11
8.5'|21|64|---|---|---

CS-SW03
6.0'|11|<12|---|---|---

CS-B11R1
15.0'|16|17|---|---|---

CS-B36
14.0'|<6.3|<13|---|---|---

CS-B06
11.5'|11|41|---|---|---

CS-SW28
8.0'|<5.3|<11|---|---|---

CS-SW05
8.0'|<5.8|<12|---|---|---

CS-B24
12.0'|110|20|---|---|---

CS-B04
11.5'|140|27|---|---|---

PS-B06
14.0'|120|19|---|---|---

CS-B25
12.5'|**550**|41|---|---|---

CS-SW04
8.5'|<6.7|<13|---|---|---

CS-B10
11.5'|120|120|---|---|---

CS-B26
12.5'|170|29|---|---|---

CS-SW20
7.5'|12|30|---|---|---

P-DOF-6-W0
4.0'|<55|<110|---|---|---

CS-B05
10.5'|<6.7|<13|---|---|---

CS-SW06
7.5'|72|260|---|---|---

CS-B27
12.0'|**330**|39|---|---|---

CS-B30
13.0'|<6.8|<14|---|---|---

CS-SW18
9.0'|**740**|46|---|---|---

CS-SW07
9.5'|**670**|120|---|---|---

CS-B07
11.0'|230|48|---|---|---

CS-SW19
9.0'|<6.3|15|---|---|---

CS-SW08R1
8.0'|25|68|---|---|---

F-11
8.0'|<31|<63|<0.0011|<0.0084|<0.0084

P-DOF-6.2
8.0'|<76|<152|---|---|---

P-DOF-6.3
8.0'|<139|<69|---|---|---

P-DOF-6.5
8.0'|<76|<151|---|---|---

P5-4
9-11'|<79|<160|---|---|---

P5-5
3-5'|<52|<100|---|---|---
7-9'|<59|<120|---|---|---
11-13'|<68|<140|---|---|---

F-12
6.7'|<29|<58|<0.0081|---|---

P-DOF-6.4
8.0'|<60|<119|---|---|---

P-DOF-6.6
8.0'|<61|<121|---|---|---

P5-2
7-9'|**1,800**|190|---|---|---
9-11'|<69|<140|---|---|---

F-13
2.5'|<26|<52|<0.0011|---|---

R-PCS-53
9.0'|<6.9|16|---|---|---

F-14
6.0'|<28|<56|<0.056|---|---

R-PCS-51
12.0'|<5.9|<12|---|---|---

P5-1
9-11'|<72|<140|---|---|---

R-PCS-50
9.0'|<6.5|38|---|---|---

R-PCS-54
9.0'|8.1|65|---|---|---

AREA 5

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | DRO | ORO | NAPHTHALENE | 1-MN | 2-MN
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
1-MN = 1-METHYLNAPHTHALENE
2-MN = 2-METHYLNAPHTHALENE

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- SOIL SAMPLE
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 40
SCALE IN FEET

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 5B

SAMPLE LOCATIONS WITH
SOIL ANALYTICAL RESULTS FOR DRO AND ORO
AREAS 5 AND 6
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

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Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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P-3
6-8'|<38|<76|---|---|---
8-10'|<34|<68|---|---|---

P-1
6-8'|<37|<75|---|---|---
8-10'|<33|<67|---|---|---

P-2
6-8'|<36|<71|---|---|---
8-10'|<33|<67|---|---|---

AREA 12

F-29
2.5'|134|1,330|---|---|---
8.5'|<6.19|<12.4|---|---|---

B-4
6.0'|<50|<100|---|---|---

PR-PV6
0-0.5'|<6|24|<0.07|<0.07|<0.07

PR-PV5
0-0.5'|11|54|---|---|---

B03
0.3'|<50|<250|---|---|---

PR-DP1
0-0.5'|**300**|1,600|---|---|---

PR-DP3
0-0.5'|72|890|---|---|---

SCRAPE-N2
0-0.5'|<5.7|19|<0.064|<0.064|<0.064

SCRAPE-N6
3.0'|<10|46|---|---|---

B-1
6.0'|<50|<100|---|---|---

B-2
6.0'|<50|<100|---|---|---

B-3

SCRAPE-N7
3.0'|50|<14|---|---|---

PR-DP4
0-0.5'|100|980|---|---|---

PR-DP2
0-0.5'|**300**|1,600|---|---|---

P-07
8.5'|<50|<250|---|---|---

P-06
7.0'|<50|<250|---|---|---

TP21
6.5'|<50|<250|---|---|---

TP18
2.5'|<50|<250|---|---|---

TP12
2.5'|<50|<250|---|---|---

R-PCS-3
3.0'|9.4|15|---|---|---

R-PCS-2
6.0'|<6.5|<13|---|---|---

R-SE10
0-0.5'|<20|<50|---|---|---

P-08
6.0'|<50|<250|---|---|---
12.0'|<50|<250|---|---|---

P-05
10.0'|<50|<250|---|---|---

TP-P08
1.0'|<20|<50|---|---|---
8.0'|<20|<50|---|---|---
12.0'|<20|<50|---|---|---

B01
2.0'|<50|<250|---|---|---

PR-PV1(R)
0-0.5'|<5.6|<11|<0.060|<0.060|<0.060

TP-P08A
1.0'|<20|<50|---|---|---
8.0'|<20|<50|---|---|---

TP-P01
6.0'|<20|<50|---|---|---
12.0'|<20|<50|---|---|---

R-SE15
0-0.5'|<20|<50|<0.05|<0.05|<0.05

PR-PV4(R)
0-0.5'|<6.0|<12|<0.056|<0.056|<0.056

R-SE11
0-0.5'|<20|<50|---|---|---

TP-WO-1
1.0'|<20|<50|---|---|---

TP-Septic-1
7.0'|<20|<50|---|---|---

R-SE16
0-0.5'|<20|<50|<0.05|<0.05|<0.05

R-WHOIST
3.0'|<7.2|33|---|---|---
8.0'|<6.1|<12|---|---|---

P-02
9.0'|<50|<250|---|---|---

R-EHoist
3.0'|<7.7|25|---|---|---
8.0'|<6.2|<12|---|---|---

PR-PV3
0-0.5'|56|270|<0.06|<0.06|<0.06

AREA 13

TP-P04-1
3.0'|<20|<50|---|---|---

P-04
8.5'|<50|<250|---|---|---

TP11
3.5'|**610**|<250|---|---|---
8.0'|<50|<250|---|---|---

TP-SD-1
2.0'|<20|<50|---|---|---

R-SE13
0-0.5'|<20|<50|---|---|---

B02
3.0'|<50|<250|---|---|---

TP-SD-2
2.0'|<20|<50|---|---|---

R-SE12
0-0.5'|<20|<50|---|---|---

R-SE14
0-0.5'|<20|<50|---|---|---

AREA 7

SS-2
0.3-1.3'|160|980|---|---|---

SS-1
0.3-1.3'|110|870|---|---|---

PR-PV2(R)
0-0.5'|<7|15|<0.06|<0.06|<0.06

P7-4
4-6'|<64|<130|---|---|---
6-8'|<76|<150|---|---|---

SS-4
0.3-1.3'|140|930|---|---|---

SS-5
0.3-1.3'|220|1300|---|---|---

P7-5
4-6'|<70|<140|---|---|---

SS-3
0.3-1.3'|200|1300|---|---|---

TP10
2.5'|<50|<250|---|---|---

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- SOIL SAMPLE
- TEST PIT
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | DRO | ORO | NAPHTHALENE | 1-MN | 2-MN
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
DRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS DIESEL-RANGE ORGANICS
ORO = TPH AS OIL-RANGE ORGANICS
1-MN = 1-METHYLNAPHTHALENE
2-MN = 2-METHYLNAPHTHALENE

N

0 80
SCALE IN FEET

NOTES:
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FIGURE 5C

SAMPLE LOCATIONS WITH
SOIL ANALYTICAL RESULTS FOR DRO AND ORO
AREAS 7, 12, AND 13
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

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Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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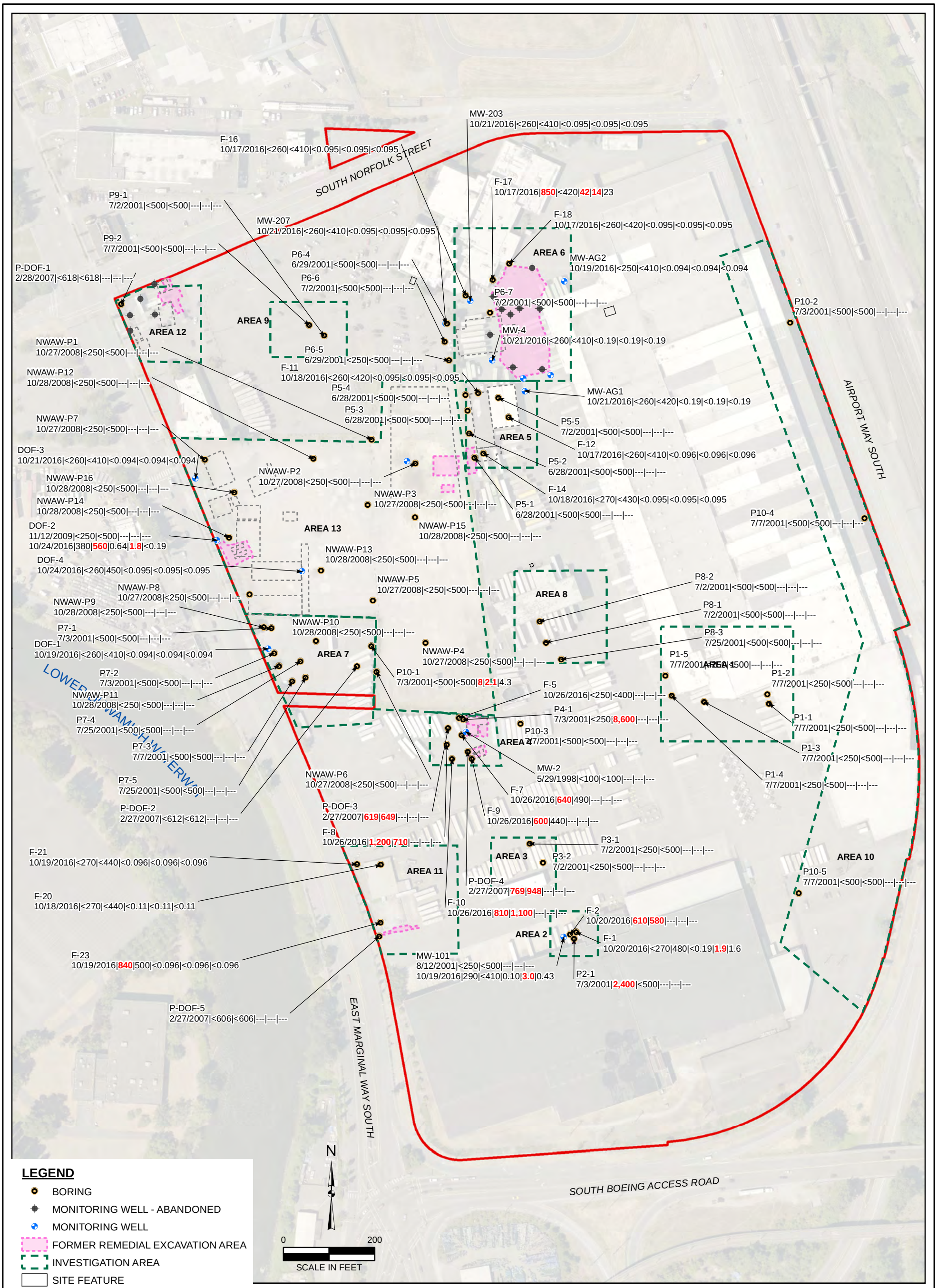

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | DRO | ORO | NAPHTHALENE | 1-MN | 2-MN
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
DRO = DIESEL-RANGE ORGANICS
ORO = OIL-RANGE ORGANICS
1-MN = 1-METHYLNAPHTHALENE
2-MN = 2-METHYLNAPHTHALENE

NOTES:
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FIGURE 6

GROUNDWATER ANALYTICAL RESULTS FOR
DRO, ORO, AND NAPHTHALENES
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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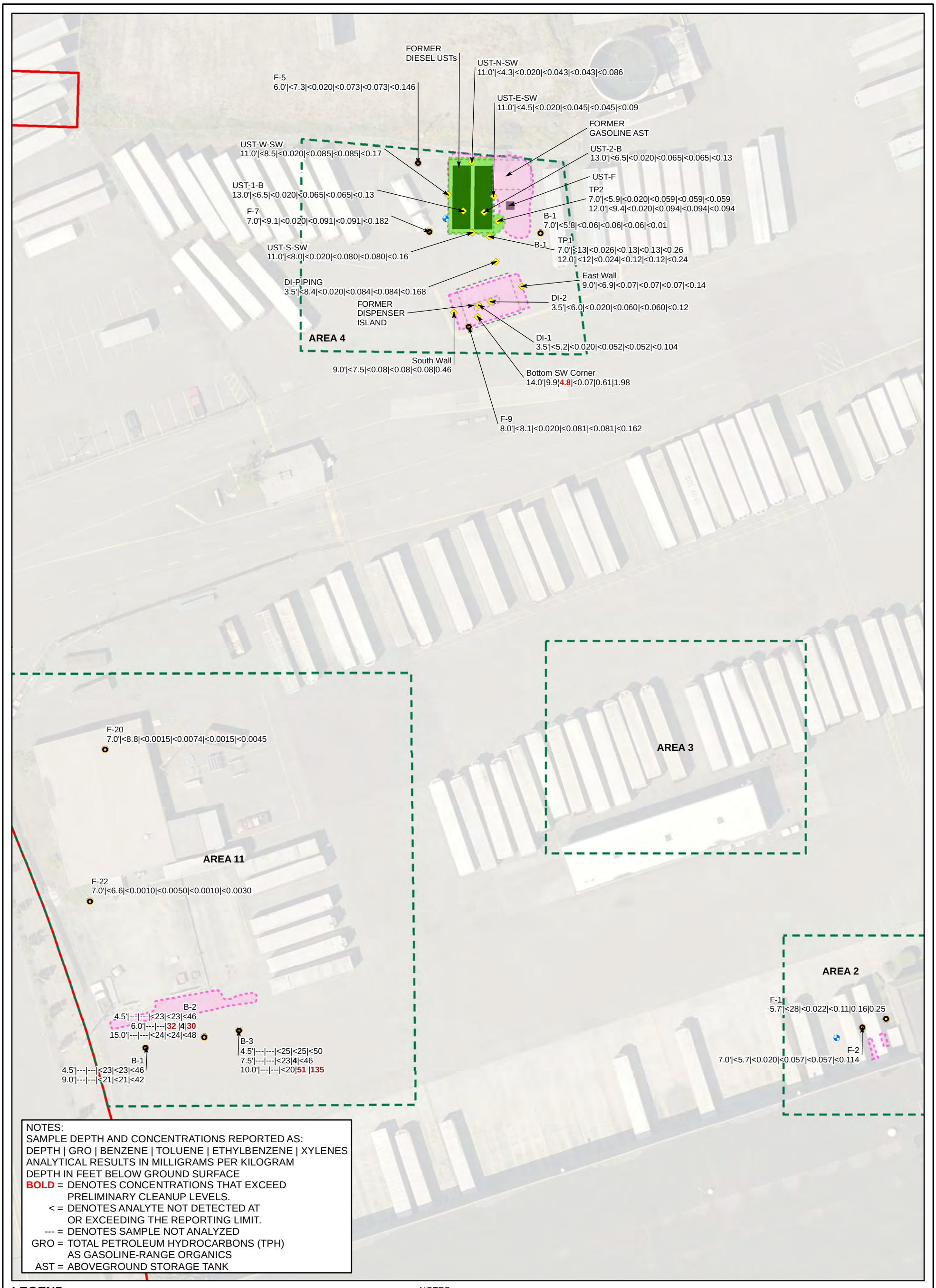

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | GRO | BENZENE | TOLUENE | ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE-RANGE ORGANICS
AST = ABOVEGROUND STORAGE TANK

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- 2019 FORMER REMEDIAL EXCAVATION AREA
- 1998 FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- FORMER SITE FEATURE
- FORMER UNDERGROUND STORAGE TANK (UST)
- SITE BOUNDARY

N

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SCALE IN FEET

NOTES:
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FIGURE 7A

SAMPLE LOCATIONS WITH
SOIL ANALYTICAL RESULTS FOR GRO AND BTEX
AREAS 2, 4, AND 11
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

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AREA 6

P-DOF-6.1
8.0'|<29|---|---|---|---

CS-SW27
9.0'|**150**|**0.56**|**0.057**|**2.7**|**3.8**

CS-SW25
9.0'|<6.8|<0.017|<0.017|<0.017|<0.034

CS-SW26
9.0'|**72**|**0.54**|**0.057**|**0.75**|**4.7**

CS-B35
15.0'|15|**0.37**|<0.025|0.037|0.16

CS-SW24
8.0'|<6.4|<0.016|<0.016|<0.016|<0.032

CS-B34
10.0'|<5.7|<0.014|<0.014|<0.014|<0.028

CS-B33
10.0'|<11|<0.028|<0.028|<0.028|0.07

CS-B19
13.5'|<14|<0.034|<0.034|<0.034|<0.068

CS-B17
15.0'|14|<0.021|0.029|0.040|0.20

CS-SW10
8.0'|<5.9|<0.015|<0.015|<0.015|<0.030

CS-SW23
8.0'|<7.7|<0.019|<0.019|<0.019|<0.039

CS-SW22
7.0'|<7.2|<0.018|<0.018|<0.018|<0.036

CS-B18
15.0'|29|**1.4**|<0.026|0.043|0.069

CS-B32
10.0'|<13|<0.032|<0.032|<0.032|<0.064

CS-SW09
8.0'|<9.6|<0.024|<0.024|<0.024|<0.048

CS-B16
15.0'|**41**|<0.026|<0.026|**0.027**|<0.052

PS-SW03
6.5'|<9.6|<0.024|<0.024|<0.024|<0.048

CS-B20
12.0'|27|**0.031**|<0.017|0.017|0.037

CS-SW21
6.0'|20|<0.023|<0.023|<0.023|<0.045

PS-B01
7.5'|<7.8|<0.039|<0.039|<0.039|<0.078

CS-B14
15.0'|11|<0.027|<0.027|<0.027|<0.054

CS-B31
9.0'|<12|<0.029|<0.029|<0.029|0.066

P6-7
9-11'|<27|---|---|---|---

CS-B15
16.0'|26|<0.031|<0.031|<0.031|<0.062

CS-SW02
7.5'|8.7|<0.019|<0.019|<0.019|<0.038

CS-B13
15.0'|19|<0.027|<0.027|<0.027|0.059

CS-SW11
8.5'|<11|<0.027|<0.027|<0.027|<0.054

CS-B09
11.5'|**32**|<0.031|<0.031|<0.031|<0.063

CS-B22
11.5'|<9.0|<0.022|<0.022|<0.022|<0.045

CS-SW03
6.0'|10|<0.018|<0.018|<0.018|<0.035

CS-B11R1
15.0'|13|<0.022|<0.022|<0.022|<0.044

CS-B36
14.0'|<8.4|<0.021|<0.021|<0.021|<0.042

CS-B06
11.5'|<13|<0.032|<0.032|<0.032|<0.064

CS-B24
12.0'|**50**|<0.026|0.051|<0.026|<0.052

CS-SW28
8.0'|<5.7|<0.014|<0.014|<0.014|<0.028

CS-SW05
8.0'|<7.2|<0.018|<0.018|<0.018|<0.036

CS-B25
12.5'|**95**|<0.025|<0.025|**0.10**|0.76

CS-B04
11.5'|**51**|<0.026|<0.026|<0.026|<0.052

PS-B06
14.0'|12|<0.024|<0.024|<0.024|<0.048

CS-SW04
8.5'|<9.2|<0.023|<0.023|<0.023|<0.046

CS-B26
12.5'|**70**|<0.024|<0.024|<0.024|<0.048

CS-SW20
7.5'|<6.5|<0.016|<0.016|<0.016|<0.032

CS-B05
10.5'|<9.7|<0.024|<0.024|<0.024|<0.048

CS-B10
11.5'|22|<0.034|<0.034|<0.034|<0.068

CS-SW06
7.5'|<17|<0.043|<0.043|<0.043|<0.086

CS-B27
12.0'|**66**|<0.025|<0.025|<0.025|0.49

P-DOF-6-W0
4.0'|<22|---|---|---|---

CS-SW07
9.5'|**52**|<0.032|<0.032|<0.032|<0.064

CS-B30
13.0'|10|<0.023|<0.023|<0.023|<0.046

CS-B07
11.0'|**61**|<0.028|<0.028|<0.028|0.055

CS-SW18
9.0'|**96**|<0.029|<0.029|**0.031**|0.39

CS-SW08R1
8.0'|**44**|<0.015|<0.015|**0.029**|<0.030

CS-SW19
9.0'|<8.2|<0.020|<0.020|<0.020|<0.041

P-DOF-6.5
8.0'|<30|---|---|---|---

P-DOF-6.3
8.0'|<28|---|---|---|---

P-DOF-6.2
8.0'|<30|---|---|---|---

F-11
8.0'|<5.8|<0.0011|<0.0055|<0.0011|<0.0033

P5-4
9-11'|<32|---|---|---|---

P5-5
3-5'|<21|---|---|---|---
7-9'|<24|---|---|---|---
11-13'|<27|---|---|---|---

F-12
6.7'|<7.3|<0.0016|<0.0081|<0.0016|<0.0049

P-DOF-6.6
8.0'|<24|---|---|---|---

P-DOF-6.4
8.0'|<24|---|---|---|---

P5-2
7-9'|<28|---|---|---|---
9-11'|<28|---|---|---|---

F-13
2.5'|<5.9|<0.0011|<0.0055|<0.0011|<0.0033

R-PCS-53
9.0'|<12|<0.029|<0.029|<0.029|<0.059

F-14
6.0'|<5.4|<0.00093|<0.0046|<0.00093|<0.0028

R-PCS-51
12.0'|**75**|<0.019|<0.019|**0.12**|<0.038

P5-1
9-11'|<29|---|---|---|---

AREA 5

R-PCS-50
9.0'|<11|<0.027|<0.027|<0.027|<0.054

R-PCS-54
9.0'|<7.4|<0.018|<0.018|<0.018|<0.037

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | GRO | BENZENE | TOLUENE | ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE-RANGE ORGANICS

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- SOIL SAMPLE
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

N

0 40
SCALE IN FEET

NOTES:
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FIGURE 7B

SAMPLE LOCATIONS WITH
SOIL ANALYTICAL RESULTS FOR GRO AND BTEX
AREAS 5 AND 6
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

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B-1
4.5'|---|---|<23|<23|<46
9.0'|---|---|<21|<21|<42

B-2
4.5'|---|---|<23|<23|<46
6.0'|---|---|**32**|**4**|**30**
15.0'|---|---|<24|<24|<48

B-3
4.5'|---|---|<25|<25|<50
7.5'|---|---|<23|**4**|<46
10.0'|---|---|<20|**51**|**135**

B-4

B03
0.3'|<2|<0.020|<0.020|<0.020|<0.060

PR-DP1
0-0.5'|<13|<0.032|<0.032|<0.032|<0.064

PR-DP3
0-0.5'|<7.3|<0.018|<0.018|<0.018|<0.037

PR-DP2
0-0.5'|**64**|<0.032|0.049|0.049|<0.064

SCRAPE-N7
3.0'|**60**|<0.027|<0.027|<0.027|<0.054

PR-DP4
0-0.5'|<6.9|<0.017|<0.017|<0.017|<0.034

P-07
8.5'|<2|---|---|---|---

P-06
7.0'|<2|---|---|---|---

TP21
6.5'|<2|---|---|---|---

TP18
2.5'|<2|<0.020|<0.020|<0.020|<0.060

TP12
2.5'|<2|<0.020|<0.020|<0.020|<0.060

R-PCS-3
3.0'|<11|<0.028|<0.028|<0.028|<0.057

P-08
6.0'|<2|---|---|---|---
12.0'|<2|---|---|---|---

R-SE10
0-0.5'|<5.9|<0.015|<0.015|<0.015|<0.030

P-05
10.0'|<2|---|---|---|---

TP-P08
1.0'|<7.3|<0.018|<0.018|<0.018|<0.037
8.0'|<10|<0.025|<0.025|<0.025|<0.051
12.0'|<9.9|<0.025|<0.025|<0.025|<0.050

PR-PV1(R)
0-0.5'|<6.5|<0.016|<0.016|<0.016|<0.032

TP-P08A
1.0'|<8.2|<0.020|<0.020|<0.020|<0.041
8.0'|<8.6|<0.022|<0.022|<0.022|<0.043

R-PCS-2
6.0'|<9.2|<0.023|<0.023|<0.023|<0.046

B01
2.0'|<2|<0.020|<0.020|<0.020|<0.060

TP-P01
6.0'|<9.2|<0.023|<0.023|<0.023|<0.046
12.0'|<8.8|<0.022|<0.022|<0.022|<0.044

R-SE15
0-0.5'|<6.9|<0.017|<0.017|<0.017|<0.034

PR-PV4(R)
0-0.5'|<7.9|<0.020|<0.020|<0.020|<0.039

R-SE11
0-0.5'|<6.2|<0.016|<0.016|<0.016|<0.031

TP-WO-1
1.0'|<7.3|<0.018|<0.018|<0.018|<0.037

P-02
9.0'|<2|---|---|---|---

R-SE16
0-0.5'|<6.9|<0.017|<0.017|<0.017|<0.034

TP-Septic-1
7.0'|<10|<0.025|<0.025|<0.025|<0.050

AREA 13

PR-PV3
0-0.5'|<6.9|<0.017|<0.017|<0.017|0.040

TP-P04-1
3.0'|<6.7|<0.017|<0.017|<0.017|<0.034

P-04
8.5'|<2|---|---|---|---

TP11
3.5'|**71**|<0.020|0.1|0.13|0.49
8.0'|4|<0.020|<0.020|<0.020|<0.060

TP-SD-1
2.0'|<10|<0.026|<0.026|<0.026|<0.052

B02
3.0'|<2|<0.020|<0.020|<0.020|<0.060

R-SE13
0-0.5'|<6.8|<0.017|<0.017|<0.017|<0.034

R-SE12
0-0.5'|<6.2|<0.016|<0.016|<0.016|<0.031

TP-SD-2
2.0'|<11|<0.026|<0.026|<0.026|<0.053

R-SE14
0-0.5'|<6.4|<0.016|<0.016|<0.016|<0.032

SS-2
0.3-1.3'|<5.9|<0.015|<0.015|<0.015|<0.029

SS-1
0.3-1.3'|<5.9|<0.015|<0.015|<0.015|<0.030

PR-PV2(R)
0-0.5'|<10|<0.026|<0.026|<0.026|<0.053

P7-4
4-6'|<26|---|---|---|---
6-8'|<140|---|---|---|---

SS-4
0.3-1.3'|7.1|<0.015|<0.015|<0.015|<0.029

AREA 7

SS-3
0.3-1.3'|9|<0.014|<0.014|<0.014|<0.028

SS-5
0.3-1.3'|<5.3|<0.013|<0.013|<0.013|<0.027

P7-5
4-6'|<28|---|---|---|---

TP10
2.5'|<2|<0.020|<0.020|<0.020|<0.060

LEGEND

- BORING
- MONITORING WELL
- SOIL SAMPLE
- TEST PIT
- FORMER REMEDIAL EXCAVATION AREA
- FORMER SITE FEATURE
- INVESTIGATION
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | GRO | BENZENE | TOLUENE | ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = TOTAL PETROLEUM HYDROCARBONS (TPH) AS GASOLINE-RANGE ORGANICS

N

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FIGURE 7C

SAMPLE LOCATIONS WITH
SOIL ANALYTICAL RESULTS FOR GRO AND BTEX
AREA 7 AND 13
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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F-16
10/17/2016|<100|<1.0|<1.0|<1.0|<2.0

P6-4
6/29/2001|<250|0.69|<0.2|<0.2|<0.4

MW-207
10/21/2016|<100|<0.20|<1.0|<0.20|<0.60

SOUTH NORFOLK STREET

MW-203
10/21/2016|<100|<0.20|<1.0|<0.20|<0.60

F-17
10/17/2016|**1,300**|**90**|<4.0|140|20

F-18
10/17/2016|<100|<1.0|<1.0|<1.0|<2.0

P9-1
7/2/2001|<250|---|---|---|---

P9-2
7/7/2001|<250|---|---|---|---

P6-7
7/2/2001|<250|---|---|---|---

P-DOF-1
2/28/2007|<245|<1.0|<1.0|<1.0|<3.0

P6-6
7/2/2001|<250|---|---|---|---

MW-AG2
10/19/2016|<100|<0.20|<1.0|<0.20|<0.60

AREA 6

AREA 12

AREA 9

P10-2
7/3/2001|<250|<20.0|<20.0|<40.0|<40.0

MW-4
10/21/2016|<400|<0.20|<1.0|<0.20|<0.60

F-11
10/18/2016|<100|<0.20|<1.0|<0.20|<0.60

NWAW-P1
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

P6-5
6/29/2001|<250|<0.2|<0.2|<0.2|<0.4

MW-AG1
10/21/2016|<400|<0.20|<1.0|<0.20|<0.60

DOF-5
11/26/2014|<250|<1.0|<1.0|<1.0|<3.0

P5-4
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

P5-5
7/2/2001|<250|<20|<20|<20|<40

NWAW-P12
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

P5-3
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

F-12
10/17/2016|<100|<0.20|<1.0|<0.20|<0.60

AREA 5

F-13
10/18/2016|<100|<0.20|<1.0|<0.20|<0.60

NWAW-P7
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

P5-2
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

DOF-3
10/21/2016|<100|<0.20|<1.0|<0.20|<0.60

F-14
10/18/2016|<100|<0.40|<2.0|<0.40|<1.2

NWAW-P2
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

P5-1
6/28/2001|<250|<0.2|<0.2|<0.2|<0.4

NWAW-P16
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P15
10/28/2008|280|<1.0|<1.0|<1.0|<1.0

NWAW-P3
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

AREA 13

P10-4
7/7/2001|<250|<1.0|<1.0|<1.0|<2.0

DOF-2
11/12/2009|**1,200**|**5.9**|1.2|9.7|1.8
10/24/2016|180|0.27|<1.0|0.31|<0.60

DOF-4
10/24/2016|<100|<0.20|<1.0|<0.20|<0.60

NWAW-P14
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P13
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P5
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P8
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P4
10/27/2008|<250|<1.0|<1.0|<1.0|<1.0

NWAW-P9
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

AREA 8

P8-2
7/2/2001|<250|---|---|---|---

AREA 10

NWAW-P10
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

P7-1
7/3/2001|700|**42**|3|39|102

P8-1
7/2/2001|<250|---|---|---|---

P10-1
7/3/2001|<250|2.3|<1.0|8.6|17.1

P1-5
7/7/2001|<250|---|---|---|---

DOF-1
10/19/2016|<100|<0.20|<1.0|<0.20|<0.60

AREA 7

NWAW-P6
10/27/2008|<250|<1.0|<1.0|<1.0|3.6

P8-3
7/25/2001|<250|---|---|---|---

AREA 1

P1-2
7/7/2001|<250|---|---|---|---

P7-2
7/3/2001|<250|<0.2|<0.2|<0.2|<0.4

P-DOF-2
2/27/2007|<243|<1.0|<1.0|<1.0|<3.0

P1-1
7/7/2001|<250|---|---|---|---

NWAW-P11
10/28/2008|<250|<1.0|<1.0|<1.0|<1.0

LOWER DUWAMISH WATERWAY

F-5
10/26/2016|<100|<1.0|<1.0|<1.0|<2.0

P10-3
7/7/2001|<250|<0.2|<0.2|<0.2|<0.4

P7-4
7/25/2001|<250|<0.2|<0.2|<0.2|<0.4

P4-1
7/3/2001|<250|---|---|---|---

AREA 4

P1-3
7/7/2001|<250|---|---|---|---

P7-3
7/7/2001|<250|<0.2|<0.2|<0.2|<0.4

MW-2
5/29/1998|<100|<1|<1|<1|<1

P7-5
7/25/2001|<250|<0.2|0.49|<0.2|<0.4

F-9
10/26/2016|<100|<1.0|<1.0|<1.0|1.0

P1-4
7/7/2001|<250|---|---|---|---

P-DOF-4
2/27/2007|<240|---|---|---|---

P-DOF-3
2/27/2007|<238|---|---|---|---

F-7
10/26/2016|<100|<1.0|<1.0|<1.0|<2.0

F-8
10/26/2016|<100|<0.20|<1.0|<0.20|0.86

F-10
10/26/2016|<100|<1.0|<1.0|<1.0|<2.0

F-21
10/19/2016|<100|0.21|<1.0|<0.20|<0.60

P3-2
7/2/2001|<250|---|---|---|---

AREA 3

F-20
10/18/2016|<100|<0.20|<1.0|<0.20|<0.60

AREA 11

P3-1
7/2/2001|<250|---|---|---|---

P10-5
7/7/2001|<250|<1.0|<1.0|<1.0|<2.0

AREA 2

F-22
10/19/2016|<100|<0.20|<1.0|<0.20|<0.60

F-1
10/20/2016|<100|<0.40|<2.0|<0.40|<1.2

MW-101
8/12/2001|<100|<1.0|<1.0|<1.0|<1.0
10/19/2016|<100|<0.40|<2.0|<0.40|<1.2

P2-1
7/3/2001|**2,500**|**3.1**|<1.0|26|19

F-23
10/19/2016|150|<0.20|<1.0|<0.20|<0.60

P-DOF-5
2/27/2007|<240|<1.0|<1.0|<1.0|<3.0

EAST MARGINAL WAY SOUTH

F-2
10/20/2016|<100|<1.0|<1.0|<1.0|<2.0

AIRPORT WAY SOUTH

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- INVESTIGATION AREA
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | GRO | BENZENE | TOLUENE |
ETHYLBENZENE | XYLENES
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED
GRO = GASOLINE-RANGE ORGANICS

NOTES:
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FIGURE 8

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

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\Reg_Interaction\IAWP\Figure-08_GW-GRO_BTEX.mxd

SOUTH NORFOLK STREET

AREA 12

AREA 9

AREA 6

P-DOF-6-W0
4.0'|<0.055

PR-PV6
0-0.5'|0.075

SCRAPE-N2
0-0.5'|<0.231

AREA 5

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

TP-WO-1
1.0'|<3.5

R-SE15
0-0.5'|<1.4

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

AREA 13

PR-PV3
0-0.5'|<0.21

R-SE16
0-0.5'|<1.4

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

AREA 8

AREA 7

AREA 1

AREA 10

AREA 4

AREA 3

AREA 11

AREA 2

AIRPORT WAY SOUTH

LOWER DUWAMISH WATERWAY

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- SOIL SAMPLE
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | TOTAL PCBs
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DEONTES SAMPLE NOT ANALYZED
PCB = POLYCHLORINATED BIPHENYL

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FIGURE 9

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

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\Reg_Interaction\IAWP\Figure-09_Soil-PCB.mxd

AREA 12

AREA 9

AREA 6

AREA 5

AREA 8

AREA 7

AREA 13

AREA 4

AREA 11

AREA 3

AREA 2

SCRAPE-N8
0-0.5'|<6.0|<0.2|---|11|---

SCRAPE-N3
0-0.5'|7|0.3|---|21|---

PR-PV6
0-0.5'|8|0.3|37.2|30|64

P-DOF-6-W0
4.0'|2.58|<0.55|---|1.96|---

R-SE6
0-0.5'|3.4|<2.0|---|5.3|---

SCRAPE-N1
0-0.5'|7|<0.2|---|18|---

PR-PV5
0-0.5'|8|0.3|55.9|59|89

PR-C2(R)
0-0.5'|---|---|12.4|3.0|---

PR-DP1
0-0.5'|8|0.5|30|91|109

TP-P08
1.0'|2.3|<2.0|---|3.6|---
8.0'|2.8|<2.0|---|<4.0|---
12.0'|5.9|<2.0|---|<4.0|---

PR-C1(R)
0-0.5'|---|---|16.5|3.0|---

SCRAPE-N2
0-0.5'|7|0.3|---|51|---

PR-DP3
0-0.5'|7|0.6|---|162|---

PR-DP2
0-0.5'|<7|0.4|---|83|---

TP-P08A
1.0'|<2.0|<2.0|---|<4.0|---
8.0'|3.2|<2.0|---|<4.0|---

SCRAPE-N5
0-0.5'|<6|0.3|---|24|---

SCRAPE-N4
0-0.5'|8|0.5|---|78|---

PR-DP4
0-0.5'|6|0.5|---|144|---

TP-WO-1
1.0'|8.6|<2.0|---|15|---

R-SE10
0-0.5'|2.9|<2.0|---|24|---

PR-SE13
0-0.5'|12|0.7|---|220|---

PR-C3(R)
0-0.5'|---|---|11.9|10.0|---

PR-PV1(R)
0-0.5'|14|<0.2|17.4|12.0|---

R-SE2
0-0.5'|6|<0.2|---|9|---

R-SE9
0-0.5'|4.9|<2.0|---|22|---

R-SE5
0-0.5'|4.9|<2.0|---|8.4|---

PR-SE23(R)
0-0.5'|3.6|<2.0|---|8.2|---

TP-P01
6.0'|<2.0|<2.0|---|<4.0|---
12.0'|<2.0|<2.0|---|<4.0|---

R-SE7
0-0.5'|2.5|<2.0|---|3.6|---

PR-SE33(R)
0-0.5'|3.0|<2.0|---|11|---

R-SE15
0-0.5'|4.1|<2.0|---|30|---

R-SE11
0-0.5'|5.3|2.0|---|160|---

TP19
0.5'|5.67|1.38|---|21.7|42

PR-SE24
0-0.5'|5|0.4|---|151|---

PR-SE14(R)
0-0.5'|<2.0|<2.0|---|3.5|---

PR-PV4(R)
0-0.5'|<6|<0.2|20.3|3.0|---

TP-Septic-1
7.0'|2.9|<2.0|---|<4.0|---

PR-SE34(R)
0-0.5'|4.3|<2.0|---|48|---

NUST-B1
14.0'|---|---|---|<4.0|---

R-SE8
0-0.5'|3.3|<2.0|---|7.4|---

PR-SE25
0-0.5'|7|0.9|---|120|---

R-SE16
0-0.5'|7.1|<2.0|---|33|---

NUST-WSW
8.0'|---|---|---|<4.0|---

PR-SE15
0-0.5'|6|0.3|19|31|48

UST-PI
4.0'|---|---|---|4.0|---

TP-P04-1
3.0'|7.4|<2.0|---|4.6|---

PR-PV3
0-0.5'|5|0.7|23.2|13|183

R-SE1
0-0.5'|7|0.5|---|19|---

SUST-B3
14.0'|---|---|---|5.0|---

R-SE4
0-0.5'|3.3|<2.0|---|2.6|---

SUST-ESW
9.0'|---|---|---|4.6|---

PR-SE35(R)
0-0.5'|4.8|<2.0|---|14|---

PR-SE7
0-0.5'|8|0.4|---|47|---

NUST-ESW
9.0'|---|---|---|4.0|---

PR-C4(R)
0-0.5'|---|---|54.6|18.0|---

PR-SE16
0-0.5'|6|0.7|---|67|---

PR-SE1(R)
0-0.5'|9|0.4|---|36|---

SUST-WSW
8.0'|---|---|---|<4.0|---

PR-SE26
0-0.5'|7|0.9|---|167|---

PR-SE36(R)
0-0.5'|5.9|<2.0|---|70|---

TP06
0.5'|12.4|<1|---|27.3|59.2

SUST-SSW
8.0'|---|---|---|7.0|---

R-SE12
0-0.5'|4.7|<2.0|---|16|---

PR-SE17
0-0.5'|7|0.3|---|13|---

PR-SE2
0-0.5'|8|1.4|---|150|---

TP-SD-1
2.0'|4.6|<2.0|---|2.7|---

R-SE3
0-0.5'|<5|0.3|---|3|---

PR-SE27
0-0.5'|7|0.9|---|113|---

R-SE13
0-0.5'|<2.0|<2.0|---|4.2|---

PR-SE37(R)
0-0.5'|<5|0.2|---|5|---

PR-SE18
0-0.5'|11|0.2|---|150|---

PR-SE8
0-0.5'|8|0.4|16.7|51|52

TP-SD-2
2.0'|2.8|<2.0|---|<4.0|---

SS-1
0.3-1.3'|6|0.2|---|13|---

PR-SE28
0-0.5'|7|0.3|20.1|49|56

PR-SE19
0-0.5'|8|0.3|---|40|---

PR-SE3
0-0.5'|<5|0.3|---|88|---

PR-SE29
0-0.5'|7|0.6|---|40|---

PR-SE9(R)
0.5'|7|<0.2|---|7|---

R-SE14
0-0.5'|6.2|<2.0|---|74|---

PR-PV2(R)
0-0.5'|<6|<0.3|---|3|---

PR-SE20(R)
0-0.5'|9|<0.2|---|6|---

SS-4
0.3-1.3'|<5|0.3|---|11|---

SS-2
0.3-1.3'|5|0.3|---|15|---

PR-SE4
0-0.5'|7|0.5|---|75|---

PR-SE10
0-0.5'|6|0.3|---|187|---

SS-3
0.3-1.3'|<5|0.3|---|7|---

PR-SE5
0-0.5'|7|0.3|---|66|---

SS-5
0.3-1.3'|<5|0.2|---|4|---

PR-SE11(R)
0.5'|9|<0.2|---|16|---

PR-SE30
0-0.5'|9|<0.2|---|24|---

PR-SE21
0-0.5'|8|1.0|---|89|---

PR-SE6(R)
0.5'|5|<0.2|---|12|---

PR-SE31
0-0.5'|<5|0.3|11.2|64|40

PR-SE22(R)
0-0.5'|<5.0|<0.2|---|5|---

PR-SE12(R)
0.5'|5|<0.2|---|13|---

PR-SE32
0-0.5'|<5|0.3|---|26|---

F-9
8.0'|---|---|---|<7.2|---

F-1
5.7'|---|---|---|<5.7|---

EAST MARGINAL WAY SOUTH

LOWER DUWAMISH WATERWAY

N

0 100

SCALE IN FEET

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- SOIL SAMPLE
- TEST PIT
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- FORMER REMEDIAL EXCAVATION AREA
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | ARSENIC | CADMIUM | COPPER | LEAD | ZINC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DEONTES SAMPLE NOT ANALYZED

NOTES:
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FIGURE 10

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

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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SOUTH NORFOLK STREET

AIRPORT WAY SOUTH

LOWER DUWAMISH WATERWAY

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

AREA 12

AREA 9

DOF-5
11/12/2009|1.1|---|---
3/18/2010|1.1|---|---
10/5/2010|1.1|---|---
3/3/2011|1.0|---|---
3/23/2012|1.1|---|---
8/28/2014|1.2|0.2|**14,400**
11/26/2014|1.2|0.4|---
6/5/2015|0.8|0.1|---

AREA 6

AREA 5

DOF-3
11/12/2009|**9.1**|---|---
3/18/2010|**5.2**|---|---
10/5/2010|2|---|---
3/3/2011|1.6|---|---
3/23/2012|1.5|---|---
8/28/2014|3.4|1.6|**15,700**
11/26/2014|1|<0.1|---
6/5/2015|0.9|<0.1|---

AREA 13

DOF-2
11/12/2009|**9**|---|---
3/18/2010|**15.7**|---|---
10/5/2010|**14.2**|---|---
3/3/2011|**24.5**|---|---
3/23/2012|**19**|---|---
8/28/2014|**35.1**|1.8|**1,620**
11/26/2014|**25.3**|1|---
6/5/2015|**20.5**|1.9|---

DOF-4
11/12/2009|**7.5**|---|---
3/18/2010|**5.7**|---|---
10/5/2010|**11.5**|---|---
3/3/2011|**5.5**|---|---
3/23/2012|**5.8**|---|---
8/28/2014|**8.2**|<0.1|**10,100**
11/26/2014|**11**|0.1|---
6/5/2015|**7.4**|<0.1|---

AREA 8

AREA 1

AREA 10

DOF-1
11/12/2009|2.1|---|---
3/18/2010|1.0|---|---
10/4/2010|1.8|---|---
3/3/2011|0.5|---|---
3/23/2012|1.5|---|---
11/26/2014|0.5|<0.1|---
6/5/2015|0.7|0.2|---

AREA 7

AREA 4

AREA 3

AREA 11

AREA 2

N

0 200

SCALE IN FEET

LEGEND

- MONITORING WELL - ABANDONED
- MONITORING WELL
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | ARSENIC | LEAD | MANGANESE
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED

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FIGURE 11

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

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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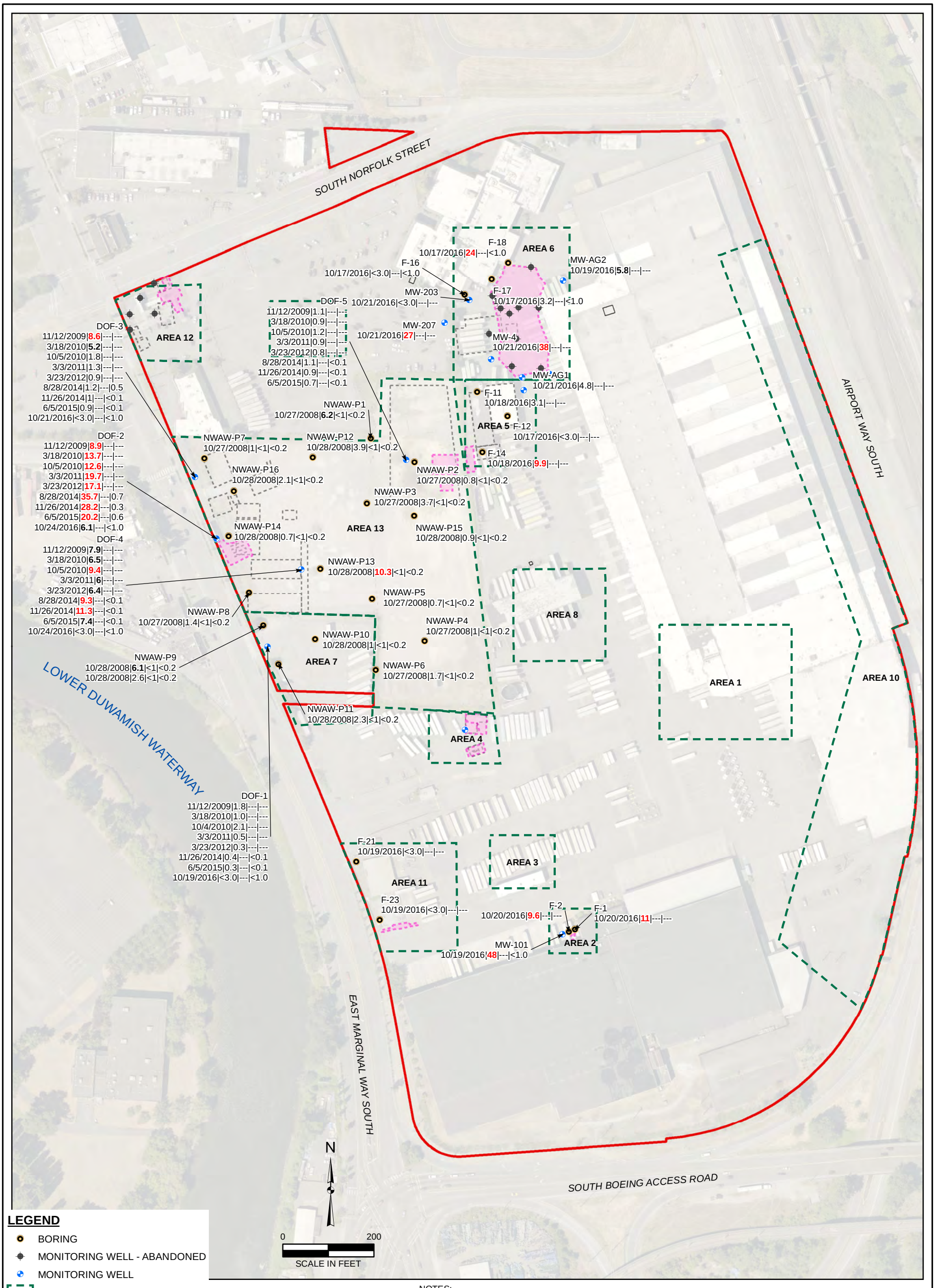

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- INVESTIGATION AREA
- FORMER REMEDIAL EXCAVATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | ARSENIC | CADMIUM | LEAD
ANALYTICAL RESULTS IN MICROGRAMS PER LITER
BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DENOTES SAMPLE NOT ANALYZED

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 12

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: PK | Date: 9/6/2019 | Disc Reference:

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SOUTH NORFOLK STREET

AREA 12

AREA 9

AREA 6

PR-PV6
0-0.5'|<0.053

F-11
8.0'|<0.0063

SCRAPE-N2
0-0.5'|<0.048

AREA 5

AIRPORT WAY SOUTH

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

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

R-SE15
0-0.5'|<0.0076

AREA 13

R-SE16
0-0.5'|<0.0076

PR-PV3
0-0.5'|<0.045

AREA 8

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

AREA 7

AREA 1

AREA 10

LOWER DUWAMISH WATERWAY

AREA 4

F-9
8.0'|<0.0072

F-20
7.0'|<0.0069

AREA 3

AREA 11

F-1
5.7'|0.007

AREA 2

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

LEGEND

- BORING
- MONITORING WELL (ABANDONED)
- MONITORING WELL
- SOIL SAMPLE
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | cPAH TEC
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
cPAH = CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
TEC = TOXIC EQUIVALENT CALCULATION

NOTES:
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FIGURE 13

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

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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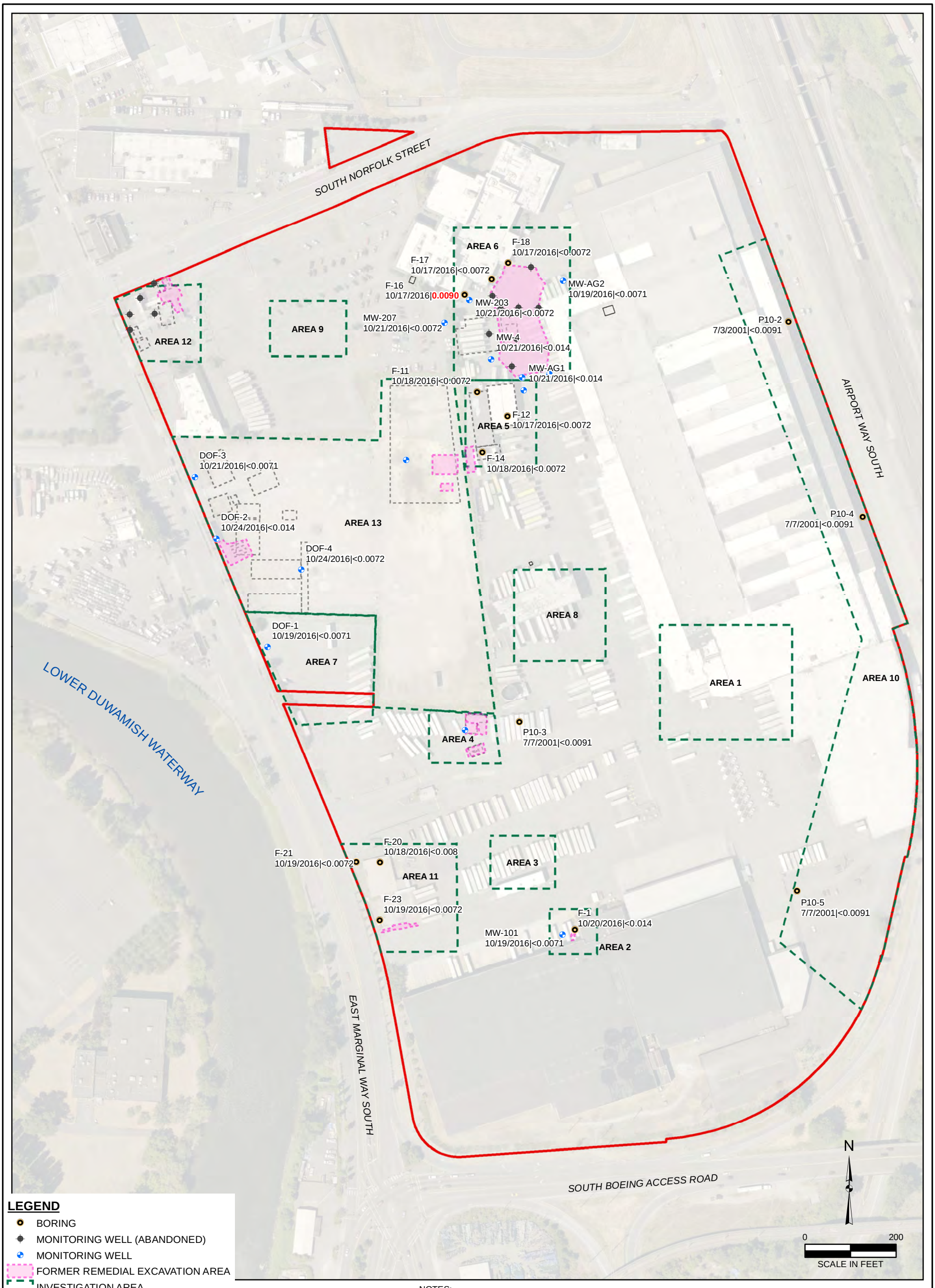

LEGEND

- BORING
- MONITORING WELL (ABANDONED)
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | cPAH TEC
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
cPAH = CARCINOGENIC POLYCYCLIC AROMATIC HYDROCARBONS
TEC = TOXIC EQUIVALENT CALCULATION

NOTES:
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FIGURE 14

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

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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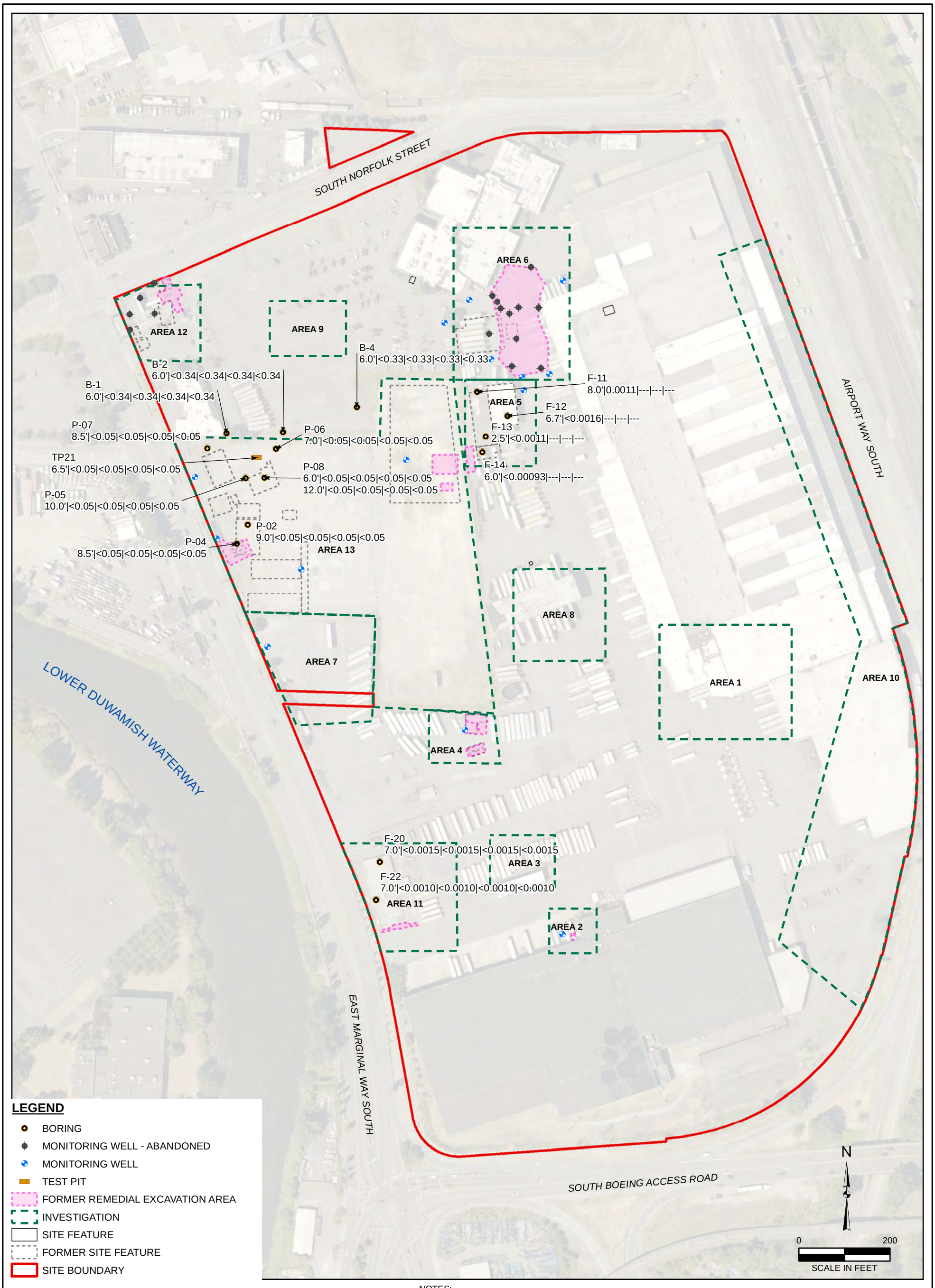

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- TEST PIT
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
SAMPLE DEPTH AND CONCENTRATIONS REPORTED AS:
DEPTH | PCE | TCE | cis-DCE | VC
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM
DEPTH IN FEET BELOW GROUND SURFACE
ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM.

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
--- = DEONTES SAMPLE NOT ANALYZED
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-DCE = cis-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE
HVOCs = HALOGENATED VOLATILE ORGANIC COMPOUNDS

NOTES:
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FIGURE 15

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

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 9/6/2019 | Disc Reference:

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SOUTH NORFOLK STREET

AREA 6

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

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

AREA 9

AREA 12

P10-2
7/3/2001|<20|<20|<20|<20

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

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

AREA 5

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

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

AIRPORT WAY SOUTH

P10-4
7/7/2001|<1.0|<1.0|<1.0|<1.0

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

AREA 13

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

AREA 8

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

AREA 7

P-DOF-2
2/27/2007|<1.0|<1.0|<1.0|<0.20

AREA 1

AREA 10

LOWER DUWAMISH WATERWAY

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

P10-3
7/7/2001|<0.20|<0.20|<0.20|<0.20

AREA 4

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

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

AREA 3

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

P10-5
7/7/2001|<1.0|<1.0|<1.0|<1.0

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

AREA 11

AREA 2

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

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

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

LEGEND

- BORING
- MONITORING WELL - ABANDONED
- MONITORING WELL
- FORMER REMEDIAL EXCAVATION AREA
- INVESTIGATION AREA
- SITE FEATURE
- FORMER SITE FEATURE
- SITE BOUNDARY

NOTES:
DATE SAMPLED AND CONCENTRATIONS REPORTED AS:
SAMPLE DATE | PCE | TCE | cis-DCE | VC
ANALYTICAL RESULTS IN MICROGRAMS PER LITER

BOLD = DENOTES CONCENTRATIONS THAT EXCEED PRELIMINARY CLEANUP LEVELS.
< = DENOTES ANALYTE NOT DETECTED AT OR EXCEEDING THE REPORTING LIMIT.
PCE = TETRACHLOROETHENE
TCE = TRICHLOROETHENE
cis-DCE = cis-1,2-DICHLOROETHENE
VC = VINYL CHLORIDE

NOTES:
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FIGURE 16

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: PK | Date: 9/6/2019 | Disc Reference:

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TABLES

INTERIM ACTION 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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
Area 2: Perishables Warehouse												
P2-1	DOF	Probe 2-1	5 - 7	Vadose	7/3/2001	**9,900**	< 570	---	---	---	---	---
EX-2-2	DOF	Exc. Spl. 2-2	7.0	Vadose	4/2/2002	< 33	< 65	---	---	---	---	---
EX-2-3	DOF	Exc. Spl. 2-3	7.0	Vadose	4/2/2002	**1,300**	< 59	---	---	---	---	---
EX-2-4	DOF	Exc. Spl. 2-4	3.0	Vadose	4/2/2002	< 28	< 55	---	---	---	---	---
EX-2-5	DOF	Exc. Spl. 2-5	9.0	Saturated	4/2/2002	< 34	< 68	---	---	---	---	---
EX-2-6	DOF	Exc. Spl. 2-6	7.0	Vadose	4/2/2002	< 28	< 55	---	---	---	---	---
F-1	Farallon	F-1-5.7	5.7	Vadose	10/20/2016	**5,900**	< 280	< 28	< 0.022	< 0.11	0.16	0.25
F-2	Farallon	F-2-7.0	7.0	Vadose	10/20/2016	< 28	< 56	< 5.7	< 0.020	< 0.057	< 0.057	< 0.114
Area 4: Former Fueling Area												
1998 UST Decommissioning												
Former Dispenser Island Excavation												
E. Sidewall	Global	East Sidewall	9.0	Saturated	2/6/1998	< 35	< 69	< 6.9	< 0.07	< 0.07	< 0.07	< 0.14
S. Sidewall	Global	South Sidewall	9.0	Saturated	2/6/1998	< 37	< 75	< 7.5	< 0.08	< 0.08	< 0.08	0.46
Bottom SW Corner	Global	Bottom SW Corner	14.0	Saturated	2/6/1998	36	< 72	9.9	**4.8**	< 0.07	0.61	1.98
Boring B-1	Global	Boring B-1	7.0	Vadose	5/28/2007	< 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	---	---	---	---	---
West Wall	Global	West Sidewall	Unknown	---	2/9/1998	< 31	< 62	---	---	---	---	---
N. Wall	Global	North Sidewall	Unknown	---	2/9/1998	< 32	< 63	---	---	---	---	---
2002 Surface Spill Excavation												
4-1	Terra	Exc. Spl. 4-1	2.0	Vadose	4/1/2002	**300**	190	---	---	---	---	---
4-3	Terra	Exc. Spl. 4-3	2.0	Vadose	4/1/2002	54	<53	---	---	---	---	---
4-4	Terra	Exc. Spl. 4-4	2.0	Vadose	4/1/2002	<28	190	---	---	---	---	---
4-5	Terra	Exc. Spl. 4-5	2.5	Vadose	4/1/2002	<33	74	---	---	---	---	---
2016 Subsurface Investigation												
F-5	Farallon	F-5-6.0	6.0	Vadose	10/26/2016	< 34	< 68	< 7.3	< 0.020	< 0.073	< 0.073	< 0.146
F-7	Farallon	F-7-7.0	7.0	Vadose	10/26/2016	< 38	< 76	< 9.1	< 0.020	< 0.091	< 0.091	< 0.182
F-9	Farallon	F-9-8.0	8.0	Saturated	10/26/2016	< 36	< 72	< 8.1	< 0.020	< 0.081	< 0.081	< 0.162
2019 UST Decommissioning												
DI	Farallon	DI-1-3.5-040819	3.5	Vadose	4/8/2019	200 N	970	< 5.2	< 0.020	< 0.052	< 0.052	< 0.104
	Farallon	DI-2-3.5-040819	3.5	Vadose	4/8/2019	< 26	< 52	< 6.0	< 0.020	< 0.060	< 0.060	< 0.12
	Farallon	DI-PIPING-3.5-040819	3.5	Vadose	4/8/2019	< 34	89	< 8.4	< 0.020	< 0.084	< 0.084	< 0.168
TP1	Farallon	TP1-7.0	7.0	Vadose	4/8/2019	72 N	320	< 13	< 0.026	< 0.13	< 0.13	< 0.26
	Farallon	TP1-12.0	12.0	Saturated	4/8/2019	< 39	< 79	< 12	< 0.024	< 0.12	< 0.12	< 0.24
TP2	Farallon	TP2-7.0	7.0	Vadose	4/9/2019	< 26	72	< 5.9	< 0.020	< 0.059	< 0.059	< 0.12
	Farallon	TP2-12.0	12.0	Saturated	4/9/2019	63	< 70	< 9.4	< 0.020	< 0.094	< 0.094	< 0.19
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2019 UST Decommissioning												
UST	Farallon	UST-1-B-13.0	13.0	Saturated	4/5/2019	< 32	< 64	< 6.5	< 0.020	< 0.065	< 0.065	< 0.13
	Farallon	UST-2-B-13.0	13.0	Saturated	4/5/2019	< 33	< 66	< 6.5	< 0.020	< 0.065	< 0.065	< 0.13
	Farallon	UST-E-SW-11.0	11.0	Saturated	4/5/2019	< 27	53	< 4.5	< 0.020	< 0.045	< 0.045	< 0.09
	Farallon	UST-N-SW-11.0	11.0	Saturated	4/5/2019	< 27	< 54	< 4.3	< 0.020	< 0.043	< 0.043	< 0.086
	Farallon	UST-S-SW-11.0	11.0	Saturated	4/5/2019	160	< 72	< 8.0	< 0.020	< 0.080	< 0.080	< 0.16
	Farallon	UST-W-SW-11.0	11.0	Saturated	4/5/2019	< 37	< 74	< 8.5	< 0.020	< 0.085	< 0.085	< 0.17
Area 5: Former Trailer Maintenance Shop												
P5-1	DOF	Probe 5-1	9 - 11	Saturated	6/28/2001	< 72	< 140	< 29	---	---	---	---
P5-2	DOF	Probe 5-2	7 - 9	Saturated	6/28/2001	**1,800**	190	< 28	---	---	---	---
	DOF	Probe 5-2	9 - 11	Saturated	6/28/2001	< 69	< 140	< 28	---	---	---	---
P5-4	DOF	Probe 5-4	9 - 11	Saturated	6/28/2001	< 79	< 160	< 32	---	---	---	---
P5-5	DOF	Probe 5-5	3 - 5	Vadose	7/2/2001	< 52	< 100	< 21	---	---	---	---
	DOF	Probe 5-5	7 - 9	Saturated	7/2/2001	< 59	< 120	< 24	---	---	---	---
	DOF	Probe 5-5	11 - 13	Saturated	7/2/2001	< 68	< 140	< 27	---	---	---	---
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 31	< 63	< 5.8	< 0.0011	< 0.0055	< 0.0011	< 0.0033
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	< 29	< 58	< 7.3	< 0.0016	< 0.0081	< 0.0016	< 0.0049
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 26	< 52	< 5.9	< 0.0011	< 0.0055	< 0.0011	< 0.0033
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 28	< 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	Saturated	7/2/2001	< 67	< 130	< 27	---	---	---	---
P-DOF-6.1	DOF	P-DOF-6.1	8.0	Saturated	2/2007	< 72	< 144	< 29	---	---	---	---
P-DOF-6.2	DOF	P-DOF-6.2	8.0	Saturated	2/2007	< 76	< 152	< 30	---	---	---	---
P-DOF-6.3	DOF	P-DOF-6.3	8.0	Saturated	2/2007	< 139	< 69	< 28	---	---	---	---
P-DOF-6.4	DOF	P-DOF-6.4	8.0	Saturated	2/2007	< 60	< 119	< 24	---	---	---	---
P-DOF-6.5	DOF	P-DOF-6.5	8.0	Saturated	2/2007	< 76	< 151	< 30	---	---	---	---
P-DOF-6.6	DOF	P-DOF-6.6	8.0	Saturated	2/2007	< 61	< 121	< 24	---	---	---	---
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	Vadose	2/2007	< 55	< 110	< 22	---	---	---	---
2007 Excavation												
CS-B04	DOF	CS-B04	11.5	Saturated	8/2/2007	140	27	**51**	< 0.026	< 0.026	< 0.026	< 0.052
CS-B05	DOF	CS-B05	10.5	Saturated	8/2/2007	< 6.7	< 13	< 9.7	< 0.024	< 0.024	< 0.024	< 0.048
CS-B06	DOF	CS-B06	11.5	Saturated	8/2/2007	11	41	< 13	< 0.032	< 0.032	< 0.032	< 0.064
CS-B07	DOF	CS-B07	11.0	Saturated	8/3/2007	230	48	**61**	< 0.028	< 0.028	< 0.028	0.055
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2007 Excavation												
CS-B09	DOF	CS-B09	11.5	Saturated	8/6/2007	12	32	**32**	< 0.031	< 0.031	< 0.031	< 0.063
CS-B10	DOF	CS-B10	11.5	Saturated	8/6/2007	120	120	22	< 0.034	< 0.034	< 0.034	< 0.068
CS-B11R1	DOF	CS-B11R1	15.0	Saturated	8/9/2007	16	17	13	< 0.022	< 0.022	< 0.022	< 0.044
CS-B13	DOF	CS-B13	15.0	Saturated	8/9/2007	< 7	18	19	< 0.027	< 0.027	< 0.027	0.059
CS-B14	DOF	CS-B14	15.0	Saturated	8/9/2007	< 7	21	11	< 0.027	< 0.027	< 0.027	< 0.054
CS-B15	DOF	CS-B15	16.0	Saturated	8/9/2007	**300**	47	26	< 0.031	< 0.031	< 0.031	< 0.062
CS-B16	DOF	CS-B16	15.0	Saturated	8/15/2007	12	22	**41**	< 0.026	< 0.026	**0.027**	< 0.052
CS-B17	DOF	CS-B17	15.0	Saturated	8/15/2007	< 6.1	< 12	14	< 0.021	0.029	0.040	0.20
CS-B18	DOF	CS-B18	15.0	Saturated	8/15/2007	< 6.9	< 14	29	**1.4**	< 0.026	0.043	0.069
CS-B19	DOF	CS-B19	13.5	Saturated	8/17/2007	< 6.3	< 12	< 14	< 0.034	< 0.034	< 0.034	< 0.068
CS-B20	DOF	CS-B20	12.0	Saturated	8/17/2007	< 6.8	16	27	**0.031**	< 0.017	0.017	0.037
CS-B22	DOF	CS-B22	11.5	Saturated	8/21/2007	< 6.5	< 13	< 9.0	< 0.022	< 0.022	< 0.022	< 0.045
CS-B24	DOF	CS-B24	12.0	Saturated	8/22/2007	110	20	**50**	< 0.026	0.051	< 0.026	< 0.052
CS-B25	DOF	CS-B25	12.5	Saturated	8/22/2007	**550**	41	**95**	< 0.025	< 0.025	**0.10**	0.76
CS-B26	DOF	CS-B26	12.5	Saturated	8/22/2007	170	29	**70**	< 0.024	< 0.024	< 0.024	< 0.048
CS-B27	DOF	CS-B27	12.0	Saturated	8/22/2007	**330**	39	**66**	< 0.025	< 0.025	< 0.025	0.49
CS-B30	DOF	CS-B30	13.0	Saturated	8/27/2007	< 6.8	< 14	10	< 0.023	< 0.023	< 0.023	< 0.046
CS-B31	DOF	CS-B31	9.0	Saturated	8/28/2007	< 7.6	22	< 12	< 0.029	< 0.029	< 0.029	0.066
CS-B32	DOF	CS-B32	10.0	Saturated	8/28/2007	< 7.5	15	< 13	< 0.032	< 0.032	< 0.032	< 0.064
CS-B33	DOF	CS-B33	10.0	Saturated	8/29/2007	< 7.2	< 14	< 11	< 0.028	< 0.028	< 0.028	0.07
CS-B34	DOF	CS-B34	10.0	Saturated	8/29/2007	< 5.3	11	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
CS-B35	DOF	CS-B35	15.0	Saturated	8/30/2007	< 6.5	< 13	15	**0.37**	< 0.025	**0.037**	0.16
CS-B36	DOF	CS-B36	14.0	Saturated	8/30/2007	< 6.3	< 13	< 8.4	< 0.021	< 0.021	< 0.021	< 0.042
CS-SW02	DOF	CS-SW02	7.5	Saturated	8/1/2007	6.9	13	8.7	< 0.019	< 0.019	< 0.019	< 0.038
CS-SW03	DOF	CS-SW03	6.0	Vadose	8/2/2007	11	< 12	10	< 0.018	< 0.018	< 0.018	< 0.035
CS-SW04	DOF	CS-SW04	8.5	Saturated	8/2/2007	< 6.7	< 13	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
CS-SW05	DOF	CS-SW05	8.0	Saturated	8/2/2007	< 5.8	< 12	< 7.2	< 0.018	< 0.018	< 0.018	< 0.036
CS-SW06	DOF	CS-SW06	7.5	Saturated	8/2/2007	72	260	< 17	< 0.043	< 0.043	< 0.043	< 0.086
CS-SW07	DOF	CS-SW07	9.5	Saturated	8/3/2007	**670**	120	**52**	< 0.032	< 0.032	< 0.032	< 0.064
CS-SW08R1	DOF	CS-SW08R1	8.0	Saturated	8/7/2007	25	68	**44**	< 0.015	< 0.015	**0.029**	< 0.030
CS-SW09	DOF	CS-SW09	8.0	Saturated	8/14/2007	< 6.6	15	< 9.6	< 0.024	< 0.024	< 0.024	< 0.048
CS-SW10	DOF	CS-SW10	8.0	Saturated	8/15/2007	< 5.4	< 11	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2007 Excavation												
CS-SW11	DOF	CS-SW11	8.5	Saturated	8/21/2007	21	64	< 11	< 0.027	< 0.027	< 0.027	< 0.054
CS-SW18	DOF	CS-SW18	9.0	Saturated	8/23/2007	**740**	46	**96**	< 0.029	< 0.029	**0.031**	0.39
CS-SW19	DOF	CS-SW19	9.0	Saturated	8/27/2007	< 6.3	15	< 8.2	< 0.020	< 0.020	< 0.020	< 0.041
CS-SW20	DOF	CS-SW20	7.5	Saturated	8/27/2007	12	30	< 6.5	< 0.016	< 0.016	< 0.016	< 0.032
CS-SW21	DOF	CS-SW21	6.0	Vadose	8/28/2007	16	15	20	< 0.023	< 0.023	< 0.023	< 0.045
CS-SW22	DOF	CS-SW22	7.0	Saturated	8/28/2007	< 5.8	< 12	< 7.2	< 0.018	< 0.018	< 0.018	< 0.036
CS-SW23	DOF	CS-SW23	8.0	Saturated	8/29/2007	< 6.1	< 12	< 7.7	< 0.019	< 0.019	< 0.019	< 0.039
CS-SW24	DOF	CS-SW24	8.0	Saturated	8/29/2007	< 5.6	< 11	< 6.4	< 0.016	< 0.016	< 0.016	< 0.032
CS-SW25	DOF	CS-SW25	9.0	Saturated	8/30/2007	< 5.6	< 11	< 6.8	< 0.017	< 0.017	< 0.017	< 0.034
CS-SW26	DOF	CS-SW26	9.0	Saturated	8/30/2007	44	< 14	**72**	**0.54**	**0.057**	**0.75**	**4.7**
CS-SW27	DOF	CS-SW27	9.0	Saturated	8/30/2007	33	< 14	**150**	**0.56**	**0.057**	**2.7**	**3.8**
CS-SW28	DOF	CS-SW28	8.0	Saturated	8/30/2007	< 5.3	< 11	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
PS-B01	DOF	PS-B01	7.5	Saturated	7/30/2007	6.7	< 12.0	< 7.8	< 0.039	< 0.039	< 0.039	< 0.078
PS-B06	DOF	PS-B06	14.0	Saturated	8/6/2007	120	19	12	< 0.024	< 0.024	< 0.024	< 0.048
PS-SW03	DOF	PS-SW03	6.5	Vadose	7/31/2007	< 6.5	< 13	< 9.6	< 0.024	< 0.024	< 0.024	< 0.048
Area 7: Former Automobile Service Stations												
P7-4	DOF	Probe 7-4	4 - 6	Vadose	7/25/2001	< 64	< 130	< 26	---	---	---	---
P7-4	DOF	Probe 7-4	6 - 8	Saturated	7/25/2001	< 76	< 150	< 140	---	---	---	---
P7-5	DOF	Probe 7-5	4 - 6	Vadose	7/25/2001	< 70	< 140	< 28	---	---	---	---
SS-1	DOF	SS-1	0.3-1.3	Vadose	10/29/2008	110	870	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
SS-2	DOF	SS-2	0.3-1.3	Vadose	10/29/2008	160	980	< 5.9	< 0.015	< 0.015	< 0.015	< 0.029
SS-3	DOF	SS-3	0.3-1.3	Vadose	10/29/2008	200	1,300	9	< 0.014	< 0.014	< 0.014	< 0.028
SS-4	DOF	SS-4	0.3-1.3	Vadose	10/29/2008	140	930	7.1	< 0.015	< 0.015	< 0.015	< 0.029
SS-5	DOF	SS-5	0.3-1.3	Vadose	10/29/2008	220	1,300	< 5.3	< 0.013	< 0.013	< 0.013	< 0.027
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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Farallon PN: 1071-026

Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
Area 11: Former South Maintenance Shop												
1996 UST Decommissioning												
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	---	---	< 23	< 23	< 46
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	---	---	< 21	< 21	< 42
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	---	---	< 23	< 23	< 46
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	---	---	**32**	**4** J	**30** J
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	---	---	< 24	< 24	< 48
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	---	---	< 25	< 25	< 50
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	---	---	< 23	**4** J	< 46
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	---	---	< 20	**51**	**135** J
2016 Subsurface Investigation												
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	< 34	< 68	< 8.8	< 0.0015	< 0.0074	< 0.0015	< 0.0045
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	< 32	< 63	< 6.6	< 0.0010	< 0.0050	< 0.0010	< 0.0030
Area 12: Former Old Humble Oil Service Station												
P-1	Terra	P-1@6-8 feet	6 - 8	Vadose	11/23/1998	< 37	< 75	---	---	---	---	---
	Terra	P-1@8-10 feet	8 - 10	Saturated	11/23/1998	< 33	< 67	---	---	---	---	---
P-2	Terra	P-2@6-8 feet	6 - 8	Vadose	11/23/1998	< 36	< 71	---	---	---	---	---
	Terra	P-2@8-10 feet	8 - 10	Saturated	11/23/1998	< 33	< 67	---	---	---	---	---
P-3	Terra	P-3@6-8 feet	6 - 8	Vadose	11/23/1998	< 38	< 76	---	---	---	---	---
	Terra	P-3@8-10 feet	8 - 10	Saturated	11/23/1998	< 34	< 68	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property												
1996 Subsurface Investigation												
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	ND < 50[5]	ND < 100[5]	ND < 20[5]	---	---	---	---
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	ND < 50[5]	ND < 100[5]	ND < 20[5]	---	---	---	---
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	ND < 50[5]	ND < 100[5]	ND < 20[5]	---	---	---	---
2007 Subsurface Investigation												
B01	SES	B01	2.0	Vadose	1/19/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
B02	SES	B02	3.0	Vadose	1/19/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
B03	SES	B03	0.3	Vadose	1/19/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-10	SES	TP-10	2.5	Vadose	1/11/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-11	SES	TP-11	3.5	Vadose	1/11/2007	**610**	< 250	**71**	< 0.020	0.10	0.13	0.49
	SES	TP-11	8.0	Saturated	1/11/2007	< 50	< 250	4	< 0.020	< 0.020	< 0.020	< 0.060
TP-12	SES	TP-12	2.5	Vadose	1/12/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-18	SES	TP-18	2.5	Vadose	1/12/2007	< 50	< 250	< 2	< 0.020	< 0.020	< 0.020	< 0.060
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	< 50	< 250	< 2	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
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Sample Location	Sampled By	Sample Identification	Sample Depth (feet)[1]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2007 Subsurface Investigation												
P02	SES	P02	9.0	Saturated	1/10/2007	< 50	< 250	< 2	---	---	---	---
P04	SES	P04	8.5	Saturated	1/10/2007	< 50	< 250	< 2	---	---	---	---
P05	SES	P05	10.0	Saturated	1/10/2007	< 50	< 250	< 2	---	---	---	---
P06	SES	P06	7.0	Vadose	1/11/2007	< 50	< 250	< 2	---	---	---	---
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	< 50	< 250	< 2	---	---	---	---
P08	SES	P08-6	6.0	Vadose	1/11/2007	< 50	< 250	< 2	---	---	---	---
	SES	P08-12	12.0	Saturated	1/11/2007	< 50	< 250	< 2	---	---	---	---
2007 - 2008 Site-Wide Surface Soil Excavation												
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	6/27/2008	< 5.6	< 11	< 6.5	< 0.016	< 0.016	< 0.016	< 0.032
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	Vadose	11/1/2007	< 7	15	< 10	< 0.026	< 0.026	< 0.026	< 0.053
PR-PV3	DOF	PR-PV3	0 - 0.5	Vadose	7/27/2007	56	270	< 6.9	< 0.017	< 0.017	< 0.017	0.040
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	Vadose	6/28/2008	< 6.0	< 12	< 7.9	< 0.020	< 0.020	< 0.020	< 0.039
PR-PV5	DOF	PR-PV5	0 - 0.5	Vadose	2/11/2008	11	54	---	---	---	---	---
PR-PV6	DOF	PR-PV6	0 - 0.5	Vadose	2/11/2008	< 6	24	---	---	---	---	---
R-SE10	DOF	R-SE10	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 5.9	< 0.015	< 0.015	< 0.015	< 0.030
R-SE11	DOF	R-SE11	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.2	< 0.016	< 0.016	< 0.016	< 0.031
R-SE12	DOF	R-SE12	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.2	< 0.016	< 0.016	< 0.016	< 0.031
R-SE13	DOF	R-SE13	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.8	< 0.017	< 0.017	< 0.017	< 0.034
R-SE14	DOF	R-SE14	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.4	< 0.016	< 0.016	< 0.016	< 0.032
R-SE15	DOF	R-SE15	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
R-SE16	DOF	R-SE16	0 - 0.5	Vadose	7/17/2008	< 20	< 50	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
PR-DP1	DOF	PR-DP1	0 - 0.5	Vadose	7/25/2007	**300**	1,600	< 13	< 0.032	< 0.032	< 0.032	< 0.064
PR-DP-2	DOF	PR-DP-2	0 - 0.5	Vadose	7/25/2007	**300**	1,600	**64**	< 0.032	0.049	0.049	< 0.064
PR-DP3	DOF	PR-DP3	0 - 0.5	Vadose	7/25/2007	72	890	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
PR-DP4	DOF	PR-DP4	0 - 0.5	Vadose	7/25/2007	100	980	< 6.9	< 0.017	< 0.017	< 0.017	< 0.034
Scrape-N2	DOF	Scrape-N2	0 - 0.5	Vadose	2/18/2008	< 5.7	19	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2008 Petroleum-Contaminated Soil Excavation - Northeastern Portion of Area 3												
R-PCS-1(R2)	DOF	R-PCS-1(R2)	3.5	Vadose	7/30/2008	---	---	< 9.4	< 0.024	< 0.024	< 0.024	< 0.047
R-PCS-2	DOF	R-PCS-2	6.0	Vadose	6/19/2008	< 6.5	< 13	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
R-PCS-3	DOF	R-PCS-3	3.0	Vadose	6/19/2008	9.4	15	< 11	< 0.028	< 0.028	< 0.028	< 0.057
R-PCS-4	DOF	R-PCS-4	6.0	Vadose	7/23/2008	---	---	< 8.4	< 0.021	< 0.021	0.29	< 0.042
R-PCS-6	DOF	R-PCS-6	mid-slope	Vadose	7/23/2008	---	---	14	< 0.027	< 0.027	< 0.027	< 0.054
R-PCS-7	DOF	R-PCS-7	3.0	Vadose	7/23/2008	---	---	**64**	**0.030** J	< 0.035	< 0.035	< 0.069
R-PCS-8	DOF	R-PCS-8	2.0	Vadose	7/23/2008	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.054
2008 UST Decommissioning												
NUST-NSW(R)	DOF	NUST-NSW(R)	9.0	Saturated	7/10/2008	---	---	< 9.9	< 0.025	< 0.025	< 0.025	< 0.050
NUST-ESW	DOF	NUST-ESW	9.0	Saturated	7/2/2008	---	---	< 11	< 0.028	< 0.028	< 0.028	< 0.057
SUST-ESW	DOF	SUST-ESW	9.0	Saturated	7/2/2008	---	---	< 11	< 0.028	< 0.028	< 0.028	< 0.056
SUST-SSW	DOF	SUST-SSW	8.0	Saturated	7/10/2008	---	---	20	< 0.029	< 0.029	< 0.029	0.044
UST-PI	DOF	UST-PI	4.0	Vadose	7/11/2008	---	---	< 5.7	< 0.014	< 0.014	< 0.014	< 0.028
NUST-WSW	DOF	NUST-WSW	8.0	Saturated	7/11/2008	---	---	< 5.8	< 0.015	< 0.015	< 0.015	< 0.029
SUST-WSW	DOF	SUST-WSW	8.0	Saturated	7/11/2008	---	---	< 5.6	< 0.014	< 0.014	< 0.014	< 0.028
NUST-B1	DOF	NUST-B1	14.0	Saturated	7/2/2008	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.053
SUST-B3	DOF	SUST-B3	14.0	Saturated	7/10/2008	---	---	12	< 0.022	< 0.022	< 0.022	< 0.044
2008 Hoist Excavations												
R-EHOIST	DOF	R-EHOIST-SW	3.0	Vadose	6/25/2008	< 7.7	25	---	---	---	---	---
	DOF	R-EHOIST-BOT	8.0	Saturated	6/25/2008	< 6.2	< 12	---	---	---	---	---
R-WHOIST	DOF	R-WHOIST-SW	3.0	Vadose	6/25/2008	< 7.2	33	---	---	---	---	---
	DOF	R-WHOIST-BOT	8.0	Saturated	6/25/2008	< 6.1	< 12	---	---	---	---	---
2008 Storm Drain Investigation												
TP-SD-1	DOF	TP-SD-1	2.0	Vadose	7/24/2008	< 20	< 50	< 10	< 0.026	< 0.026	< 0.026	< 0.052
TP-SD-2	DOF	TP-SD-2	2.0	Vadose	7/24/2008	< 20	< 50	< 11	< 0.026	< 0.026	< 0.026	< 0.053
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2008 Former Parts Shop Investigation												
TP-P08	DOF	TP-P08-1	1.0	Vadose	7/24/2008	< 20	< 50	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
	DOF	TP-P08-8	8.0	Saturated	7/24/2008	< 20	< 50	< 10	< 0.025	< 0.025	< 0.025	< 0.051
	DOF	TP-P08-12	12.0	Saturated	7/24/2008	< 20	< 50	< 9.9	< 0.025	< 0.025	< 0.025	< 0.050
TP-P08A	DOF	TP-P08A-1	1.0	Vadose	7/24/2008	< 20	< 50	< 8.2	< 0.020	< 0.020	< 0.020	< 0.041
	DOF	TP-P08A-8	8.0	Saturated	7/24/2008	< 20	< 50	< 8.6	< 0.022	< 0.022	< 0.022	< 0.043
2008 Former Waste Oil Aboveground Storage Tank Investigation												
TP-WO-1	DOF	TP-WO-1	1.0	Vadose	7/24/2008	< 20	< 50	< 7.3	< 0.018	< 0.018	< 0.018	< 0.037
2008 Former UST Investigation												
TP-P01	DOF	TP-P01-SW	6.0	Vadose	7/24/2008	< 20	< 50	< 9.2	< 0.023	< 0.023	< 0.023	< 0.046
	DOF	TP-P01-B	12.0	Saturated	7/24/2008	< 20	< 50	< 8.8	< 0.022	< 0.022	< 0.022	< 0.044
TP-P04-1	DOF	TP-P04-1	3.0	Vadose	7/24/2008	< 20	< 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	Vadose	7/24/2008	< 20	< 50	< 10	< 0.025	< 0.025	< 0.025	< 0.050
2008 Investigation - Northeastern Portion of Area 3												
Scrape-N6	DOF	Scrape-N6	3.0	Vadose	2/21/2008	< 10	46	---	---	---	---	---
Scrape-N7	DOF	Scrape-N7	3.0	Vadose	2/21/2008	50	< 14	**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	Saturated	8/31/2009	---	---	< 12	< 0.030	< 0.030	< 0.030	< 0.060
	DOF	UNI-P1-14	14.0	Saturated	8/31/2009	---	---	< 11	< 0.027	< 0.027	< 0.027	< 0.055
	DOF	UNI-P1-19	19.0	Saturated	8/31/2009	---	---	< 8.7	< 0.022	< 0.022	< 0.022	< 0.044
P2	DOF	UNI-P2-9	9.0	Saturated	8/31/2009	---	---	< 12	< 0.031	< 0.031	< 0.031	< 0.062
	DOF	UNI-P2-14	14.0	Saturated	8/31/2009	---	---	< 9.3	< 0.023	< 0.023	< 0.023	< 0.046
	DOF	UNI-P2-19	19.0	Saturated	8/31/2009	---	---	< 8.9	< 0.022	< 0.022	< 0.022	< 0.044
P3	DOF	UNI-P3-9	9.0	Saturated	8/31/2009	---	---	< 13	< 0.034	< 0.034	< 0.034	< 0.067
	DOF	UNI-P3-14	14.0	Saturated	8/31/2009	---	---	< 8.8	< 0.022	< 0.022	< 0.022	< 0.044
	DOF	UNI-P3-19	19.0	Saturated	8/31/2009	---	---	< 8.9	< 0.022	< 0.022	< 0.022	< 0.044
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)						
						DRO[2]	ORO[2]	GRO[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Xylenes[4]
2009 Excavation Along Boundary Between Associated Grocer's Property and Area 3												
R-PCS-50	DOF	R-PCS-50	9.0	Saturated	5/20/2010	< 6.5	38	< 11	< 0.027	< 0.027	< 0.027	< 0.054
R-PCS-51	DOF	R-PCS-51	12.0	Saturated	5/20/2010	< 5.9	< 12	**75**	< 0.019	< 0.019	**0.12**	< 0.038
R-PCS-52	DOF	R-PCS-52 R	13.0	Saturated	5/24/2010	---	---	< 6.2	< 0.016	< 0.016	**0.028**	< 0.016
R-PCS-53	DOF	R-PCS-53	9.0	Saturated	5/20/2010	< 6.9	16	< 12	< 0.029	< 0.029	< 0.029	< 0.059
R-PCS-54	DOF	R-PCS-54	9.0	Saturated	5/20/2010	8.1	65	< 7.4	< 0.018	< 0.018	< 0.018	< 0.037
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**14**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**0.83**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.0088**	**0.92**	**0.26**	**16,000**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[6]						**260**	**2,000**	**30**	**0.00056**	**0.055**	**0.015**	**16,000**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< 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.
[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]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

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.
Geotech = Geotech Consultants, Inc.
Global = Global Environmental
GRO = TPH as gasoline-range organics
J = result is an estimate.
LDW = Lower Duwamish Waterway
N = Hydrocarbons in the oil range are impacting the diesel range result.
ND = not detected exceeding the laboratory reporting limit
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
SW = southwestern
Terra = Terra Associates, Inc.
UST = underground storage tank

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]																				
						Non-Carcinogenic PAHs												Carcinogenic PAHs								
						Naphthalene[3]	1-Methylnaphthalene	2-Methylnaphthalene	Total Naphthalenes[4]	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[5,6]	Total LPAHs	Total HPAHs
Area 2: Perishables Warehouse																										
F-1	Farallon	F-1-5.7	5.7	Vadose	10/20/2016	**2.0**	9.5	**9.1**	**20.6**	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
Area 4: Former Fueling Area																										
F-9	Farallon	F-9-8.0	8.0	Saturated	10/26/2016	< 0.0096	< 0.0096	< 0.0096	< 0.0288	< 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
Area 5: Former Trailer Maintenance Shop																										
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 0.0011	< 0.0084	< 0.0084	< 0.0179	< 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	Vadose	10/17/2016	< 0.0081	---	---	< 0.0081	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 0.0011	---	---	< 0.0011	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 0.056	---	---	< 0.056	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 11: Former South Maintenance Shop																										
F-20	Farallon	F-20-7.0	7.0	Vadose	10/18/2016	< 0.0015	< 0.0091	< 0.0091	< 0.0197	< 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	Vadose	10/19/2016	< 0.0010	---	---	< 0.0010	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property																										
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	6/27/2008	< 0.060	< 0.060	< 0.060	< 0.18	< 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	Vadose	11/1/2007	< 0.06	< 0.06	< 0.06	< 0.18	< 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	Vadose	7/27/2007	< 0.06	< 0.06	< 0.06	< 0.18	< 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	Vadose	6/28/2008	< 0.056	< 0.056	< 0.056	< 0.17	< 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	Vadose	2/11/2008	< 0.07	< 0.07	< 0.07	< 0.21	< 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	Vadose	7/17/2008	< 0.05	< 0.05	< 0.05	< 0.15	< 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	Vadose	7/17/2008	< 0.05	< 0.05	< 0.05	< 0.15	< 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	Vadose	2/18/2008	< 0.064	< 0.064	< 0.064	< 0.192	< 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
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[7]						**0.039**	**29**	**0.67**	---	**0.50**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**0.0011**	**0.0039**	**0.039**	**0.13**	**0.00057**	**0.011**	**0.00031**	**5.2**	**12**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[7]						**0.0021**	**29**	**0.67**	---	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**0.000057**	**0.00020**	**0.0020**	**0.0064**	**0.000029**	**0.00056**	**0.000016**	**5.2**	**12**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[7]						**0.039**	**29**	**0.67**	---	**0.50**	**1.3**	**0.96**	**0.67**	**1.7**	**0.54**	**1.5**	**2.6**	**0.00031**	**0.0011**	**0.0039**	**0.039**	**0.13**	**0.00057**	**0.011**	**0.00031**	**5.2**	**12**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[7]						**0.0021**	**29**	**0.67**	---	**0.028**	**1.3**	**0.051**	**0.67**	**0.09**	**0.029**	**1.5**	**0.14**	**0.000016**	**0.000057**	**0.00020**	**0.0020**	**0.0064**	**0.000029**	**0.00056**	**0.000016**	**5.2**	**12**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

< 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 or 8270D/SIM, unless otherwise noted.

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

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

[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]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons

DOF = Dalton, Olmsted & Fuglevand, Inc.

Farallon = Farallon Consulting, L.L.C.

HPAH = high molecular weight polycyclic aromatic hydrocarbons

LDW = Lower Duwamish Waterway

LPAH = low molecular weight polycyclic aromatic hydrocarbons

NA = not applicable

NE = not established

PAHs = polycyclic aromatic hydrocarbons

PCUL = preliminary cleanup level

TEC = toxic equivalent concentration

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]																							
						1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane	1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone (MEK)	2-Chloroethyl Vinyl Ether	2-Chlorotoluene	2-Hexanone
Area 5: Former Trailer Maintenance Shop																													
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0069	< 0.0055	< 0.0011	< 0.0055
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	0.017	< 0.0081	< 0.0016	< 0.0081
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0069	< 0.0055	< 0.0011	< 0.0055
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 0.00093	< 0.00093	< 0.056	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.056	< 0.056	< 0.056	< 0.056	< 0.28	< 0.00093	< 0.056	< 0.00093	< 0.00093	< 0.056	< 0.056	< 0.00093	< 0.056	< 0.00093	0.038 Y	< 0.0046	< 0.056	< 0.0046
Area 11: Former South Maintenance Shop																													
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	< 23	---	---	< 23	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	360	---	---	< 21	---	---	< 21	< 21	---	< 21	---	< 21	---	---	---
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	< 23	---	---	< 23	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	21 J	---	---	< 23	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	< 24	---	---	< 24	---	---	< 24	< 24	---	< 24	---	< 24	---	---	---
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	< 25	---	---	< 25	---	---	< 25	< 25	---	< 25	---	< 25	---	---	---
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	14 J	---	---	**65**	---	---	<23	6 J	---	**5** J	---	120	---	---	---
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	**1,600**	---	---	**91**	---	---	410	< 20	---	**6** J	---	< 20	---	---	---
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.058 Y	< 0.0074	< 0.0015	< 0.0074
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.0010	< 0.0050
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**38**	**1.5**	**0.0012**	**0.0050**	**0.041**	**NE**	**NA**	**20**	**0.033**	**0.0014**	**800**	**1.3**	**0.00027**	**0.036**	**0.023**	**0.016**	**800**	**NA**	**NA**	**0.11**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**38**	**0.084**	**0.000080**	**0.00033**	**0.0026**	**NE**	**NA**	**20**	**0.033**	**0.000072**	**800**	**1.3**	**0.000018**	**0.0031**	**0.0016**	**0.0010**	**800**	**NA**	**NA**	**0.0081**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**38**	**371**	**0.0017**	**0.0050**	**175**	**NE**	**NA**	**20**	**0.033**	**0.0014**	**800**	**1.3**	**0.50**	**0.036**	**0.35**	**0.016**	**800**	**NA**	**NA**	**0.11**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**38**	**21**	**0.00011**	**0.00033**	**175**	**NE**	**NA**	**20**	**0.033**	**0.000072**	**800**	**1.3**	**0.50**	**0.0031**	**0.024**	**0.0010**	**800**	**NA**	**NA**	**0.0081**	**NA**	**48,000**	**NA**	**1,600**	**400**
Area 13: Former Northwest Auto Wrecking Property																													
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34	---	---	---	< 0.34	---	< 0.34	---	---	---	---	---
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.34	---	---	---	< 0.34	---	< 0.34	---	---	---	---	---
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.33	---	---	---	< 0.33	---	< 0.33	---	---	---	---	---
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P02	SES	P02	9.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P04	SES	P04	8.5	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P05	SES	P05	10.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P06	SES	P06	7.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P08	SES	P08-6	6.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SES	P08-12	12.0	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**38**	**1.5**	**0.0012**	**0.0050**	**0.041**	**NE**	**NA**	**20**	**0.033**	**0.0014**	**800**	**1.3**	**0.00027**	**0.036**	**0.023**	**0.016**	**800**	**NA**	**NA**	**0.11**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**38**	**0.084**	**0.000080**	**0.00033**	**0.0026**	**NE**	**NA**	**20**	**0.033**	**0.000072**	**800**	**1.3**	**0.000018**	**0.0031**	**0.0016**	**0.0010**	**800**	**NA**	**NA**	**0.0081**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**38**	**371**	**0.0017**	**0.0050**	**175**	**NE**	**NA**	**20**	**0.033**	**0.0014**	**800**	**1.3**	**0.50**	**0.036**	**0.35**	**0.016**	**800**	**NA**	**NA**	**0.11**	**NA**	**48,000**	**NA**	**1,600**	**400**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**38**	**21**	**0.00011**	**0.00033**	**175**	**NE**	**NA**	**20**	**0.033**	**0.000072**	**800**	**1.3**	**0.50**	**0.0031**	**0.024**	**0.0010**	**800**	**NA**	**NA**	**0.0081**	**NA**	**48,000**	**NA**	**1,600**	**400**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< 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]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

B = analyte detected in associated method blank; result raised to reporting limit as a non-detected value
Geotech = Geotech Consultants, Inc.
Global = Global Environmental
J = result is an estimate
LDW = Lower Duwamish Waterway
MEK = methyl ethyl ketone
NE = not established
PCE = tetrachloroethene
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
VOCs = volatile organic compounds
Y = calibration verification for this analyte exceeded the limit and value is an estimate

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]																								
						2-Pentanone	4-Chlorotoluene	4-Methyl-2-Pentanone (MIBK)	Acetone	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Ethyl Bromide	Freon 113	Hexachlorobutadiene	Iodomethane	Isopropylbenzene	Methyl tertiary butyl ether (MTBE)
Area 5: Former Trailer Maintenance Shop																														
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	---	< 0.0011	< 0.0055	< 0.017	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	< 0.0055	< 0.0055	< 0.0011	< 0.0011
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	---	< 0.0016	< 0.0081	0.05	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0081	< 0.0016	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	---	---	< 0.0081	< 0.0081	< 0.0016	< 0.0016
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	---	< 0.0011	< 0.0055	< 0.017	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0055	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	---	< 0.0055	< 0.0055	< 0.0011	< 0.0011
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	---	< 0.056	< 0.0046	0.1 Y	< 0.056	< 0.00093	< 0.00093	< 0.00093	< 0.00093	0.0015	< 0.00093	< 0.00093	< 0.0046	< 0.00093	< 0.0046	< 0.00093	< 0.00093	< 0.00093	< 0.00093	---	---	< 0.28	< 0.0046	< 0.00093	< 0.00093
Area 11: Former South Maintenance Shop																														
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 21	---	---	---	---	---	---	---	---	---	---
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 24	---	---	---	---	---	---	---	---	---	---
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	**6** J	---	---	---	---	---	---	---	---	---	---
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 23	---	---	---	---	---	---	---	---	---	---
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 20	---	---	---	---	---	---	---	---	---	---
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	---	< 0.0015	< 0.0074	0.13 Y	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	0.002	< 0.0015	< 0.0015	< 0.0074	< 0.0015	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	---	---	< 0.0074	< 0.0074	< 0.0015	< 0.0015
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	---	< 0.0010	< 0.0050	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	---	< 0.0050	< 0.0050	< 0.0010	< 0.0010
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**NA**	**NA**	**6,400**	**29**	**640**	**NA**	**NE**	**0.078**	**0.050**	**5.0**	**0.0029**	**0.86**	**NA**	**0.074**	**NA**	**0.0023**	**0.012**	**800**	**16,000**	**NA**	**NA**	**0.011**	**NE**	**8,000**	**0.10**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**NA**	**NA**	**6,400**	**2.1**	**640**	**NA**	**NE**	**0.0050**	**0.0033**	**0.27**	**0.00015**	**0.051**	**NA**	**0.0048**	**NA**	**0.00014**	**0.00077**	**800**	**16,000**	**NA**	**NA**	**0.00054**	**NE**	**8,000**	**0.0072**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**640**	**NA**	**NE**	**0.078**	**1.2**	**8,000**	**0.0029**	**1.7**	**NA**	**0.81**	**NA**	**0.010**	**0.012**	**800**	**16,000**	**NA**	**NA**	**0.011**	**NE**	**8,000**	**556**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**640**	**NA**	**NE**	**0.0050**	**0.079**	**8,000**	**0.00015**	**0.10**	**NA**	**0.052**	**NA**	**0.00063**	**0.00077**	**800**	**16,000**	**NA**	**NA**	**0.00054**	**NE**	**8,000**	**556**
Area 13: Former Northwest Auto Wrecking Property																														
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34 B	---	---	---	---	---	---	---	---	---	---
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34 B	---	---	---	---	---	---	---	---	---	---
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	---	---	< 0.33 B	---	---	---	---	---	---	---	---	---	---
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P02	SES	P02	9.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P04	SES	P04	8.5	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P05	SES	P05	10.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P06	SES	P06	7.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P08	SES	P08-6	6.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	SES	P08-12	12.0	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**NA**	**NA**	**6,400**	**29**	**640**	**NA**	**NE**	**0.078**	**0.050**	**5.0**	**0.0029**	**0.86**	**NA**	**0.074**	**NA**	**0.0023**	**0.012**	**800**	**16,000**	**NA**	**NA**	**0.011**	**NE**	**8,000**	**0.10**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**NA**	**NA**	**6,400**	**2.1**	**640**	**NA**	**NE**	**0.0050**	**0.0033**	**0.27**	**0.00015**	**0.051**	**NA**	**0.0048**	**NA**	**0.00014**	**0.00077**	**800**	**16,000**	**NA**	**NA**	**0.00054**	**NE**	**8,000**	**0.0072**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**640**	**NA**	**NE**	**0.078**	**1.2**	**8,000**	**0.0029**	**1.7**	**NA**	**0.81**	**NA**	**0.010**	**0.012**	**800**	**16,000**	**NA**	**NA**	**0.011**	**NE**	**8,000**	**556**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**NA**	**NA**	**6,400**	**72,000**	**640**	**NA**	**NE**	**0.0050**	**0.079**	**8,000**	**0.00015**	**0.10**	**NA**	**0.052**	**NA**	**0.00063**	**0.00077**	**800**	**16,000**	**NA**	**NA**	**0.00054**	**NE**	**8,000**	**556**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< 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]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revis

B = analyte detected in associated method blank; result raised to reporting limit as a non-detected value
Geotech = Geotech Consultants, Inc.
Global = Global Environmental
J = result is an estimate
LDW = Lower Duwamish Waterway
MEK = methyl ethyl ketone
NE = not established
PCE = tetrachloroethene
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
VOCs = volatile organic compounds
Y = calibration verification for this analyte exceeded the limit and value is an estimate

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]															
						Methylene Chloride	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	Styrene	tert-Butylbenzene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichlorofluoromethane	Vinyl Acetate	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Area 5: Former Trailer Maintenance Shop																					
F-11	Farallon	F-11-8.0	8.0	Saturated	10/18/2016	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	< 0.0011	< 0.0055	0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
F-12	Farallon	F-12-6.7	6.7	Vadose	10/17/2016	< 0.0081	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	---	< 0.0016	< 0.0081	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016
F-13	Farallon	F-13-2.5	2.5	Vadose	10/18/2016	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011	---	< 0.0011	< 0.0055	< 0.0011	< 0.0011	< 0.0011	< 0.0011	< 0.0011
F-14	Farallon	F-14-6.0	6.0	Vadose	10/18/2016	< 0.0046	< 0.056	< 0.056	< 0.056	< 0.056	< 0.056	< 0.00093	< 0.056	< 0.00093	---	< 0.00093	< 0.0046	< 0.00093	< 0.00093	< 0.00093	< 0.00093	< 0.00093
Area 11: Former South Maintenance Shop																					
B-1	Global	B-1@4.5'	4.5	Vadose	April 1996	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---	---	---	---	---	---	---
	Global	B-1@9'	9.0	Saturated	April 1996	---	---	390	310	---	< 21	---	< 21	---	---	---	---	---	---	---	---	---
B-2	Global	B-2@4.5'	4.5	Vadose	April 1996	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---	---	---	---	---	---	---
	Global	B-2@6'	6.0	Vadose	April 1996	---	---	< 23	< 23	---	< 23	---	< 23	---	---	---	---	---	---	---	---	---
	Global	B-2@15'	15.0	Saturated	April 1996	---	---	< 24	< 24	---	< 24	---	< 24	---	---	---	---	---	---	---	---	---
B-3	Global	B-3@4.5'	4.5	Vadose	April 1996	---	---	< 25	< 25	---	< 25	---	< 25	---	---	---	---	---	---	---	---	---
	Global	B-3@7.5'	7.5	Saturated	April 1996	---	---	120	620	---	350	---	36	---	---	---	---	---	---	---	---	---
	Global	B-3@10'	10.0	Saturated	April 1996	---	---	< 20	1,000	---	230	---	25	---	---	---	---	---	---	---	---	---
F-20	Farallon	F-20-7.0	7.0	Saturated	10/18/2016	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	---	< 0.0015	< 0.0074	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015
F-22	Farallon	F-22-7.0	7.0	Saturated	10/19/2016	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	---	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**0.021**	**0.039**	**4,000**	**8,000**	**NA**	**8,000**	**2.2**	**8,000**	**0.0023**	**NA**	**24,000**	**33**	**0.029**	**0.0044**	**0.078**	**0.52**	**0.0010**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**0.0015**	**0.0021**	**4,000**	**8,000**	**NA**	**8,000**	**0.12**	**8,000**	**0.00014**	**NA**	**24,000**	**2.3**	**0.0016**	**0.00027**	**0.0052**	**0.032**	**0.000055**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**0.43**	**0.039**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.010**	**NA**	**24,000**	**80,000**	**0.029**	**0.0044**	**160**	**5.2**	**0.0010**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**0.030**	**0.0021**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.00063**	**NA**	**24,000**	**80,000**	**0.0016**	**0.00027**	**160**	**0.32**	**0.000055**
Area 13: Former Northwest Auto Wrecking Property																					
B-1	Geotech	96068-B1-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34	< 0.34	< 0.34	---	< 0.34
B-2	Geotech	96068-B2-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	< 0.34	< 0.34	< 0.34	---	< 0.34
B-4	Geotech	96068-B4-2	6.0	Vadose	3/4/1996	---	---	---	---	---	---	---	---	---	---	---	---	< 0.33	< 0.33	< 0.33	---	< 0.33
TP-21	SES	TP-21	6.5	Vadose	1/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P02	SES	P02	9.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P04	SES	P04	8.5	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P05	SES	P05	10.0	Saturated	1/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P06	SES	P06	7.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P07	SES	P07-8.5	8.5	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
P08	SES	P08-6	6.0	Vadose	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
	SES	P08-12	12.0	Saturated	1/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	< 0.05	< 0.05	< 0.05	---	< 0.05
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**0.021**	**0.039**	**4,000**	**8,000**	**NA**	**8,000**	**2.2**	**8,000**	**0.0023**	**NA**	**24,000**	**33**	**0.029**	**0.0044**	**0.078**	**0.52**	**0.0010**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**0.0015**	**0.0021**	**4,000**	**8,000**	**NA**	**8,000**	**0.12**	**8,000**	**0.00014**	**NA**	**24,000**	**2.3**	**0.0016**	**0.00027**	**0.0052**	**0.032**	**0.000055**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**0.43**	**0.039**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.010**	**NA**	**24,000**	**80,000**	**0.029**	**0.0044**	**160**	**5.2**	**0.0010**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**0.030**	**0.0021**	**4,000**	**8,000**	**NA**	**8,000**	**300**	**8,000**	**0.00063**	**NA**	**24,000**	**80,000**	**0.0016**	**0.00027**	**160**	**0.32**	**0.000055**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< 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]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revis

B = analyte detected in associated method blank; result raised to reporting limit as a non-detected value
Geotech = Geotech Consultants, Inc.
Global = Global Environmental
J = result is an estimate
LDW = Lower Duwamish Waterway
MEK = methyl ethyl ketone
NE = not established
PCE = tetrachloroethene
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.
VOCs = volatile organic compounds
Y = calibration verification for this analyte exceeded the limit and value is an estimate

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]							
						Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
Area 6: Former Truck Repair Shop													
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	Vadose	2/2007	---	---	---	---	---	---	---	< 0.055
Area 13: Former Northwest Auto Wrecking Property													
2007 - 2008 Site-Wide Surface Soil Excavation													
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	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	Vadose	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	Vadose	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	Vadose	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	Vadose	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	Vadose	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	Vadose	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	Vadose	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	Vadose	7/24/2008	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 3.5
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]													**0.000043**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]													**0.0000022**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]													**0.000043**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]													**0.0000022**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

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

[1]Depth in feet below ground surface.

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

[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

DOF = Dalton, Olmsted & Fuglevand, Inc.

LDW = Lower Duwamish Waterway

PCB = polychlorinated biphenyl

PCUL = preliminary cleanup level

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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]									
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
Area 2: Perishables Warehouse															
F-1	Farallon	F-1-5.7	5.7	Vadose	10/20/2016	---	---	---	---	---	< 5.7	---	---	---	---
Area 4: Former Fueling Area															
F-9	Farallon	F-9-8.0	8.0	Saturated	10/26/2016	---	---	---	---	---	< 7.2	---	---	---	---
Area 6: Former Truck Repair Shop															
P-DOF-6-WO	DOF	P-DOF-6.WO	4.0	Vadose	2/2007	2.58	**37.6**	< 0.55	10.3	---	1.96	< 0.11	< 0.55	< 0.55	---
Area 7: Former Automobile Service Stations															
SS-1	DOF	SS-1	0.3 - 1.3	Vadose	10/29/2008	6	---	0.2	---	---	13	---	---	---	---
SS-2	DOF	SS-2	0.3 - 1.3	Vadose	10/29/2008	5	---	0.3	---	---	15	---	---	---	---
SS-3	DOF	SS-3	0.3 - 1.3	Vadose	10/29/2008	< 5	---	0.3	---	---	7	---	---	---	---
SS-4	DOF	SS-4	0.3 - 1.3	Vadose	10/29/2008	< 5	---	0.3	---	---	11	---	---	---	---
SS-5	DOF	SS-5	0.3 - 1.3	Vadose	10/29/2008	< 5	---	0.2	---	---	4	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property															
TP06	SES	TP-06	0.5	Vadose	1/11/2007	**12.4**	**54.9**	< 1	10.7	---	27.3	< 0.2	< 1	< 1	59.2
TP19	SES	TP-19	0.5	Vadose	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	Vadose	6/24/2008	---	---	---	13.5	16.5	3.0	---	---	---	---
PR-C2(R)	DOF	PR-C2(R)	0 - 0.5	Vadose	6/24/2008	---	---	---	13.5	12.4	3.0	---	---	---	---
PR-C3(R)	DOF	PR-C3(R)	0 - 0.5	Vadose	6/25/2008	---	---	---	10.2	11.9	10.0	---	---	---	---
PR-C4(R)	DOF	PR-C4(R)	0 - 0.5	Vadose	6/26/2008	---	---	---	13.6	**54.6**	18.0	---	---	---	---
PR-PV1(R)	DOF	PR-PV1(R)	0 - 0.5	Vadose	6/27/2008	**14**	---	< 0.2	12.7	17.4	12.0	---	---	---	---
PR-PV2(R)	DOF	PR-PV2(R)	0 - 0.5	Vadose	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	Vadose	7/27/2007	5	---	0.7	10.6	23.2	13	---	---	---	**183**
PR-PV4(R)	DOF	PR-PV4(R)	0 - 0.5	Vadose	6/28/2008	< 6	---	< 0.2	16.1	20.3	3.0	---	---	---	---
PR-PV5	DOF	PR-PV5	0 - 0.5	Vadose	2/11/2008	**8**	---	0.3	16.9	**55.9**	**59**	---	---	---	**89**
PR-PV6	DOF	PR-PV6	0 - 0.5	Vadose	2/11/2008	**8**	---	0.3	17.4	**37.2**	30	---	---	---	64
PR-SE1(R)	DOF	PR-SE1(R)	0 - 0.5	Vadose	6/12/2008	**9**	---	0.4	---	---	36	---	---	---	---
PR-SE2	DOF	PR-SE2	0 - 0.5	Vadose	7/25/2007	**8**	---	**1.4**	---	---	**150**	---	---	---	---
PR-SE3	DOF	PR-SE3	0 - 0.5	Vadose	7/25/2007	< 5	---	0.3	---	---	**88**	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.26**	**0.016**	**85**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.016**	**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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]									
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
PR-SE4	DOF	PR-SE4	0 - 0.5	Vadose	7/25/2007	7	---	0.5	---	---	**75**	---	---	---	---
PR-SE5	DOF	PR-SE5	0 - 0.5	Vadose	7/25/2007	7	---	0.3	---	---	**66**	---	---	---	---
PR-SE6(R)	DOF	PR-SE6(R)	0.5	Vadose	9/7/2007	5	---	< 0.2	---	---	12	---	---	---	---
PR-SE7	DOF	PR-SE7	0 - 0.5	Vadose	7/25/2007	**8**	---	0.4	---	---	47	---	---	---	---
PR-SE8	DOF	PR-SE8	0 - 0.5	Vadose	7/25/2007	**8**	---	0.4	12.6	16.7	**51**	---	---	---	52
PR-SE9(R)	DOF	PR-SE9(R)	0.5	Vadose	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	Vadose	7/25/2007	6	---	0.3	---	---	**187**	---	---	---	---
PR-SE11(R)	DOF	PR-SE11(R)	0.5	Vadose	9/7/2007	**9**	---	< 0.2	---	---	16	---	---	---	---
PR-SE12(R)	DOF	PR-SE12(R)	0.5	Vadose	9/7/2007	5	---	< 0.2	---	---	13	---	---	---	---
PR-SE13	DOF	PR-SE13	0 - 0.5	Vadose	7/26/2007	**12**	---	0.7	---	---	**220**	---	---	---	---
PR-SE14(R)	DOF	PR-SE14(R)	0 - 0.5	Vadose	7/10/2008	< 2.0	---	< 2.0	---	---	3.5	---	---	---	---
PR-SE15	DOF	PR-SE15	0 - 0.5	Vadose	7/26/2007	6	---	0.3	14.4	19	31	---	---	---	48
PR-SE16	DOF	PR-SE16	0 - 0.5	Vadose	7/25/2007	6	---	0.7	---	---	**67**	---	---	---	---
PR-SE17	DOF	PR-SE17	0 - 0.5	Vadose	7/25/2007	7	---	0.3	---	---	13	---	---	---	---
PR-SE18	DOF	PR-SE18	0 - 0.5	Vadose	7/25/2007	**11**	---	0.2	---	---	**150**	---	---	---	---
PR-SE19	DOF	PR-SE19	0 - 0.5	Vadose	7/25/2007	**8**	---	0.3	---	---	40	---	---	---	---
PR-SE20(R	DOF	PR-SE20(R	0 - 0.5	Vadose	10/23/2007	**9**	**35.1**	< 0.2	13	---	6	< 0.04	< 5.0	< 0.3	---
PR-SE21	DOF	PR-SE21	0 - 0.5	Vadose	7/25/2007	**8**	---	1.0	---	---	**89**	---	---	---	---
PR-SE22(R	DOF	PR-SE22(R	0 - 0.5	Vadose	9/7/2007	< 5.0	---	< 0.2	---	---	5	---	---	---	---
PR-SE23(R)	DOF	PR-SE23(R)	0 - 0.5	Vadose	7/10/2008	3.6	---	< 2.0	---	---	8.2	---	---	---	---
PR-SE24	DOF	PR-SE24	0 - 0.5	Vadose	7/24/2007	5	---	0.4	---	---	**151**	---	---	---	---
PR-SE25	DOF	PR-SE25	0 - 0.5	Vadose	7/26/2007	7	---	0.9	---	---	**120**	---	---	---	---
PR-SE26	DOF	PR-SE26	0 - 0.5	Vadose	7/25/2007	7	---	0.9	---	---	**167**	---	---	---	---
PR-SE27	DOF	PR-SE27	0 - 0.5	Vadose	7/25/2007	7	---	0.9	---	---	**113**	---	---	---	---
PR-SE28	DOF	PR-SE28	0 - 0.5	Vadose	7/25/2007	7	---	0.3	13.3	20.1	49	---	---	---	56
PR-SE29	DOF	PR-SE29	0 - 0.5	Vadose	7/25/2007	7	---	0.6	---	---	40	---	---	---	---
PR-SE30	DOF	PR-SE30	0 - 0.5	Vadose	7/25/2007	**9**	---	< 0.2	---	---	24	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.26**	**0.016**	**85**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.016**	**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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]									
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
PR-SE31	DOF	PR-SE31	0 - 0.5	Vadose	7/25/2007	< 5	---	0.3	8.8	11.2	**64**	---	---	---	40
PR-SE32	DOF	PR-SE32	0 - 0.5	Vadose	7/25/2007	< 5	---	0.3	---	---	26	---	---	---	---
PR-SE33(R)	DOF	PR-SE33(R)	0 - 0.5	Vadose	7/10/2008	3.0	---	< 2.0	---	---	11	---	---	---	---
PR-SE34(R)	DOF	PR-SE34(R)	0 - 0.5	Vadose	7/10/2008	4.3	---	< 2.0	---	---	48	---	---	---	---
PR-SE35(R)	DOF	PR-SE35(R)	0 - 0.5	Vadose	7/10/2008	4.8	---	< 2.0	---	---	14	---	---	---	---
PR-SE36(R)	DOF	PR-SE36(R)	0 - 0.5	Vadose	7/10/2008	5.9	---	< 2.0	---	---	**70**	---	---	---	---
PR-SE-37(R)	DOF	PR-SE-37(R)	0 - 0.5	Vadose	6/12/2008	< 5	---	0.2	---	---	5	---	---	---	---
R-SE1	DOF	R-SE1	0 - 0.5	Vadose	6/12/2008	7	---	0.5	---	---	19	---	---	---	---
R-SE2	DOF	R-SE2	0 - 0.5	Vadose	6/12/2008	6	---	< 0.2	---	---	9	---	---	---	---
R-SE3	DOF	R-SE3	0 - 0.5	Vadose	6/12/2008	< 5	---	0.3	---	---	3	---	---	---	---
R-SE4	DOF	R-SE4	0 - 0.5	Vadose	7/10/2008	3.3	---	< 2.0	---	---	2.6	---	---	---	---
R-SE5	DOF	R-SE5	0 - 0.5	Vadose	7/10/2008	4.9	---	< 2.0	---	---	8.4	---	---	---	---
R-SE6	DOF	R-SE6	0 - 0.5	Vadose	7/10/2008	3.4	---	< 2.0	---	---	5.3	---	---	---	---
R-SE7	DOF	R-SE7	0 - 0.5	Vadose	7/10/2008	2.5	---	< 2.0	---	---	3.6	---	---	---	---
R-SE8	DOF	R-SE8	0 - 0.5	Vadose	7/10/2008	3.3	---	< 2.0	---	---	7.4	---	---	---	---
R-SE9	DOF	R-SE9	0 - 0.5	Vadose	7/10/2008	4.9	---	< 2.0	---	---	22	---	---	---	---
R-SE10	DOF	R-SE10	0 - 0.5	Vadose	7/17/2008	2.9	---	< 2.0	---	---	24	---	---	---	---
R-SE11	DOF	R-SE11	0 - 0.5	Vadose	7/17/2008	5.3	---	**2.0**	---	---	**160**	---	---	---	---
R-SE12	DOF	R-SE12	0 - 0.5	Vadose	7/17/2008	4.7	---	< 2.0	---	---	16	---	---	---	---
R-SE13	DOF	R-SE13	0 - 0.5	Vadose	7/17/2008	< 2.0	---	< 2.0	---	---	4.2	---	---	---	---
R-SE14	DOF	R-SE14	0 - 0.5	Vadose	7/17/2008	6.2	---	< 2.0	---	---	**74**	---	---	---	---
R-SE15	DOF	R-SE15	0 - 0.5	Vadose	7/17/2008	4.1	---	< 2.0	---	---	30	---	---	---	---
R-SE16	DOF	R-SE16	0 - 0.5	Vadose	7/17/2008	**7.1**	---	< 2.0	---	---	33	---	---	---	---
PR-DP1	DOF	PR-DP1	0 - 0.5	Vadose	7/25/2007	**8**	---	0.5	29.6	30	**91**	---	---	---	**109**
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.26**	**0.016**	**85**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.016**	**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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]									
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
PR-DP-2	DOF	PR-DP-2	0 - 0.5	Vadose	7/25/2007	< 7	---	0.4	---	---	**83**	---	---	---	---
PR-DP3	DOF	PR-DP3	0 - 0.5	Vadose	7/25/2007	7	---	0.6	---	---	**162**	---	---	---	---
PR-DP4	DOF	PR-DP4	0 - 0.5	Vadose	7/25/2007	6	---	0.5	---	---	**144**	---	---	---	---
Scrape-N1	DOF	Scrape-N1	0 - 0.5	Vadose	2/18/2008	7	---	< 0.2	---	---	18	---	---	---	---
Scrape-N2	DOF	Scrape-N2	0 - 0.5	Vadose	2/18/2008	7	---	0.3	---	---	**51**	---	---	---	---
Scrape-N3	DOF	Scrape-N3	0 - 0.5	Vadose	2/18/2008	7	---	0.3	---	---	21	---	---	---	---
Scrape-N4	DOF	Scrape-N4	0 - 0.5	Vadose	2/20/2008	**8**	---	0.5	---	---	**78**	---	---	---	---
Scrape-N5	DOF	Scrape-N5	0 - 0.5	Vadose	2/20/2008	< 6	---	0.3	---	---	24	---	---	---	---
Scrape-N8	DOF	Scrape-N8	0 - 0.5	Vadose	2/21/2008	< 6.0	---	< 0.2	---	---	11	---	---	---	---
Underground Storage Tank (UST) Removal Excavation															
NUST-ESW	DOF	NUST-ESW	9.0	Saturated	7/2/2008	---	---	---	---	---	4.0	---	---	---	---
SUST-ESW	DOF	SUST-ESW	9.0	Saturated	7/2/2008	---	---	---	---	---	4.6	---	---	---	---
SUST-SSW	DOF	SUST-SSW	8.0	Saturated	7/10/2008	---	---	---	---	---	7.0	---	---	---	---
UST-PI	DOF	UST-PI	4.0	Vadose	7/11/2008	---	---	---	---	---	4.0	---	---	---	---
NUST-WSW	DOF	NUST-WSW	8.0	Saturated	7/11/2008	---	---	---	---	---	< 4.0	---	---	---	---
SUST-WSW	DOF	SUST-WSW	8.0	Saturated	7/11/2008	---	---	---	---	---	< 4.0	---	---	---	---
NUST-B1	DOF	NUST-B1	14.0	Saturated	7/2/2008	---	---	---	---	---	< 4.0	---	---	---	---
SUST-B3	DOF	SUST-B3	14.0	Saturated	7/10/2008	---	---	---	---	---	5.0	---	---	---	---
Storm Drains															
TP-SD-1	DOF	TP-SD-1	2.0	Vadose	7/24/2008	4.6	---	< 2.0	---	---	2.7	---	---	---	---
TP-SD-2	DOF	TP-SD-2	2.0	Vadose	7/24/2008	2.8	---	< 2.0	---	---	< 4.0	---	---	---	---
Former Parts Shop Test Pits															
TP-P08	DOF	TP-P08-1	1.0	Vadose	7/24/2008	2.3	---	< 2.0	---	---	3.6	---	---	---	---
	DOF	TP-P08-8	8.0	Saturated	7/24/2008	2.8	---	< 2.0	---	---	< 4.0	---	---	---	---
	DOF	TP-P08-12	12.0	Saturated	7/24/2008	5.9	---	< 2.0	---	---	< 4.0	---	---	---	---
TP-P08A	DOF	TP-P08A-1	1.0	Vadose	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---
	DOF	TP-P08A-8	8.0	Saturated	7/24/2008	3.2	---	< 2.0	---	---	< 4.0	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.26**	**0.016**	**85**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.016**	**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]	Zone	Sample Date	Analytical Results (milligrams per kilogram)[2]									
						Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Selenium	Silver	Zinc
Former Waste Oil Aboveground Storage Tank															
TP-WO-1	DOF	TP-WO-1	1.0	Vadose	7/24/2008	**8.6**	---	< 2.0	---	---	15	---	---	---	---
Former UST Sampling Locations															
TP-P01	DOF	TP-P01-SW	6.0	Vadose	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---
	DOF	TP-P01-B	12.0	Saturated	7/24/2008	< 2.0	---	< 2.0	---	---	< 4.0	---	---	---	---
TP-P04-1	DOF	TP-P04-1	3.0	Vadose	7/24/2008	**7.4**	---	< 2.0	---	---	4.6	---	---	---	---
Septic Drain field															
TP-SEPTIC-1	DOF	TP-SEPTIC-1	7.0	Vadose	7/24/2008	2.9	---	< 2.0	---	---	< 4.0	---	---	---	---
LDW Most-Stringent Soil PCUL: Vadose Zone, Potable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Potable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.26**	**0.016**	**85**
LDW Most-Stringent Soil PCUL: Vadose Zone, Nonpotable Groundwater[3]						**7.0**	**100**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.32**	**86**
LDW Most-Stringent Soil PCUL: Saturated Zone, Nonpotable Groundwater[3]						**7.0**	**8.3**	**1.0**	**48**	**36**	**50**	**0.07**	**0.30**	**0.016**	**85**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< 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.
[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
LDW = Lower Duwamish Waterway
PCUL = preliminary cleanup level
SES = SoundEarth Strategies, Inc.

Table 6
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]	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	< 250	---	---	---	---
P1-2	DOF	7/7/2001	Probe 1-2	< 250	< 500	< 250	---	---	---	---
P1-3	DOF	7/7/2001	Probe 1-3	< 250	< 500	< 250	---	---	---	---
P1-4	DOF	7/7/2001	Probe 1-4	< 250	< 500	< 250	---	---	---	---
P1-5	DOF	7/7/2001	Probe 1-5	< 250	< 500	< 250	---	---	---	---
Area 2: Perishables Warehouse										
Reconnaissance Boring Groundwater Samples										
P2-1	DOF	7/3/2001	Probe 2-1 (b)	**2,400**	< 500	**2,500**	**3.1**	< 1.0	26	19
F-1	Farallon	10/20/2016	F-1-GW	< 270	480	< 100	< 0.40	< 2.0	< 0.40	< 1.2
F-2	Farallon	10/20/2016	F-2-GW	**610**	**580**	< 100	< 1.0	< 1.0	< 1.0	< 2.0
Monitoring Well Groundwater Samples										
MW-101	DOF	8/12/2001	MW-101	< 250	< 500	< 100	< 1.0	< 1.0	< 1.0	< 1.0
	Farallon	10/19/2016	MW-101-101916	290	< 410	< 100	< 0.40	< 2.0	< 0.40	< 1.2
Area 3: Former Truck Wash										
Reconnaissance Boring Groundwater Samples										
P3-1	DOF	7/2/2001	Probe 3-1	< 250	< 500	< 250	---	---	---	---
P3-2	DOF	7/2/2001	Probe 3-2	< 250	< 500	< 250	---	---	---	---
Area 4: Former Fueling Area										
Reconnaissance Boring Groundwater Samples										
P4-1	DOF	7/3/2001	Probe 4-1	< 250	**8,600**	< 250	---	---	---	---
P10-3	DOF	7/7/2001	Probe 10-3	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P-DOF-3	DOF	2/27/2007	P-DOF-3	**619**	**649**	< 238	---	---	---	---
P-DOF-4	DOF	2/27/2007	P-DOF-4	**769**	**948**	< 240	---	---	---	---
F-5	Farallon	10/26/2016	F-5-GW	< 250	< 400	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-7	Farallon	10/26/2016	F-7-GW	**640**	490	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-8	Farallon	10/26/2016	F-8-GW	**1,200**	**710**	< 100	< 0.20	< 1.0	< 0.20	0.86
F-9	Farallon	10/26/2016	F-9-GW	**600**	440	< 100	< 1.0	< 1.0	< 1.0	1.0
F-10	Farallon	10/26/2016	F-10-GW	**810**	**1,100**	< 100	< 1.0	< 1.0	< 1.0	< 2.0
Monitoring Well Groundwater Samples										
MW-2	DOF	5/29/1998	MW-2	< 100	< 100	< 100	< 1	< 1	< 1	< 1
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**500**	**500**	**800**	**1.6**	**130**	**31**	**330**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**NA**	**NA**	**NA**	**1.6**	**130**	**31**	**330**

Table 6
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]	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	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-2	DOF	6/28/2001	Probe 5-2	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-3	DOF	6/28/2001	Probe 5-3	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-4	DOF	6/28/2001	Probe 5-4	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P5-5	DOF	7/2/2001	Probe 5-5	< 500	< 500	< 250	< 20	< 20	< 20	< 40
F-11	Farallon	10/18/2016	F-11-GW	< 260	< 420	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-12	Farallon	10/17/2016	F-12-GW	< 260	< 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	< 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	< 250	0.69	< 0.2	< 0.2	< 0.4
P6-5	DOF	6/29/2001	P6-5	< 250	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P6-6	DOF	7/2/2001	P6-6	< 500	< 500	< 250	---	---	---	---
P6-7	DOF	7/2/2001	P6-7	< 500	< 500	< 250	---	---	---	---
F-16	Farallon	10/17/2016	F-16-GW	< 260	< 410	< 100	< 1.0	< 1.0	< 1.0	< 2.0
F-17	Farallon	10/17/2016	F-17-GW	**850** M	< 420	**1,300**	**90**	< 4.0	**140**	20
F-18	Farallon	10/17/2016	F-18-GW	< 260	< 420	< 100	< 1.0	< 1.0	< 1.0	< 2.0
Monitoring Well Groundwater Samples										
MW-4	DOF	11/12/2009	MW-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-4-102116	< 260	< 410	< 400	< 0.20	< 1.0	< 0.20	< 0.60
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**500**	**500**	**800**	**1.6**	**130**	**31**	**330**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**NA**	**NA**	**NA**	**1.6**	**130**	**31**	**330**

Table 6
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]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
MW-203	DOF	1/8/2002	MW-203	< 250	< 500	< 100	< 1.0	< 1.0	< 1.0	< 1.0
	DOF	11/12/2009	MW-203	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-203	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-203	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-203	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-203-102116	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
MW-207	DOF	11/12/2009	MW-207	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-207	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-207	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-207	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-207-102116	< 260	< 410	< 100	< 0.20	< 1.0	< 0.20	< 0.60
MW-AG1	DOF	11/12/2009	MW-AG1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-AG1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-AG1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-AG1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/21/2016	MW-AG1-102116	< 260	< 420	< 400	< 0.20	< 1.0	< 0.20	< 0.60
MW-AG2	DOF	11/12/2009	MW-AG2	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/17/2010	MW-AG2	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	MW-AG2	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/1/2011	MW-AG2	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	Farallon	10/19/2016	MW-AG2-101916	< 250	< 410	< 100	< 0.20	< 1.0	< 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	700	**42**	3	**39**	102
P7-2	DOF	7/3/2001	Probe 7-2	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-3	DOF	7/7/2001	Probe 7-3	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-4	DOF	7/25/2001	Probe 7-4	< 500	< 500	< 250	< 0.2	< 0.2	< 0.2	< 0.4
P7-5	DOF	7/25/2001	Probe 7-5	< 500	< 500	< 250	< 0.2	0.49	< 0.2	< 0.4
P-DOF-2	DOF	2/27/2007	P-DOF-2	< 612	< 612	< 243	< 1.0	< 1.0	< 1.0	< 3.0
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**500**	**500**	**800**	**1.6**	**130**	**31**	**330**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**NA**	**NA**	**NA**	**1.6**	**130**	**31**	**330**

Table 6
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]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Monitoring Well Groundwater Samples										
DOF-1	DOF	11/12/2009	DOF-1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/4/2010	DOF-1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-1	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-1	< 100	< 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	< 100	< 0.20	< 1.0	< 0.20	< 0.60
Area 8: Returns Building										
Reconnaissance Boring Groundwater Samples										
P8-1	DOF	7/2/2001	Probe 8-1	< 500	< 500	< 250	---	---	---	---
P8-2	DOF	7/2/2001	Probe 8-2	< 500	< 500	< 250	---	---	---	---
P8-3	DOF	7/25/2001	Probe 8-3	< 500	< 500	< 250	---	---	---	---
Area 9: Former Employee Parking Lot										
Reconnaissance Boring Groundwater Samples										
P9-1	DOF	7/2/2001	Probe 9-1	< 500	< 500	< 250	---	---	---	---
P9-2	DOF	7/7/2001	Probe 9-2	< 500	< 500	< 250	---	---	---	---
Area 10: Up-Gradient Areas										
Reconnaissance Boring Groundwater Samples										
P10-2	DOF	7/3/2001	Probe 10-2	< 500	< 500	< 250	< 20.0	< 20.0	< 40.0	< 40.0
P10-4	DOF	7/7/2001	Probe 10-4	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
P10-5	DOF	7/7/2001	Probe 10-5	< 500	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**500**	**500**	**800**	**1.6**	**130**	**31**	**330**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**NA**	**NA**	**NA**	**1.6**	**130**	**31**	**330**

Table 6
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]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Area 11: Former South Maintenance Shop										
Reconnaissance Boring Groundwater Samples										
P-DOF-5	DOF	2/27/2007	P-DOF-5	< 606	< 606	< 240	< 1.0	< 1.0	< 1.0	< 3.0
F-20	Farallon	10/18/2016	F-20-GW	< 270	< 440	< 100	< 0.20	< 1.0	< 0.20	< 0.60
F-21	Farallon	10/19/2016	F-21-GW	< 270	< 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	150	< 0.20	< 1.0	< 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	< 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	< 250	**2.3**	< 1.0	8.6	17.1
NWAW-P1	DOF	10/27/2008	NWAW-P1	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P2	DOF	10/27/2008	NWAW-P2	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P3	DOF	10/27/2008	NWAW-P3	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P4	DOF	10/27/2008	NWAW-P4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P5	DOF	10/27/2008	NWAW-P5	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P6	DOF	10/27/2008	NWAW-P6	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	3.6
NWAW-P7	DOF	10/27/2008	NWAW-P7	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P8	DOF	10/27/2008	NWAW-P8	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P9	DOF	10/28/2008	NWAW-P9	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
	DOF	10/28/2008	NWAW-P9 (duplicate)	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P10	DOF	10/28/2008	NWAW-P10	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P11	DOF	10/28/2008	NWAW-P11	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P12	DOF	10/28/2008	NWAW-P12	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P13	DOF	10/28/2008	NWAW-P13	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P14	DOF	10/28/2008	NWAW-P14	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P15	DOF	10/28/2008	NWAW-P15	< 250	< 500	280	< 1.0	< 1.0	< 1.0	< 1.0
NWAW-P16	DOF	10/28/2008	NWAW-P16	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 1.0
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**500**	**500**	**800**	**1.6**	**130**	**31**	**330**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**NA**	**NA**	**NA**	**1.6**	**130**	**31**	**330**

Table 6
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]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
Monitoring Well Groundwater Samples										
DOF-2	DOF	11/12/2009	DOF-2	< 250	< 500	**1,200**	**5.9**	1.2	9.7	1.8
	DOF	3/18/2010	DOF-2	< 250	< 500	**850**	**3.3**	< 1.0	4.3	1.3
	DOF	10/5/2010	DOF-2	< 100	< 200	370	1.1	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-2	< 100	< 200	770	**3.2**	< 1.0	3.4	< 2.0
	DOF	3/23/2012	DOF-2	< 100	< 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**	180	0.27	< 1.0	0.31	< 0.60
DOF-3	DOF	11/12/2009	DOF-3	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-3	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-3	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-3	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-3	< 100	< 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	< 100	< 0.20	< 1.0	< 0.20	< 0.60
DOF-4	DOF	11/12/2009	DOF-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-4	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/3/2011	DOF-4	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-4	< 100	< 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	< 100	< 0.20	< 1.0	< 0.20	< 0.60
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**500**	**500**	**800**	**1.6**	**130**	**31**	**330**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**NA**	**NA**	**NA**	**1.6**	**130**	**31**	**330**

Table 6
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]	GRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Xylenes[3]
DOF-5	DOF	11/12/2009	DOF-5	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/18/2010	DOF-5	< 250	< 500	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	10/5/2010	DOF-5	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	1.2
	DOF	3/3/2011	DOF-5	< 100	< 200	< 250	< 1.0	< 1.0	< 1.0	< 2.0
	DOF	3/23/2012	DOF-5	< 100	< 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
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**500**	**500**	**800**	**1.6**	**130**	**31**	**330**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**NA**	**NA**	**NA**	**1.6**	**130**	**31**	**330**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< denotes analyte not detected at or exceeding the reporting limit listed.
— denotes sample not analyzed.
[1]Analyzed by Northwest Method NWTPH-Dx.
[2]Analyzed by Northwest Method NWTPH-Gx.
[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

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
LDW = Lower Duwamish Waterway
M = hydrocarbons in the gasoline-range are impacting the DRO result
NA = not applicable
ORO = TPH as oil-range organics
PCUL = preliminary cleanup level

Table 7
Groundwater Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-0266

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	< 0.0094	< 0.0071
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	< 0.012	< 0.0091
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	< 0.0095	< 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	< 0.0096	< 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	< 0.0095	< 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	< 0.0096	< 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	< 0.0095	< 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	< 0.019	< 0.014
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
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
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
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
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
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
LDW Most-Stringent Groundwater PCUL: Potable Water[5]				**1.4**	**1.5**	**32**	**---**	**5.3**	**NA**	**2.1**	**NA**	**1.8**	**3.7**	**NA**	**2.0**	**0.000016**	**0.00016**	**0.00016**	**0.0016**	**0.016**	**0.000016**	**0.00016**	**0.000016**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[5]				**1.4**	**NA**	**NA**	**---**	**5.3**	**NA**	**2.1**	**NA**	**1.8**	**3.7**	**NA**	**2.0**	**0.000016**	**0.00016**	**0.00016**	**0.0016**	**0.016**	**0.000016**	**0.00016**	**0.000016**

Table 7
Groundwater Analytical Results for PAHs
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-0266

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 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
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
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
LDW Most-Stringent Groundwater PCUL: Potable Water[5]				**1.4**	**1.5**	**32**	**---**	**5.3**	**NA**	**2.1**	**NA**	**1.8**	**3.7**	**NA**	**2.0**	**0.000016**	**0.00016**	**0.00016**	**0.0016**	**0.016**	**0.000016**	**0.00016**	**0.000016**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[5]				**1.4**	**NA**	**NA**	**---**	**5.3**	**NA**	**2.1**	**NA**	**1.8**	**3.7**	**NA**	**2.0**	**0.000016**	**0.00016**	**0.00016**	**0.0016**	**0.016**	**0.000016**	**0.00016**	**0.000016**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< denotes analyte not detected at or exceeding the reporting limit listed.
[1]Analyzed by U.S. Environmental Protection Agency Method 8270 or 8270D/SIM.
[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]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

cPAHs = carcinogenic polycyclic aromatic hydrocarbons
DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
LDW = Lower Duwamish Waterway
NA = not applicable
NE = not established
PAHs = polycyclic aromatic hydrocarbons
PCUL = preliminary cleanup level
TEC = toxic equivalent concentration

Table 8
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]																		
				1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichloropropane	Acetone	Carbon Disulfide	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Isopropylbenzene (Cumene)	Methyl Tertiary Butyl Ether	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Trichlorofluoromethane	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	< 10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 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	< 10	< 0.40	< 0.40	< 0.40	2.7	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 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	0.24	< 0.20	< 0.20	< 8.0	< 0.20	< 0.20	< 0.20	< 0.28	< 0.20	4.5	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 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	< 0.20	< 0.20	< 0.20	< 5.0	0.36	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.22	< 0.20	< 0.20	< 0.20
F-12	Farallon	10/17/2016	F-12-GW	< 0.20	< 0.20	< 0.20	< 5.0	0.22	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-13	Farallon	10/18/2016	F-13-GW	< 0.20	< 0.20	< 0.20	7.1	0.52	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-14	Farallon	10/18/2016	F-14-GW	< 0.40	< 0.40	< 0.40	< 10	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 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	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
P-DOF-6.3	DOF	2/27/2008	P-DOF-6.3	5.5	---	---	---	23.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Monitoring Well Groundwater Samples																						
MW-4	Farallon	10/21/2016	MW-4-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-203	Farallon	10/21/2016	MW-203-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-207	Farallon	10/21/2016	MW-207-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 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	12	2.1	---	---	---	---	---	---	1.3	---	1.1	1.1	---	---	---	---	---	---	---
P7-4	DOF	7/3/2001	P7-4	---	0.42	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
P-DOF-2	DOF	2/27/2007	P-DOF-2	< 1.00	< 1.00	< 1.00	< 20.0	8.80	< 1.00	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00	< 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	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
LDW Most-Stringent Groundwater PCUL: Potable Water[2]				**80**	**80**	**3.1**	**7,200**	**400**	**1.2**	**16**	**5.6**	**800**	**24**	**400**	**800**	**NA**	**800**	**800**	**2.9**	**0.70**	**120**	**0.18**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[2]				**240**	**NA**	**3.1**	**NA**	**400**	**1.2**	**NA**	**5.6**	**NA**	**600**	**NA**	**NA**	**NA**	**NA**	**NA**	**2.9**	**0.70**	**120**	**0.18**

Table 8
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]																		
				1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichloropropane	Acetone	Carbon Disulfide	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Isopropylbenzene (Cumene)	Methyl Tertiary Butyl Ether	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl Chloride
Area 10: Up-Gradient Areas																						
P10-2	DOF	7/3/2001	Probe 10-2	< 20	---	< 20	---	---	< 20	< 20	< 20	---	---	---	---	---	---	---	< 20	< 20	< 20	< 20
P10-4	DOF	7/7/2001	Probe 10-4	< 1.0	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
P10-5	DOF	7/7/2001	Probe 10-5	< 1.0	< 1.0	< 1.0	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 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	0.25	< 0.20	< 0.20	5.7	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-21	Farallon	10/19/2016	F-21-GW	< 0.20	< 0.20	< 0.20	< 5.0	0.81	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-22	Farallon	10/19/2016	F-22-GW	< 0.20	< 0.20	< 0.20	< 5.0	< 0.20	< 0.20	0.24	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
F-23	Farallon	10/19/2016	F-23-GW	< 0.20	< 0.20	0.39	< 5.0	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.40	< 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	---	---	---	---	10.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Area 13: Former Northwest Auto Wrecking Property																						
Reconnaissance Boring Groundwater Samples																						
P10-1	DOF	7/3/2001	P10-1	43	23	---	---	---	0.77	---	---	5.4	---	---	18	1	1.4	---	---	---	---	---
Monitoring Well Groundwater Samples																						
DOF-2	Farallon	10/24/2016	DOF-2-102416	0.33	< 0.20	< 0.20	< 7.4	< 0.20	< 0.20	< 0.20	< 0.27	6.1	< 0.20	1.2	1.5	< 0.20	1.7	0.67	< 0.20	< 0.20	0.33	< 0.20
DOF-4	Farallon	10/24/2016	DOF-4-102416	< 0.20	< 0.20	< 0.20	< 7.4	< 0.20	< 0.20	< 0.20	< 0.27	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
MTCA Cleanup Levels for Groundwater[2]				**NE**	**80**	**1.22**	**7,200**	**800**	**1.41**	**16**	**1,600**	**NE**	**20[3]**	**NE**	**800**	**NE**	**NE**	**NE**	**5[3]**		**2,400**	**0.2**
LDW Most-Stringent Groundwater PCUL: Potable Water[2]				**80**	**80**	**3.1**	**7,200**	**400**	**1.2**	**16**	**5.6**	**800**	**24**	**400**	**800**	**NA**	**800**	**800**	**2.9**	**0.70**	**120**	**0.18**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[2]				**240**	**NA**	**3.1**	**NA**	**400**	**1.2**	**NA**	**5.6**	**NA**	**600**	**NA**	**NA**	**NA**	**NA**	**NA**	**2.9**	**0.70**	**120**	**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]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
LDW = Lower Duwamish Waterway
NA = not applicable
PCUL = preliminary cleanup level
VOCs = volatile organic compounds.

Table 9
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	Dissolved Cadmium	Total Lead	Dissolved Lead	Total Manganese
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	---
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**	---	---	---	---
MW-203	Farallon	10/21/2016	MW-203-102116	---	< 3.0	---	---	---	---
MW-207	Farallon	10/21/2016	MW-207-102116	---	**27**	---	---	---	---
MW-AG1	Farallon	10/21/2016	MW-AG1-102116	---	4.8	---	---	---	---
MW-AG2	Farallon	10/19/2016	MW-AG2-101916	---	5.8	---	---	---	---
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	---
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	---	---	---	---
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**8.0**		**1.2**	**8.1**		**50**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**8.0**		**1.2**	**8.1**		**100**

Table 9
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	Dissolved Cadmium	Total Lead	Dissolved Lead	Total Manganese
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	---
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	---
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	---
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**8.0**		**1.2**	**8.1**		**50**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**8.0**		**1.2**	**8.1**		**100**

Table 9
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	Dissolved Cadmium	Total Lead	Dissolved Lead	Total Manganese
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	
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	---
LDW Most-Stringent Groundwater PCUL: Potable Water[3]				**8.0**		**1.2**	**8.1**		**50**
LDW Most-Stringent Groundwater PCUL: Nonpotable Water[3]				**8.0**		**1.2**	**8.1**		**100**

NOTES:
Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.
< 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]Analyzed by Standard Method 2540D.
[3]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

DOF = Dalton, Olmsted & Fuglevand, Inc.
Farallon = Farallon Consulting, L.L.C.
LDW = Lower Duwamish Waterway
NA = not applicable
PCUL = preliminary cleanup level

Table 10
Soil Gas Analytical Results for Detected 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
F-15	Farallon	10/19/2014	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	10/19/2014	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	10/19/2014	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	10/19/2014	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
LDW Subslab Soil Gas Screening Level: Protect Indoor Air[5]					**76,000**	**3.0**	**52**	**910**	**3.2**	**11**	**14**	**150,000**	**3.6**	**15,000**	**---**	**8,300**	**2.5**	**320**	**76,000**	**12**	**1,500**	**1,500**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

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

B = analyte detected in associated method blank

Farallon = Farallon Consulting, L.L.C.

LDW = Lower Duwamish Waterway

[1]Depth in feet below ground surface.

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

[3]Washington State Model Toxics Control Act (MTCA) Cleanup Regulation Method B Sub-Slab Soil Gas Screening Levels, Table B-1 of Appendix B of the Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action, revised February 2016.

[4]m,p-Xylene screening level based on m-xylene screening level.

[4]Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

Table 11
Stormwater Analytical Results
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)					
				Metals[1]			PCBs[2]	PAHs[3]	
				Copper	Mercury	Zinc	Total PCB Congeners	Benzo(a) Anthracene	Chrysene
Emerald Gateway - Unified Grocers									
S1	DOF	Q1 2012	S1	**6.82**	---	**149**	---	---	---
	DOF	Q2 2012	S1	**8.79**	---	82.5	---	---	---
	DOF	Q3 2012	S1	**7.94**	---	**108**	---	---	---
	DOF	Q4 2012	S1	**5.74**	---	**104**	---	---	---
	DOF	Q1 2013	S1	**4.81**	---	71.9	---	---	---
	DOF	Q2 2013	S1	**5.11**	---	75.7	---	---	---
	DOF	Q3 2013	S1	**7**	---	**133**	---	---	---
	DOF	Q4 2013	S1	**14.6**	---	**202**	---	---	---
	DOF	Q1 2014	S1	**4.2**	---	**120**	---	---	---
	DOF	Q2 2014	S1	**12.7**	---	**155**	---	---	---
	DOF	Q3 2014	S1	3.48	---	62.5	---	---	---
	DOF	Q4 2014	S1	**6.78**	---	**96.3**	---	---	---
	DOF	Q1 2015	S1	2.64	---	**379**	---	---	---
	DOF	Q3 2015	S1	**31.1**	---	**170**	---	---	---
	DOF	Q4 2015	S1	**21.9**	---	**162**	---	---	---
	Unknown	5/28/2016	S1	**25.4**	---	**203**	---	---	---
S2	DOF	Q1 2012	S2 (old)	**3.93**	---	65	---	---	---
	DOF	Q2 2012	S2 (old)	**35.5**	---	**399**	---	---	---
	DOF	Q3 2012	S2 (old)	**5.94**	---	47.5	---	---	---
	DOF	Q4 2012	S2 (old)	**7.71**	---	**114**	---	---	---
	DOF	Q1 2013	S2 (old)	**4.77**	---	41.2	---	---	---
	DOF	Q2 2013	S2 (old)	**5.54**	---	75.4	---	---	---
	DOF	Q3 2013	S2 (old)	**11.1**	---	**209**	---	---	---
	DOF	Q4 2013	S2 (old)	**13.5**	---	**254**	---	---	---
	DOF	Q1 2014	S2 (old)	**3.72**	---	78.4	---	---	---
	DOF	Q2 2014	S2 (old)	**13.8**	---	**126**	---	---	---
	DOF	Q3 2014	S2 (old)	**16.8**	---	**212**	---	---	---
	DOF	Q4 2014	S2 (old)	3.7	---	59.8	---	---	---
	DOF	Q1 2015	S2 (old)	**11.1**	---	**122**	---	---	---
	DOF	Q3 2015	S2 (new)	**27.6**	---	**279**	---	---	---
	DOF	Q4 2015	S2 (new)	**16.1**	---	**343**	---	---	---
	Unknown	5/28/2016	S2 (new)	**22.8**	---	**358**	---	---	---
Industrial Stormwater General Permit Benchmark				**14**	**1.4**	**117**	---	---	---
Washington State WQC - Marine Chronic[4]				**3.7**	**0.025**	**86**	**0.03**	---	---
Washington State WQC - Marine Acute[4]				**5.8**	**2.1**	**95**	**10**	---	---
National Toxics Rule WQC - Human Health, Consumption of Organism Only				---	---	---	**0.00017**	**0.031**	**0.031**
National Recommended WQC - Human Health, Consumption of Organism Only				---	---	---	**0.000064**	**0.018**	**0.018**

Table 11
Stormwater Analytical Results
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results (micrograms per liter)					
				Metals[1]			PCBs[2]	PAHs[3]	
				Copper	Mercury	Zinc	Total PCB Congeners	Benzo(a) Anthracene	Chrysene
S3	DOF	Q3 2015	S3	**17.3**	---	**198**	---	---	---
	DOF	Q4 2015	S3	**23.3**	---	**238**	---	---	---
	Unknown	5/28/2016	S3	**32.8**	---	**416**	---	---	---
UG-MH-60	Leidos	9/11/2014	UG-MH-60-20140911-W	**11**	**0.21**	**450**	**0.00154** J	**0.21** J	**0.16** J
Industrial Stormwater General Permit Benchmark				**14**	**1.4**	**117**	---	---	---
Washington State WQC - Marine Chronic[4]				**3.7**	**0.025**	**86**	**0.03**	---	---
Washington State WQC - Marine Acute[4]				**5.8**	**2.1**	**95**	**10**	---	---
National Toxics Rule WQC - Human Health, Consumption of Organism Only				---	---	---	**0.00017**	**0.031**	**0.031**
National Recommended WQC - Human Health, Consumption of Organism Only				---	---	---	**0.000064**	**0.018**	**0.018**

NOTES:

Results in **bold** and highlighted denote concentrations exceeding one or more screening levels.

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

[1]Analyzed by U.S. Environmental Protection Agency (EPA) Method 200.8.

[2]Analyzed by EPA Method 1668C.

[3]Analyzed by EPA Method 8270D/SIM.

[4]Table 240, Toxics Substances Crtiera, of the Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A Washington Administrative Code.

DOF = Dalton, Olmsted & Fuglevand, Inc.

J = result is an estimate

WQC = Water Quality Criteria

Table 12
Catch Basin Solids Analytical Results
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

Sample Location	Sampled By	Sample Date	Sample Identification	Analytical Results															
				Metals (mg/kg)[1]		PCBs (mg/kg)[2]		Dioxins/Furans (ng/kg)[3]	PAHs (µg/kg)[4]			Phthalates (µg/kg)[4]				Other SVOCs (µg/kg)[4]	TPH (mg/kg)		
				Mercury	Zinc	Total PCB Aroclors	Total PCB Congeners	Dioxin/Furan TEQ	Benzo(g,h,i) Perylene	Fluoranthene	cPAH TEQ	bis(2-Ethylhexyl) phthalate	Butylbenzyl-phthalate	Diethyl-phthalate	Dimethyl-phthalate	N-Nitrosodi-phenylamine	GRO[5]	DRO[6]	ORO[6]
Emerald Gateway - Unified Grocers																			
UG-MH-60	Leidos	9/11/2014	UG-MH-60-20140911-S	0.37	**1,200**	**0.260**	**0.922** J	**35.3** J	**770**	**2,000**	**1,100** J	**12,000**	< 2,500	**230** J	< 1,300	**1,300**	**490**	**5,200** J	**19,000** J
	Leidos	9/11/2014	UG-FD-01-20140911-S	**0.42**	**1,300**	**0.210**	**0.697** J	**36.3** J	610	**1,800**	**920** J	**11,000**	< 2,500	< 2,500	**900** J	**1,200**	**1,800** J	**4,600** J	**17,000** J
UG-MH-76	Leidos	9/11/2014	UG-MH-76-20140911-S	0.073	310	0.028	**0.067** J	**5.46** J	160	520	**330** J	**1,900**	**90** J	< 160	**300**	27 J	**94**	**510** J	**2,800**
SPU-NST2	Unknown	9/19/2007	NST2G-091907	0.09	282	0.068	---	---	< 90	130	68.7	920	< 90	< 90	< 90	< 90	---	**410**	1,600
	Unknown	4/9/2008	NST2-040908	0.16	**632**	**0.288**	---	---	310 J	1,200	**700.6**	**7,000**	**260**	< 89	**290** J	< 89	---	**1,400**	**4,400**
	Unknown	10/2/2008	NST2-100208	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Unknown	10/2/2008	NST2-092308G	< 0.04	196	< 0.14	---	---	20	94	43.31	490	< 19	< 19	48	< 19	---	100	280
	Unknown	3/31/2009	NST2-033109	---	---	0.037	---	---	---	---	---	---	---	---	---	---	---	---	---
	Unknown	3/31/2009	NST2-033109G	0.04	141	< 0.14	---	---	39	< 120	58.68	360	< 24	< 24	< 24	< 24	---	< 64	< 260
	Unknown	10/7/2009	NST2-110310	0.2	**1,460**	0.10	---	---	530	1,600	**867**	**15,000** B	< 320	< 320	< 320	< 320	---	**520**	**3,500**
	Unknown	10/7/2009	NST2-110310G	< 0.03	174 J	< 0.14	---	---	61 J	440 J	**156.4**	240 B	< 60	< 60	< 60	< 60	---	< 57	230
	Unknown	7/24/2012	NST2-072412	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Unknown	7/24/2012	NST2-072412G	0.03	166 J	< 0.119	---	---	68	150	**109.5**	480 B	29 J	< 47	**88**	< 19	---	79	300
	Unknown	5/28/2013	NST2-052813	0.2	**1,530**	**0.163**	---	---	**980**	900	**622.1**	**8,500**	**250**	< 440	**180**	< 180	---	**960**	**4,400**
	Unknown	5/28/2013	NST2-052813G	< 0.02	378	0.024	---	---	78	140	**93.7**	760	< 20	< 50	< 20	< 20	---	160	440
	Unknown	6/30/2014	NST2-063014	0.24	**2,390**	**0.310**	---	---	**2,000**	**2,300**	**1,437**	**17,000**	**450** J	< 600	**540** J	< 600	---	**2,100**	**8,500**
	Unknown	6/30/2014	NST2-063014G	< 0.03	**446**	< 0.126	---	---	24	40	28.99	200	< 19	< 19	**220**	< 19	---	66	370
	Unknown	5/9/2016	NST2-050916	0.24	**2,850**	**0.154**	---	---	**980**	970	**634.7**	**7,500**	**400**	< 320	< 320	< 320	---	---	---
	Unknown	5/9/2016	NST2-050916G	0.17	**532**	< 0.140	---	---	23	37	21.1	200	< 19	17 J	< 19	< 19	---	25	150
	Unknown	4/25/2017	NST2-042517	0.2543	**1,440**	< 0.728	---	---	< 460	663 J	**417.49**	**8,340**	< 636	< 1,400	< 509	< 756	---	**1,210**	**4,970**
LDW SL-8: Protect Sediment via Bank Erosion (Soil Transport through Storm Drain)[7]				**0.41**	**410**	**0.13**	**0.0020**	**5.2**[8]	**670**	**1,700**	**90**	**1,300**	**63**	**200**	**71**	**28**	**30**[9]	**260**[10]	**2,000**[9]

NOTES:

Results in **bold** and highlighted denote concentrations exceeding LDW SL-8: Protect Sediment via Bank Erosion that includes soil transport through a storm drain.

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

[1] Analyzed by U.S. Environmental Protection Agency (EPA) Methods 6010B/6010C/6020/7471A.

[2] Aroclors analyzed by EPA Method 8082; congeners analyzed by EPA Method 1668C.

[3] Analyzed by EPA Method 1613B.

[4] Analyzed by EPA Method 8270D/SIM.

[5] Analyzed by Northwest Method NWTPH-Gx.

[6] Analyzed by Northwest Method NWTPH-Dx.

[7] Washington State Department of Ecology Lower Duwamish Waterway Preliminary Cleanup Level Workbook, revised April 2019.

[8] Based on natural background concentration.

[9] Based on SL-1: Direct Contact.

[10] Based on terrestrial ecological unrestricted land use.

B = analyte detected in method blank

cPAH = carcinogenic polycyclic aromatic hydrocarbon

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

GRO = TPH as gasoline-range organics

J = result is an estimate

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

NA = not applicable

ng/kg = nanogram per kilogram

ORO = TPH as oil-range organics

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

SMS = Washington State Sediment Management Standards

SVOC = semivolatile organic compound

TEQ = toxic equivalent concentration

TPH = total petroleum hydrocarbons

Table 13
Preliminary Identification of Contaminants of Potential Concern
Emerald Gateway Site
Seattle, Washington
Farallon PN: 1071-026

	Contaminants Detected at Site Exceeding Most-Stringent LDW PCULs or Other Screening Levels																																						
	TPH			VOCs									PAHs														PCBs		D/F	Phthalates				SVOC	Metals							
Matrix	DRO	ORO	GRO	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-Dichlorobenzene	1,2,4-Trimethylbenzene	1,4-Dichlorobenzene	Chloroform	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Benzo(g,h,i)Perylene	Fluoranthene	Fluorene	Phenanthrene	Benzo(a)Anthracene	Chrysene	Dibenzo(a,h)Anthracene	Indeno(1,2,3-cd)Pyrene	Total cPAH TEC	Total LPAHs	Total PCB Aroclors	Total PCB Congeners	Dioxin/Furan TEQ	bis(2-Ethylhexyl)phthalate	Butylbenzyl-phthalate	Diethylphthalate	Dimethylphthalate	N-Nitrosodiphenylamine	Arsenic	Cadmium	Copper	Lead	Manganese	Mercury	Zinc
Soil	X (SL-1)		X (SL-9)	X (SL-6)	X (SL-6)	X (SL-6)	X (SL-5)	O (SL-7)	O (SL-1)	O (SL-7)	O (SL-5)	X (SL-6)		X (SL-8)			X (SL-7)	X (SL-8)	X (SL-6)					X (SL-8)	X (SL-6)								X (SL-10)	X (SL-10)	X (SL-10)	X (SL-9)			X (SL-10)
Groundwater	X (GW-1)	X (GW-1)	X (GW-1)	X (GW-2)		X (GW-2)						X (GW-2)	X (GW-1)								X (GW-2)	X (GW-2)	X (GW-2)									X (GW-5)				X (GW-2)		
Soil Gas				X (SG-1)							X (SG-1)	X (SG-1)																										
Stormwater																			X	X														X				X
Catch Basin Solids	X (SL-8)	X (SL-8)													X (SL-8)	X (SL-8)							X (SL-8)		X (SL-8)	X (SL-8)	X (SL-8)	X (SL-8)	X (SL-8)	X (SL-8)	X (SL-8)	X (SL-8)					X (SL-8)	X (SL-8)	

NOTES:
X denotes the analyte has been detected at concentrations exceeding the most-stringent LDW PCUL or screening level in one or more samples collected from the site.
O denotes the exceedance is based on older data from 1996; data quality is suspect.
SL-1 = Direct Contact
SL-2 = Protect Drinking Water (Vadose Zone)
SL-3 = Protect Surface Water via Groundwater (Vadose Zone)
SL-4 = Protect Sediment via Groundwater (Vadose Zone)
SL-5 = Protect Drinking Water (Saturated Zone)
SL-6 = Protect Surface Water via Groundwater (Saturated Zone)
SL-7 = Protect Sediment via Groundwater (Saturated Zone)
SL-8 = Protect Desiment via Bank Erosion
SL-9 = Site-Specific TEE Unrestricted Land Use
SL-10 = Natural Background
GW-1 = Protect Drinking Water
GW-2 = Protect Surface Water

cPAH = carcinogenic polycyclic aromatic hydrocarbons
D/F = dioxins/furans
DRO = total petroleum hydrocarbons (TPH) as diesel-range organics
GRO = TPH as gasoline-range organics
LDW = Lower Duwamish Waterway
ORO = TPH as oil-range organics
PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyl
PCUL = preliminary cleanup level
SVOC = semivolatile organic compound
TEC = toxic equivalent concentration
TEQ = toxic equivalent concentration
VOC = volatile organic compound

APPENDIX A
PRELIMINARY CONCEPTUAL REDEVELOPMENT PLAN

INTERIM ACTION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila Washington

Farallon PN: 1071-026

CONCEPTUAL GRADING AND STORM DRAINAGE OVERVIEW - OPTION 3

FOR

PROLOGIS EMERALD GATEWAY

A PORTION OF THE NW AND NE 1/4 OF SECTIONS 03 AND 04, TOWNSHIP 23N, RANGE 4E W.M.,
CITIES OF TUKWILA AND SEATTLE, KING COUNTY WASHINGTON

1"=80'

0 40 80 160

AIRPORT WAY SOUTH

BUILDING. 3
251,360 S.F.
FF=19.0±

BUILDING. 4
68,170 S.F.
FF=19.0±

SHEET C9
SHEET C10

SHEET C9
SHEET C11

SHEET C10
SHEET C12

SHEET C11
SHEET C12

BUILDING. 2
169,220 S.F.
FF=19.0±

BUILDING. 3
433,440 S.F.
FF=19.0±

EXISTING BLDG
278,982 S.F.
FF=20.7±

CITY OF SEATTLE
CITY OF TUKWILA

SOUTH NORFOLK STREET

BOEING ACCESS ROAD

EAST MARGINAL WAY SOUTH

No.	Date	By	Ckd.	Appr.	Revision

Title: CONCEPTUAL GRADING AND STORM DRAINAGE OVERVIEW - OPTION 3 FOR PROLOGIS EMERALD GATEWAY

For: PROLOGIS EMERALD GATEWAY
3301 S. NORFOLK STREET
SEATTLE, WA

DANIEL K. BALMER
STATE OF WASHINGTON
25672
REGISTERED PROFESSIONAL ENGINEER
8/17/18

Scale: Horizontal 1" = 80' Vertical N/A

Designed JRV
Drawn JRV
Checked JEP
Approved DKB
Date 8/17/18

BARGHAUSEN CONSULTING ENGINEERS, INC.
18215 72ND AVENUE SOUTH
KENT, WA 98032
(425)251-6222
(425)251-8782 FAX
CIVIL ENGINEERING, LAND PLANNING, SURVEYING, ENVIRONMENTAL SERVICES

Job Number 18182

Sheet C2 of 14

File:P:\18000s\18182 preliminary\option 3\18182-GM OVERALL.dwg Date/time:8/17/2018 1:28 PM Scale:1" = 1' JPULLEN Xref: ------

APPENDIX B
GROUNDWATER CONTOUR MAPS

INTERIM ACTION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

DRY GROCERY WAREHOUSE

Approx. AG Remediation Area (2007)

SOUTH NORFORK STREET

OFFICE BUILDING

MW-AG2
0.35
0.20
-0.00
MW-AG1
-0.20
-0.19
-0.40
-0.60
MW-203
0.18
MW-4
-0.27
MW-207
0.22
DOF-5
-0.80
-0.77
?
NORTHWEST AUTO WRECKING
-1.0
DOF-4
-1.2
-1.14
-1.4
DOF-1
-1.55
EAST MARGINAL WAY
DOF-2
-1.24
DOF-3
-1.39
CREDIT UNION
detention basins

N

0 200 400

APPROXIMATE SCALE IN FEET

Monitoring Well

-3.2 Water Level Elevation

Catch Basin (Elevation Ref.)

Groundwater Contour

Estimated Groundwater Flow Direction

Ref: AG-NWA Flow Dir Nov-2009.cdr

Unified Grocers Site
Seattle/Tukwila, Washington

Groundwater Flow Directions
November 12, 2009

SAB-029-00 **Figure 3** Nov. 2010
Dalton, Olmsted & Fuglevand, Inc.

DRY GROCERY WAREHOUSE

Approx. AG Remediation Area (2007)

SOUTH NORFORK STREET

OFFICE BUILDING

MW-AG2
0.24
-0.00

MW-AG1
-0.40

-0.37

-0.44

MW-203

MW-4

-0.80

-1.2

-0.21

MW-207

-0.33

DOF-5

-1.13

-1.6

NORTHWEST AUTO WRECKING

-2.0

-2.4

-2.8

-3.2

DOF-4

-2.54

DOF-1

EAST MARGINAL WAY

-4.29

DOF-2

DOF-3

-3.21

-2.64

CREDIT UNION

detention basins

N

0 200 400

APPROXIMATE SCALE IN FEET

Monitoring Well

-3.2 Water Level Elevation

Catch Basin (Elevation Ref.)

Groundwater Contour

Estimated Groundwater Flow Direction

Unified Grocers Site
Seattle/Tukwila, Washington

Groundwater Flow Directions
March 18, 2010

SAB-029-00 **Figure 4** Nov. 2010
Dalton, Olmsted & Fuglevand, Inc.

Ref: AG-NWA Flow Dir 3-2010.cdr

DRY GROCERY WAREHOUSE

Approx. AG Remediation Area (2007)

SOUTH NORFORK STREET

OFFICE BUILDING

MW-AG2 -1.5

-1.40

MW-AG1 -2.0

-1.95

MW-203 -2.00

MW-4 -2.5

-1.91

MW-207

-2.08

DOF-5 -3.0

-3.5

-2.73

NORTHWEST AUTO WRECKING

-4.0

?

detention basins

-4.5

-5.0

-5.5

DOF-4

-4.37

DOF-1

EAST MARGINAL WAY

-6.06

DOF-2

DOF-3

-4.96

-4.40

CREDIT UNION

0 200 400

APPROXIMATE SCALE IN FEET

Monitoring Well

-3.2 Water Level Elevation

Catch Basin (Elevation Ref.)

Groundwater Contour

Estimated Groundwater Flow Direction

Unified Grocers Site
Seattle/Tukwila, Washington

Groundwater Flow Directions
September 30, 2010

SAB-029-00 **Figure 5** Nov. 2010
Dalton, Olmsted & Fuglevand, Inc.

Ref: AG-NWA Flow Dir 9-2010.cdr

APPENDIX C
GROUNDWATER MONITORING REPORT

INTERIM ACTION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

TERRA ASSOCIATES, Inc.
Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

April 14, 1993
Project No. T-914-1

Mr. Jim Troxel
Supermarket Development Corporation
10700 Meridian Avenue, Suite 406
Seattle, Washington 98133

Subject: Ongoing Groundwater Sampling
Old "Humble Oil" Service Station
10065 E. Marginal Way
Tukwila, Washington

Dear Jim:

As recommended to you in our Site Remediation report dated April 22, 1991, we have continued to conduct environmental sampling at 10065 E. Marginal Way in Seattle, Washington.

Well sampling has been performed using laboratory prepared glassware and a laboratory cleaned hand-operated pump and laboratory cleaned bailers. To obtain representative groundwater samples, at least three well volumes were purged prior to sampling. The benzene, ethyl benzene, toluene and xylenes (BETX) have been measured using gas chromatography EPA Methods 5030/8020 and WTPH/G with a BETX distinction.

In addition, we sampled two wells, placed in Boring B-5 and B-7, for total dissolved lead. The well in Boring B-7 was also sampled for chlorinated compounds by EPA Method 601/602. The additional testing was done in these two wells based on the proximity of Boring B-5 to former USTs and the elevated BETX formerly found in Boring B-7. Chain of custody protocols were followed for all chemical samples on this project.

The following table presents a summary of all chemical data on the groundwater samples. Also presented are the current cleanup levels for groundwater from the Model Toxics Control Act (MTCA) Chapter 173-340 WAC. The cleanup level criteria used on this project is Method A for groundwater, Section WAC 173-340-720.

12525 Willows Road, Suite 101, Kirkland, Washington 98034
Phone (425) 821-7777 • Fax (425) 821-4334

Groundwater Sample Summary
Monitoring Well Placed in Boring B-3

Date of Sample	TPH ppm (418.1)	Benzene ppb	Et-Benzene ppb	Toluene ppb	Xylene m,p ppb	Xylene o ppb
1-18-89	1	110	<1	<1	97	6
2-7-89	2	62	<1	<1	50	3
6-27-90	<10	<1	<1	<1	<1	<1
10-9-90	NT	<1	<1	<1	<1	<1
1-29-93	<0.1 a)	<1	<1	<1	<2	

Groundwater Sample Summary
Monitoring Well Placed in Boring B-4

Date of Sample	TPH ppm (418.1)	Benzene ppb	Et-Benzene ppb	Toluene ppb	Xylene m,p ppb	Xylene o ppb
1-18-89	<1	<1	<1	<1	1	<1
6-27-90	<2	<1	<1	<1	<1	<1
10-9-90	NT	<1	<1	<1	<1	<1
1-29-93	<.1 a)	<1	<1	2	<2	

Groundwater Sample Summary
Monitoring Well Placed in Boring B-5

Date of Sample	TPH ppm (418.1)	Benzene ppb	Et-Benzene ppb	Toluene ppb	Xylene m,p ppb	Xylene o ppb
1-18-89	<1	<1	<1	<1	1	<1
6-27-90	<2	<1	<1	<1	<1	<1
10-9-90	NT	<1	<1	<1	<1	<1
1-29-93	<.1 a)	<1	<1	<1	<2	

Groundwater Sample Summary
Monitoring Well Placed in Boring B-6

Date of Sample	TPH ppm (418.1)	Benzene ppb	Et-Benzene ppb	Toluene ppb	Xylene m,p ppb	Xylene o ppb
6-27-90	<2	<1	<1	2	<1	<1
10-9-90	NT	<1	<1	<1	<1	<1
1-29-93	<.1 a)	<1	<1	2	<2	

Groundwater Sample Summary
Monitoring Well Placed in Boring B-7

Date of Sample	TPH ppm (418.1)	Benzene ppb	Et-Benzene ppb	Toluene ppb	Xylene m,p ppb	Xylene o ppb
2-10-89	39	160	<1	<1	61	4
6-29-90	<2	120	1	1	39	<1
8-20-90	NT	88	<4	<4	7	<4
10-9-90	NT	139	<1	<1	<1	<1
1-21-91	NT	<1	<1	<1	<1	<1
1-21-91*	NT	<2	<2	<2	<2	<2
3-21-91	NT	22	<1	<1	<2	<1
10-25-91	<0.1 a)	13	<1	<1	<3	
5-7-92*	NT	3	<1	<1	<1	
11-9-92	NT	1	<1	<1	<1	<1
1-29-93	0.2 <0.1 a)	<1	<1	<1	<2	

* indicates sample taken from B-7A

Groundwater Sample Summary
Recovery Sump RS-1

Date of Sample	TPH ppm (418.1)	Benzene ppb	Et-Benzene ppb	Toluene ppb	Xylene m,p ppb	Xylene o ppb
8-7-90	NT	450	470	1,600	2,400	
8-20-90	NT	28	36	48	150	60
10-11-90	<1.3	12	<10	<10	13	9
11-21-90	NT	<1	<1	<1	<1	<1
12-13-90	NT	13	17	<1	6	9
2-25-93	<0.1 a) 0.2	<0.1	<1	<1	<2	
Notes						
MTCA Cleanup Criteria	1.0	5	30	40	20	

a) = TPH by Method WTPH-G

NT signifies not tested for this parameter

ppm - parts per million

ppb - parts per billion

No chlorinated solvents were detected in the January 29, 1993 sample from Boring B-7 within the stated detection limits.

The results of dissolved lead testing for water samples taken from Borings B-5 and B-7 on February 25 indicated that no lead was present witb a detection limit of 2 parts per billion (ppb). The MTCA clean up goal for lead using Method A is 5 ppb and the drinking water standard is 50 ppb.

Based on the results of the past few rounds of sampling and the historic downward trend in the contaminant level, it is our opinion tbat further monitoring at this site is not warranted. The decrease in the contaminants present in the groundwater is a result of the removal of the apparent source (the former dry well), the removal of contaminated soils in the capillary fringe zone and the incidental introduction of oxygen to further allow natural degradation of the contaminated constituents. In addition, 11,000 gallons of groundwater were removed and treated off site.

Mr. Jim Troxel
April 14, 1993

At this time, the protective covers over many of the monitoring wells have been damaged. We recommend that the wells either be abandoned in accordance with Ecology requirements or that the protective covers by replaced. We can arrange for lawful abandonment of the monitoring wells, if requested.

We trust that this letter adequately summarizes the results of analytical testing and our opinions. Please call us if you have any questions or if we may be of further service to you on this project.

Sincerely yours,

TERRA ASSOCIATES, INC.

Charles R. Lie
Registered Site Assessor

Anil Butail, P.E.
President

CRL/AB:jb

Encl: Analytical Test Results, Appendix A

cc: WDOE NWRO, Joe Hickey

APPENDIX A

ANALYTICAL TEST RESULTS

Sampling Dates
November 9, 1992, January 29, 1993
and February 25, 1993

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

RECEIVED NOV 13 1992

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

November 11, 1992

Chuck Lie, Project Leader
Terra Associates, Inc.
12525 Willows Road NE, Suite 101
Kirkland, WA 98034

Dear Mr. Lie:

Enclosed are the results of the analyses of the sample submitted on November 9, 1992 from Project 914-1, S. Norfolk Site.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this material, or if you just want to discuss any aspect of your projects, please do not hesitate to contact me.

Sincerely,

Amy Gray

Amy M. Gray
Chemist

AMG/dp

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: November 11, 1992
Date Submitted: November 9, 1992
Project: 914-1, S. Norfolk Site

RESULTS OF ANALYSES OF THE WATER SAMPLE FOR VOLATILE AROMATIC ORGANIC COMPOUNDS USING EPA METHODS 5030 AND 602
Results Reported as ng/mL (ppb)

Sample #	Benzene	Toluene	Et-Benzene	Xylene m,p	Xylene o	Internal Standard (% Recovery)
2" Monitoring Well	1	<1	<1	<1	<1	98%
Quality Assurance						
Method Blank	<1	<1	<1	<1	<1	97%
2" Monitoring Well (Duplicate)	1	<1	<1	<1	<1	97%
2" Monitoring Well (Matrix Spike) Percent Recovery	91%	90%	89%	92%	93%	94%
2" Monitoring Well (Matrix Spike Duplicate) Percent Recovery	90%	88%	87%	87%	82%	91%
Spike Blank Percent Recovery	100%	99%	100%	110%	100%	110%
Spike Level	100	100	100	100	100	

[redacted]

11-09-92

HALDMAN & BRUYA, INC.
3008-B 16th Avenue West
Seattle, WA 98119

SAMPLE CHAIN OF CUSTODY

Send Report To: CHUCK LIE
Company TERRA ASSOC. Contact CHUCK LIE
Address 12525 WILLOWS AVE, SUITE 101
City, State, Zip KIRKLAND, WA. 98034
Phone # 821-7777 Date 11/7/92

SITE NO.	PROJECT NAME	PURCHASE ORDER #
914-1	S. NORFOLK SITE	

SAMPLERS (signature): S. Dara Kessler
PROJECT LOCATION:

REMARKS:

SAMPLE DISPOSAL INFORM.
- o Dispose after 30 days
- o Return Samples
- o Call for Instructions

SAMPLE #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
2" monitoring well	11/7/92 10:20a.m.	H2O	8	34807-14	BETX

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: S. Dara Kessler	S. Dara Kessler	Terra Assoc.	11/7/92	10:20a.m.
Received by:	Mark Z Perin	FBI.	11/7/92	10:20a.m.
Relinquished by:				
Received by:				

RECEIVED FEB 0 8 1993

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

February 4, 1993

Chuck Lie, Project Leader
Terra Associates, Inc.
12525 Willows Road NE, Suite 101
Kirkland, WA 98034

Dear Mr. Lie:

Enclosed are the results from the testing of material submitted on January 29, 1993 from Project T-914-1, So. Norfolk St. - S.D.C.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

Jeffrey D. Anderson
Chemist

JDA/dp

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 4, 1993
Date Received: January 29, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND GASOLINE USING EPA METHODS 8020 AND 8015

Results Reported as µg/L (ppb)

Sample #	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline	Internal Standard % Recovery
B-3	<1	<1	<1	<2	<100	106%
B-4	<1	2	<1	<2	<100	71%
B-5	<1	<1	<1	<2	<100	100%
B-6	<1	2	<1	<2	<100	108%
B-7	<1	<1	<1	<2	<100	106%
Quality Assurance						
Blank	<1	<1	<1	,2	<100	109%
B-3 (Duplicate)	<1	<1	<1	<2	<100	100%
B-3 (Matrix Spike) % Recovery	85%	84%	83%	81%	115%	92%
B-3 (Matrix Spike Duplicate) % Recovery	87%	85%	84%	82%	na	100%
Spike Blank % Recovery	97%	97%	98%	96%	87%	90%
Spike Level	1,000	1,000	1,000	1,000	1,000	

[na] The analyte indicated was not added to the matrix spike sample.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 4, 1993
Date Received: January 29, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLE FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602
Samples Processed Using Method 5020
Results Reported as µg/L (ppb)

Sample ID	B-7
Analyte:	
1,1-Dichloroethylene	<1
Methylene Chloride	<1
t-Dichloroethylene	<1
1,1-Dichloroethane	<1
Chloroform	<0.1
1,1,1-Trichloroethane	<0.1
Carbon Tetrachloride	<0.1
Benzene	<1
Trichloroethylene	<0.1
Toluene	<1
Tetrachloroethylene	<0.1
Ethylbenzene	<1
m,p-Xylenes	<1
o-Xylene	<1
Surrogate Standard % Recovery	106%

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 4, 1993
Date Received: January 29, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLE FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602

Samples Processed Using Method 5020

Results Reported as µg/L (ppb)

Quality Assurance

Sample #	Blank
Analyte:	
1,1-Dichloroethylene	<1
Methylene Chloride	<1
t-Dichloroethylene	<1
1,1-Dichloroethane	<1
Chloroform	<0.1
1,1,1-Trichloroethane	<0.1
Carbon Tetrachloride	<0.1
Benzene	<0.1
Trichloroethylene	<0.1
Toluene	<1
Tetrachloroethylene	<0.1
Ethylbenzene	<1
m,p-Xylenes	<1
o-Xylene	<1
Surrogate Standard % Recovery	109%

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 4, 1993
Date Received: January 29, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLE FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602
Samples Processed Using Method 5020
Results Reported as % Recovery
Quality Assurance

Sample #	B-7 Matrix Spike % Recovery	B-7 Matrix Spike Duplicate % Recovery	Spike Level
Analyte:			
1,1-Dichloroethylene	84%	85%	1,000
Methylene Chloride	90%	91%	1,000
t-Dichloroethylene	85%	86%	1,000
1,1-Dichloroethane	85%	87%	1,000
Chloroform	87%	88%	1,000
1,1,1-Trichloroethane	83%	85%	1,000
Carbon Tetrachloride	83%	87%	1,000
Benzene	85%	87%	1,000
Trichloroethylene	84%	85%	1,000
Toluene	84%	85%	1,000
Tetrachloroethylene	83%	85%	1,000
Ethylbenzene	83%	84%	1,000
m,p-Xylenes	82%	83%	1,000
o-Xylene	93%	84%	1,000
Surrogate Standard % Recovery	99%	100%	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 4, 1993
Date Received: January 29, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLE FOR VOLATILE ORGANIC COMPOUNDS USING EPA METHODS 601 AND 602

Samples Processed Using Method 5020

Results Reported as % Recovery

Quality Assurance

Sample #	Spike Blank	Spike Level
Analyte:		
1,1-Dichloroethylene	98%	1,000
Methylene Chloride	96%	1,000
t-Dichloroethylene	97%	1,000
1,1-Dichloroethane	97%	1,000
Chloroform	97%	1,000
1,1,1-Trichloroethane	98%	1,000
Carbon Tetrachloride	97%	1,000
Benzene	97%	1,000
Trichloroethylene	97%	1,000
Toluene	97%	1,000
Tetrachloroethylene	96%	1,000
Ethylbenzene	94%	1,000
m,p-Xylenes	96%	1,000
o-Xylene	97%	1,000
Surrogate Standard % Recovery	106%	

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 4, 1993
Date Received: January 29, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS BY IR (METHOD 418.1) (MODIFIED TO REPORT RESULTS AS DIESEL)

Results Reported as mg/L (ppm)

Sample #	Total Petroleum Hydrocarbons
B-3	0.5
B-7	0.2
Quality Assurance	
Tap Water Blank	<0.2
Tap Water (Matrix Spike) % Recovery	107%
Tap Water (Matrix Spike Duplicate) % Recovery	89%
Spike Level	5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: February 4, 1993
Date Received: January 29, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR DISSOLVED LEAD

Results Reported as mg/L (ppm

Sample #:	Dissolved Lead
B-5	<0.1
B-7	<0.1
Quality Assurance	
Blank	<0.1
B-5 (Duplicate)	<0.1
B-5 (Matrix Spike) % Recovery	118%
B-5 (Matrix Spike Duplicate) % Recovery	118%
Spike Blank % Recovery	106%
Spike Level	10

FRIEDMAN & BRUYA, INC.
3008-B 16th Avenue West
Seattle, WA 98119

[redacted]

SAMPLE CHAIN OF CUSTODY

5pm

Send Report To:
Company TERRA ASSOC. Contact Chuck Lie
Address 12525 WILLOWS ROAD, Ste. 101
City, State, Zip Kirkland, WA. 98034
Phone # 821-7777 Date 1/29/93

SITE NO.	PROJECT NAME	PURCHASE ORDER #
T-914-1	So. Norfolk ST. - S.D.C.	

SAMPLERS (signature): Dana Kessler

PROJECT LOCATION: Corner of S. Norfolk ST. + E. MARGINAL WAY S.

REMARKS: * only 1 VOAs was obtained for B-3 for BETX + WTPH/G testing

SAMPLE DISPOSAL INFORM.
- ○ Dispose after 30 days
- ○ Return Samples
- ● Call for Instructions

SAMPLE #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
B-3	1/29/93/12:00	H2O	2	36788-71	BETX, WTPH/G, WTPH/ 4/8
B-4	1/29/93/12:30	H2O	2	36792-23	BETX, WTPH/G
B-5	1/29/93/2:15	H2O	3	36794-76	BETX, WTPH/G, dissolve lead
B-6	1/29/93/2:00	H2O	2	36777-78	BETX, WTPH/G
B-7	1/29/93/10:30	H2O	4	36779-85	60l/60z, WTPH/G, WTPH/4/8 dissolved lead
				CK CIA	

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: Dana Kessler	DARA KESSLER	TERRA ASSOC.	1/29/93	3:15
Received by: C R Hicks	C R HICKS	FBI	1.29.93	3:15pm
Relinquished by:				
Received by:				

RECEIVED MAR 0 8 1993

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Andrew John Friedman
James E. Bruya, Ph.D.
(206) 285-8282

3008-B 16th Avenue West
Seattle, WA 98119
FAX: (206) 283-5044

March 4, 1993

Chuck Lie, Project Leader
Terra Associates, Inc.
12525 Willows Road NE, Suite 101
Kirkland, WA 98034

Dear Mr. Lie:

Enclosed are the results from the testing of material submitted on February 25, 1993 from Project T-914-1, So. Norfolk St. - S.D.C..

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

Jeffrey D. Anderson
Chemist

JDA/dp

Enclosures

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: March 4, 1993
Date Received: February 25, 1993
Project: T-914-1, So. Norfolk St. - S.D.C.

RESULTS FROM THE ANALYSIS OF WATER SAMPLE FOR BENZENE, TOLUENE, ETHYLBENZENE, XYLENES AND GASOLINE USING EPA METHODS 8020 AND 8015

Results Reported as mg/L (ppm)

Sample #	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline	Internal Standard % Recovery
RS-1	<0.0001	<0.001	<0.001	<0.002	<0.1	92%
Quality Assurance						
Blank	<0.0001	<0.001	<0.001	<0.002	<0.1	96%
RS-1 (Duplicate)	<0.0001	<0.001	<0.001	<0.002	<0.1	108%
RS-1 (Matrix Spike) % Recovery	96%	96%	94%	94%	99%	100%
RS-1 (Matrix Spike Duplicate) % Recovery	97%	97%	97%	98%	99%	112%
Spike Blank % Recovery	101%	101%	101%	102%	108%	120%
Spike Level	0.1	0.1	0.1	0.2	1	

)MAN & BRUYA, INC.
-8 16th Avenue West
attle, WA 98119

2 25 93
2:00 p

SAMPLE CHAIN OF CUSTODY

Send Report To:
Company TERRA ASSOC. Contact CHUCK LEE
Address 12525 WILLOWS ROAD, STE. 101
City, State, Zip KIRKLAND, WA. 98034
Phone # 821-7777 Date 2/25/93

SITE NO.	PROJECT NAME	PURCHASE ORDER #
T-914-1	So. Norfolk ST. - S.D.C.	

SAMPLERS (signature): Dara Kessler

PROJECT LOCATION: Corner of S. Norfolk ST. & E. Marginal Way S.

REMARKS:

SAMPLE DISPOSAL INFORM.
- o Dispose after 30 days
- o Return Samples
- o Call for Instructions

SAMPLE #	Date/Time Sampled	Type of Sample	# of Jars	Lab Sample #	Analyses Requested
RS-1	2/25/93 11:00	W	4	3,542	WTPH GAS + BETX 418.1

Extract vial spilled. DK 3/2/93

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: Dara Kessler	DARA KESSLER	TERRA ASSOC.	2/25/93	2:00
Received by:				
Relinquished by:				
Received by:				

RECEIVED MAR 0 9 1993

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Terra Associates	Client Project ID:	T-914-1	Sampled:	Feb 25, 1993
12525 Willows Rd, Suite 101	Analysis Method:	EPA 7421	Received:	Feb 26, 1993
Kirkland, WA 98034	Analysis for:	Dissolved Lead	Digested:	Mar 2, 1993
Attention: Charles Lie	First Sample #:	302-0886	Analyzed:	Mar 3, 1993
	Matrix:	Water	Reported:	Mar 4, 1993

METALS ANALYSIS FOR: Dissolved Lead

Sample Number	Sample Description	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
302-0886	MW #5	2.0	N.D.
302-0887	MW #7 (2")	2.0	N.D.
BLK030293	Method Blank	2.0	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc

for Matthew T. Essig
Kimberle Stark
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Terra Associates 12525 Willows Rd, Suite 101 Kirkland, WA 98034 Attention: Charles Lie	Client Project ID: T-914-1 Sample Matrix : Water Units: µg/L (ppb)	Analyst: K. Ackerlund Digested: Mar 2, 1993 Reported: Mar 4, 1993

METALS QUALITY CONTROL DATA REPORT

ANALYTE	Lead
EPA Method:	7421
Date Analyzed:	Mar 3, 1993
ACCURACY ASSESSMENT	
LCS Spike Conc. Added:	25
LCS Spike Result:	25
LCS Spike % Recovery:	100
Upper Control Limit:	114
Lower Control Limit:	82
Matrix Spike Sample #:	302-0868
Matrix Spike % Recovery:	105
PRECISION ASSESSMENT	
Sample #:	302-0868
Original:	19
Duplicate:	19
Relative % Difference:	0.0

NORTH CREEK ANALYTICAL inc

for Matthew T. Essig

Kimberle Stark
Project Manager

Lab Control Sample % Recovery: $\frac{\text{Conc. of L.C.S.}}{\text{L.C.S. Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Original Result - Duplicate Result}}{(\text{Original Result + Duplicate Result}) / 2} \times 100$

NORTH CREEK ANALYTICAL

CHAIN OF CUSTODY REPORT

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-2569
Phone (206) 481-9200 • FAX (206) 485-2992

CLIENT: TERRA ASSOC.
ADDRESS: 12525 Willows Road, Ste. 101, Kirkland, WA 98103
PHONE: 821-7777 FAX: 821-4334

REPORT TO: Chuck Lie
BILLING TO:
P.O. NUMBER:
NCA QUOTE #:

SAME DAY (2-8 HR.) RUSH	(+150%)
NEXT DAY RUSH	(+100%)
2 DAY RUSH	(+80%)
3 DAY RUSH	(+60%)
5 DAY RUSH	(+40%)
10 DAY STANDARD	(LIST PRICE) X

PROJECT NAME: So. Norfolk St
PROJECT NUMBER: T-914-1
SAMPLED BY: DARA KESSLER

SAMPLE IDENTIFICATION: NUMBER OR DESCRIPTION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CONT.	Dissolved Lead	ANALYSIS REQUESTED	COMMENTS & PRESERVATIVES USED	LABORATORY NUMBER
1 M.W. #5	2/25/93 11:30	W	1	↓	302 0886	MTCA - (5 ppb)	both field filtered
2 M.W. #7 (2")	2/25/93 1:00	W	1	↓	887	" "	
3							
4							
5							
6							
7							
8							
9							
10							

RELINQUISHED BY: Dara Kessler DATE: 2/25/93
FIRM: Terra Assoc. TIME: 8:00
RECEIVED BY: [signature] NCA DATE: 2/26/93
FIRM: TIME: 8:01

RELINQUISHED BY: DATE:
FIRM: TIME:
RECEIVED BY: DATE:
FIRM: TIME:

SAMPLE RECEIPT INFORMATION: CONTAINER CONDITION?: GOOD VIOLATED COOL (4° C)? YES NO
CUSTODY SEALS? GOOD VIOLATED NOT USED HAZARDOUS SAMPLES?: NO YES; DESCRIBE ON BACK

PAGE OF

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 · Bothell, WA 98011-2569
Phone (206) 481-9200 · FAX (206) 485-2992

Terra Associates	Client Project ID:	T-914-1	Sampled:	Feb 25, 1993
12525 Willows Rd, Suite 101	Analysis Method:	EPA 7421	Received:	Feb 26, 1993
Kirkland, WA 98034	Analysis for:	Dissolved Lead	Digested:	Mar 2, 1993
Attention: Charles Lie	First Sample #:	302-0886	Analyzed:	Mar 3, 1993
	Matrix:	Water	Reported:	Mar 4, 1993

METALS ANALYSIS FOR: Dissolved Lead

Sample Number	Sample Description	Reporting Limit µg/L (ppb)	Sample Result µg/L (ppb)
302-0886	MW #5	2.0	N.D.
302-0887	MW #7 (2")	2.0	N.D.
BLK030293	Method Blank	2.0	N.D.

Analytes reported as N.D. were not detected above the stated Reporting Limit.

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

NORTH CREEK ANALYTICAL

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-2569
Phone (206) 481-9200 • FAX (206) 485-2992

Terra Associates
12525 Willows Rd, Suite 101
Kirkland, WA 98034
Attention: Charles Lie

Client Project ID: T-914-1
Sample Matrix : Water
Units: µg/L (ppb)

Analyst: K. Ackerlund

Digested: Mar 2, 1993
Reported: Mar 4, 1993

METALS QUALITY CONTROL DATA REPORT

ANALYTE	Lead
EPA Method:	7421
Date Analyzed:	Mar 3, 1993

ACCURACY ASSESSMENT

LCS Spike Conc. Added:	25
LCS Spike Result:	25
LCS Spike % Recovery:	100
Upper Control Limit:	114
Lower Control Limit:	82
Matrix Spike Sample #:	302-0868
Matrix Spike % Recovery:	105

PRECISION ASSESSMENT

Sample #:	302-0868
Original:	19
Duplicate:	19
Relative % Difference:	0.0

NORTH CREEK ANALYTICAL inc

Kimberle Stark
Project Manager

Lab Control Sample % Recovery: $\frac{\text{Conc. of L.C.S.}}{\text{L.C.S. Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Original Result - Duplicate Result}}{(\text{Original Result + Duplicate Result}) / 2} \times 100$

NORTH CREEK ANALYTICAL

CHAIN OF CUSTODY REPORT

18939 120th Avenue N.E., Suite 101 • Bothell, WA 98011-2569
Phone (206) 481-9200 • FAX (206) 485-2992

CLIENT: TERRA ASSOC.
ADDRESS: 12525 WILLOWS Road, Ste. 101 Kirkland, WA 98103
PHONE: 821-7777 FAX: 821-4334

REPORT TO: Chuck Lie
BILLING TO:
P.O. NUMBER:
NCA QUOTE #:

SAME DAY (2-8 HR.) RUSH	(+150%)
NEXT DAY RUSH	(+100%)
2 DAY RUSH	(+80%)
3 DAY RUSH	(+60%)
5 DAY RUSH	(+40%)
10 DAY STANDARD	(LIST PRICE) X

PROJECT NAME: So. Norfolk St
PROJECT NUMBER: T-914-1
SAMPLED BY: DARA KESSLER

	SAMPLE IDENTIFICATION: NUMBER OR DESCRIPTION	SAMPLING DATE / TIME	MATRIX (W,S,O)	# OF CONT.	Dissolved lead	ANALYSIS REQUESTED		COMMENTS & PRESERVATIVES USED	LABORATORY NUMBER
1	M.W. #5	2/25/93 11:30	W	1	↓	302	0886	MTCA - (5 ppb)	both field filtered
2	M.W. #7 (2")	2/25/93 1:00	W	1	↓		887	" "	
3									
4									
5									
6									
7									
8									
9									
10									

RELINQUISHED BY: Dara Kessler DATE: 2/25/93
FIRM: Terra Assoc. TIME: 8:00
RECEIVED BY: [signature] DATE: 2/26/93
FIRM: NCA TIME: 8:01

RELINQUISHED BY: DATE:
FIRM: TIME:
RECEIVED BY: DATE:
FIRM: TIME:

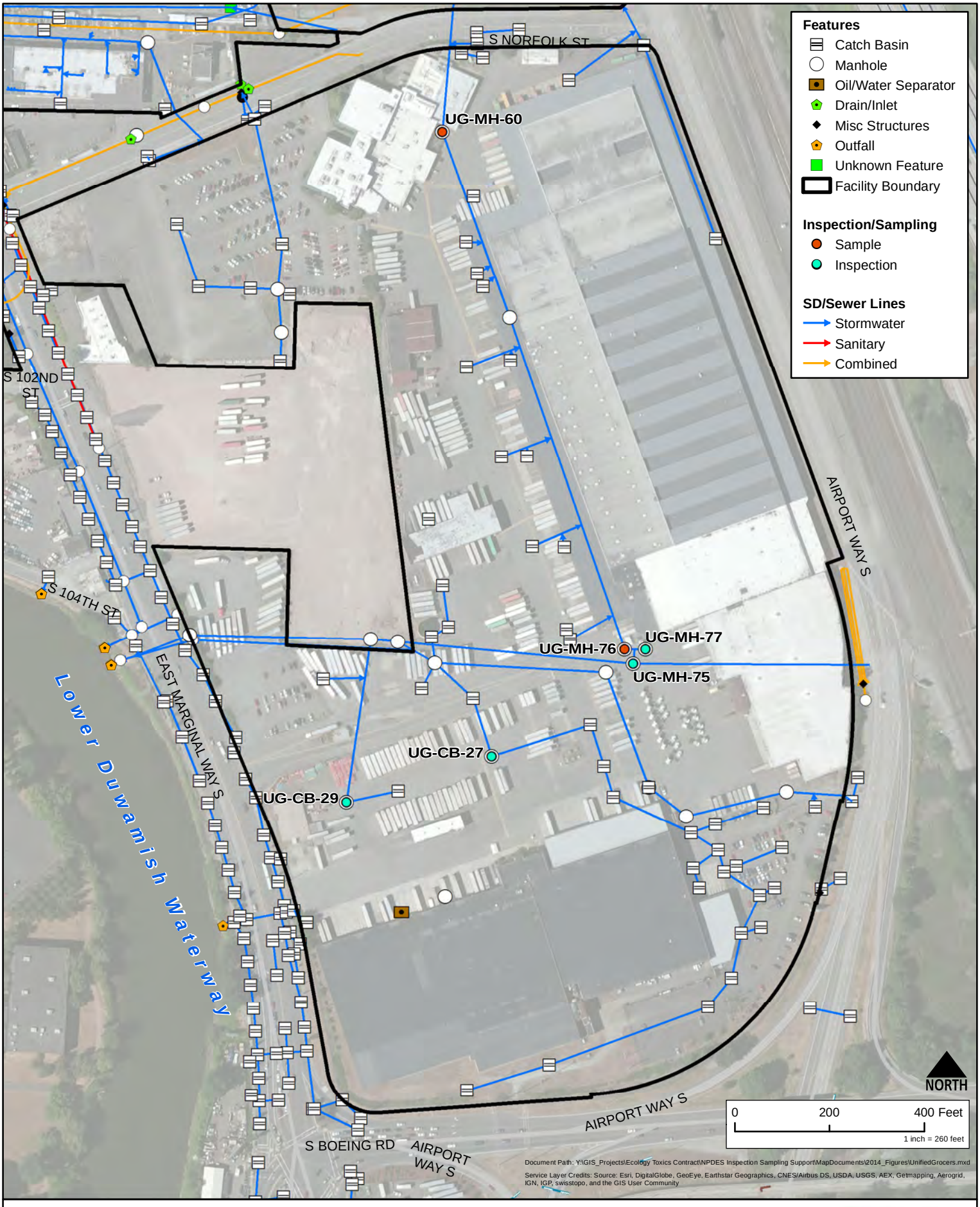
SAMPLE RECEIPT INFORMATION: CONTAINER CONDITION?: GOOD VIOLATED COOL (4° C)? YES NO
CUSTODY SEALS? GOOD VIOLATED NOT USED HAZARDOUS SAMPLES?: NO YES; DESCRIBE ON BACK

PAGE OF

APPENDIX D
CATCH BASIN SAMPLE LOCATIONS

INTERIM ACTION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026



DEPARTMENT OF ECOLOGY
State of Washington

Figure N-2. Unified Grocers Inspection and Sample Locations

leidos

APPENDIX E
SITE MANAGEMENT PLAN

INTERIM ACTION WORK PLAN
Emerald Gateway Site
3301 South Norfolk Street
Seattle/Tukwila, Washington

Farallon PN: 1071-026

FARALLON CONSULTING

Washington
Issaquah | Bellingham | Seattle

Oregon
Portland | Baker City

California
Oakland | Folsom | Irvine

SITE MANAGEMENT PLAN

APPENDIX D OF THE INTERIM ACTION WORK PLAN EMERALD GATEWAY SITE 3301 SOUTH NORFOLK STREET SEATTLE/TUKWILA, WASHINGTON

Submitted by:
Farallon Consulting, L.L.C.
975 5th Avenue Northwest
Issaquah, Washington 98027

Farallon PN: 1071-026

Prepared For:
Prologis-Exchange 3301 South Norfolk LLC
Pier 1, Bay 1
San Francisco, California 94111

August 12, 2019

Prepared by:

Pete Kingston, L.G.
Senior Geologist

Reviewed by:

Peter Jewett, L.G., L.E.G.
Principal Engineering Geologist

CONTENTS

FIGURES

APPENDIX

ABBREVIATIONS AND ACRONYMS

DRO	total petroleum hydrocarbons as diesel-range organics
Ecology	Washington State Department of Ecology
Ecology Soil Guidance	*Guidance for Remediation of Petroleum Contaminated Soils* dated September 2011, revised June 2016 prepared by the Washington State Department of Ecology
Ecology UST Guidance	*Guidance for Site Checks and Site Assessments for Underground Storage Tanks* dated September 1991, revised April 2003 prepared by the Washington State Department of Ecology
Farallon	Farallon Consulting, L.L.C.
Former NWAW Property	the former Northwest Auto Wrecking, Inc. property at 10230 East Marginal Way South in Seattle, Washington on the Property
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
Prologis	Prologis-Exchange 3301 South Norfolk LLC
Property	the Emerald Gateway property at 3301 South Norfolk Street in Seattle and Tukwila, Washington
SMP	*Site Management Plan, Appendix D of the Interim Action Work Plan, Emerald Gateway Site, 3301 South Norfolk Street, Seattle, Washington* dated August 12, 2019 (this document)
UST	underground storage tank
WAC	Washington Administrative Code

1.0 INTRODUCTION

Farallon Consulting, L.L.C. (Farallon) has prepared this Site Management Plan (SMP) on behalf of Prologis-Exchange 3301 South Norfolk LLC (Prologis) for the Emerald Gateway Site at 3301 South Norfolk Street in Seattle and Tukwila, Washington (herein referred to as the Property) (Figures 1 and 2). This SMP provides procedures for managing contaminated media that will be encountered during the interim action activities to be conducted at the Property, which will include characterizing, handling, and disposing of contaminated media; collecting and analyzing performance and confirmational samples; and documenting the interim action. This SMP has been prepared also to summarize requirements for the general contractor and/or designated subcontractors for managing underground storage tanks (USTs) and/or potentially contaminated media that may be encountered during excavation and earthwork activities as part of Property redevelopment.

The Property consists of 63 acres and is a combination of two separate properties that have had different uses:

- The 3301 South Norfolk Street property on the northern, eastern, and southern portions of the Property, which historically was used for commercial warehousing of food products by Unified/Associated Grocers or predecessors, and included truck maintenance and repair operations, truck refueling facilities, and associated underground storage tanks (USTs). Additional historical operations associated with the 3301 South Norfolk Street property included automobile service stations formerly located on the northwestern portion of the Property, and a dry cleaner formerly located on the southwestern portion of the Property.
- The 10230 East Marginal Way South property on the west-central portion of the Property, which was used for automobile wrecking and parts salvaging by Northwest Auto Wrecking, Inc. and currently is vacant (herein referred to as the Former NWAW Property).

Various petroleum products stored in USTs on the 3301 South Norfolk Street portion of the Property were used by former tenants mainly for truck maintenance, repair, and refueling activities from the early 1950s to early 2018. Historical releases of petroleum hydrocarbons from several of the UST systems have been investigated and cleaned up or partially cleaned up on the Property.

Automobile wrecking and salvage activities were conducted on the Former NWAW Property from 1958 to approximately 2007 and included use of a garage with hydraulic hoists, waste-oil aboveground storage tanks, a gasoline UST, several stove-oil USTs, and a parts cleaning and dismantling shop. Former NWAW Property operations also involved storage of large numbers of wrecked automobiles, engines, transmissions, and other salvaged parts on bare ground. A number of releases of petroleum hydrocarbons and lead from discarded batteries were identified during several phases of investigation and remedial soil excavations. The Washington State Department of Ecology (Ecology) issued a Partial Sufficiency determination in 2011 for soil cleanup at the Former NWAW Property.

2.0 IMPLEMENTATION OF THE CLEANUP ACTION

The planned redevelopment of the Property provides for construction of several large warehouse-type buildings and associated internal driveways, and loading/unloading and parking areas. The selected interim action for implementation, discussed in the Interim Action Work Plan, primarily includes excavation of soil from the source areas at the Property, and treatment and/or off-Property disposal of soil with constituents of potential concern (COPCs) at concentrations exceeding remediation levels/screening levels, and/or of soil exhibiting characteristics of contamination during field-screening, treatment, and disposal of dewatering groundwater to the sanitary and/or stormwater sewer system. This section describes implementation of the interim action, specifically:

- Roles and responsibilities;
- Pre-excavation preparation;
- Definition and delineation of the excavation areas; and
- Identification of contaminated soil.

2.1 ROLES AND RESPONSIBILITIES

Construction work related to the interim action will be managed by the general contractor on behalf of Prologis. Numerous subcontractors to the general contractor, including an excavation subcontractor, will provide a range of services during construction and implementation of the interim action.

Farallon is the environmental consultant for Prologis responsible for observing and documenting the interim action, including the excavation of contaminated soil and loading of trucks hauling contaminated soil for disposal off of the Property. Farallon will be responsible for alerting Prologis and the general contractor should non-compliance with the SMP be observed during implementation of the interim action. Farallon's primary communication will be with Prologis and, as directed by Prologis, with the general contractor and the excavation subcontractor. Farallon will delineate and direct the excavation of contaminated soil from uncontaminated soil for the excavation subcontractor using soil sampling data. The excavation subcontractor will be responsible for the means and methods for the excavation, physical segregation of contaminated soil from uncontaminated soil, and transport and disposal of contaminated and uncontaminated soil generated from the Property to comply with construction plans and specifications and per the requirements of the selected disposal facilities. Prologis shall reserve the right to approve the final disposal location(s) for contaminated and uncontaminated soil.

Each party involved in the implementation of the interim action, including the general contractor and subcontractors, will be responsible for the preparation and implementation of their own Health and Safety Plan (HASP) per Section 3.6, Health and Safety Plan, and for compliance with other health and safety orientation requirements imposed by Prologis for this project.

Contact information for key personnel involved with implementation of the interim action is provided below.

Owner: Prologis

Contact information:

1. Mr. Jake Maxwell
   Phone: (206) 331-2810
2. Ms. Janet Frentzel
   Phone: (415) 200-8285

General Contractor and Construction Management: JR Hayes Corporation

Contact information:

1. Mr. Darren Peugh
   Phone: (206) 423-6623

Excavation Subcontractor: To Be Determined

Environmental Consultant: Farallon

Contact information:

1. Mr. Pete Kingston
   Phone: (206) 200-2346

2.2 PRE-EXCAVATION PREPARATION

Pre-excavation activities include groundwater monitoring well decommissioning, additional contaminant delineation, and applicable permitting, discussed in the following sections.

2.2.1 Monitoring Well Decommissioning

Prior to redevelopment activities, Farallon will coordinate the decommissioning of monitoring wells within the footprint of the redevelopment area in accordance with the Washington State Water Well Construction Act.

Monitoring wells located on the western boundary of the Property, including DOF-1 through DOF-3 and the monitoring wells that will be installed during the pre-interim action design investigation, may be retained for future compliance sampling if they can be protected during redevelopment activities. The general contractor and its subcontractors will notify Prologis and Farallon when working proximate to these wells. If the monitoring wells cannot be protected, they will be decommissioned in accordance with the Washington State Water Well Construction Act.

2.2.2 Additional Contaminant Delineation

Farallon may need to collect soil samples from test pits in areas at the Property prior to excavation activities to refine the extent of soil removal and confirm the limits of soil contamination. The general contractor will assist Farallon with test pitting activities at the Property, if necessary.

2.2.3 Wastewater Discharge Permits

Dewatering may be necessary to allow for excavation of impacted soil that is located below the water table. If necessary, generated wastewater will be pumped to aboveground tanks, pretreated on the Property, and discharged to surface water under a Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program. The Administrative Order will establish Indicator Levels for the project based on known contaminants, for compliance with Water Quality Standards for the Surface Water of the State of Washington. The Administrative Order defines the conditions and actions necessary to comply with the Construction Stormwater General Permit. The general contractor is responsible for obtaining wastewater discharge permits. If requested, Farallon can assist the general contractor with obtaining permit coverage and ensuring compliance with the permit requirements.

2.3 DEFINITION AND DELINEATION OF EXCAVATION AREAS

Analytical results from in-situ soil sampling conducted during the subsurface investigations and interim remedial actions have been used to determine the expected distribution of contaminated soil requiring excavation, transport, and treatment and/or disposal off the Property at a permitted disposal facility. In addition, selection of Lower Duwamish Waterway Preliminary Cleanup Levels (PCULs) applicable to the interim action will be based on the analytical results for soil and groundwater samples collected during a pre-interim action design investigation, which will be conducted to collect additional data to evaluate initial screening levels for chemical concentrations based on chemicals and transport pathways. These data will be used to support the selection of cleanup standards, including applicable remediation levels/cleanup levels and points of compliance, and the design of the interim action and final cleanup action for the Property.

Excavated soil containing concentrations of COPCs exceeding remediation levels, and/or exhibiting other evidence of contamination such as visible staining, petroleum-like odor, or elevated volatile organic vapors will be classified for disposal based on the Ecology (2011) *Guidance for Remediation of Petroleum Contaminated Sites* revised June 2016 (Ecology Soil Guidance) and the disposal criteria for the selected disposal facility. Based on its Soil Category (2 through 4), soil will be managed as nonhazardous waste and transported to a facility permitted to receive that specific soil category (i.e., Category 2, or Category 3 and 4) for disposal. The criteria for categorization and disposal of soil are provided in Tables 12.1 and 12.2 of the Ecology Soil Guidance, provided in Appendix A and summarized below:

- Category 1 soil has no detectable petroleum hydrocarbons, no odor, and no visual or other evidence of contamination (e.g., staining, sheen, elevated volatile organic compound measurements using a photoionization detector). Category 1 soil is not a threat to human

health or the environment, and can be placed at any location where allowed under other regulations. Category 1 soil such as clean overburden generated during excavation activities will be segregated to the extent practicable and either used as fill on the Property or transported off the Property for disposal at an approved location selected by Prologis, the general contractor, or the excavation subcontractor.

- Category 2 soil contains residual petroleum hydrocarbons at concentrations within the ranges referenced in Table 12.1, or does not contain detectable concentrations of petroleum hydrocarbons, but has a petroleum-like odor, or visual or other evidence of contamination, and meets the criteria for direct disposal at a permitted disposal facility. Category 2 soil may be used on the Property as fill above the high seasonal groundwater table during redevelopment construction, or may be transported off the Property for disposal at an approved facility.
- Category 3 and 4 soil contains petroleum hydrocarbon concentrations exceeding the ranges referenced in Table 12.1, and requires treatment and/or disposal off the Property. Category 3 and 4 soil generated during excavation activities will be loaded into trucks for transport to an approved and permitted facility for treatment by thermal desorption, followed by landfill disposal; or will be transported to a Subtitle D landfill for direct disposal.

2.4 IDENTIFICATION OF CONTAMINATED SOIL

Field-screening will be performed during soil excavation activities to identify, categorize, and define the extent of contaminated soil in the excavation areas. Field-screening will consist of inspection for visual and odor indications of contamination, including evidence of soil staining or discoloration and/or petroleum-like odors. Field-screening of soil for the presence of volatile organic vapors will be performed using a photoionization detector. A photoionization detector reading exceeding ambient or background concentrations will indicate potential evidence of volatile organic compounds in a soil sample. Field-screening results will be evaluated to assess whether laboratory analysis is needed to further evaluate for the presence of COPCs in the soil sample, and to categorize the soil for disposal.

3.0 UNFORSEEN CONDITIONS AND MEDIA MANAGEMENT

This SMP was prepared to establish general procedures for managing unforeseen conditions during Property redevelopment. Unforeseen conditions most likely to be encountered are the discovery of USTs and/or contaminated soil in areas at the Property that were not previously investigated or were investigated incompletely.

In the event that an unforeseen condition is encountered during redevelopment, the general contractor will temporarily suspend excavation activities proximate to the discovery and immediately notify Prologis and Farallon as soon as possible after the encounter.

The unforeseen conditions and associated activities are discussed in the following sections.

3.1 POTENTIAL DISCOVERY OF ORPHAN USTS

If a UST is encountered during grading or excavation activities, the general contractor will temporarily suspend all work proximate to the UST, and will notify Farallon and the Prologis project representative as soon as practicable. Each UST encountered will be permanently decommissioned by excavation and removal in accordance with Washington State Underground Storage Tank Regulations (Chapter 173-360 of the Washington Administrative Code [WAC 173-360]) and the *Guidance for Site Checks and Site Assessment for Underground Storage Tanks* dated February 1991 and revised April 2003, prepared by Ecology (1991) (Ecology UST Guidance). A contractor licensed to decommission USTs, selected by the general contractor, will provide a certified UST Decommissioning Supervisor to oversee the UST decommissioning and removal activities, which will include the following:

- Notifying the Tukwila Fire Department or Seattle Fire Department (whichever is applicable), obtaining a Temporary Permit for Tank Decommissioning, and scheduling a UST decommissioning inspection by a Fire Marshal;
- Arranging vacuum truck services for pumping out residual product and conducting a preliminary cleaning of the UST interior, as necessary;
- Arranging for a Marine Chemist to assess the UST interior atmosphere and provide inerting, if needed, prior to decommissioning the UST; and
- Transporting the UST off the Property for recycling or disposal.

Farallon will support the activities required for permanent decommissioning of the UST(s) in accordance with the Ecology UST Guidance, including the following:

- Providing a Washington State-certified Site Assessor to observe and document each UST decommissioning event, including the overexcavation and removal of contaminated soil if contaminated soil is present, and to perform site assessment soil sampling at the limits of the UST excavation;

- Submitting the site assessment soil samples to the project analytical laboratory for analysis for appropriate constituents of potential concern, based on field observations and regulatory requirements; and
- Completing a UST Site Check/Site Assessment Checklist, preparing a site assessment report, and gathering additional closure documentation, including the Permanent Closure Notice for USTs, for submittal to Ecology.

The results from UST decommissioning activities will be incorporated into the Interim Action Report to be prepared for the Property.

3.2 POTENTIAL DISCOVERY OF CONTAMINATED SOIL

If field observations such as soil staining and/or odor indicate the presence of potentially contaminated soil during grading and excavation activities, the general contractor will notify Farallon and the Prologis project representative as soon as practicable. The general contractor will direct the earthworks subcontractor to implement the following actions:

- Stop grading or excavation work in the area of potentially contaminated soil;
- Isolate the area with barricades and caution tape;
- Restrict equipment traffic through the area to avoid tracking of contaminated soil out of the area;
- Restrict personnel access; and
- Document the occurrence using field notes and photographs.

Farallon will observe the field conditions and, at a minimum, will implement the following actions:

- Estimate and mark the boundaries of potentially contaminated soil using field-screening methods, which will consist of:
    - Inspecting for visual and odor indications of contamination, including evidence of soil staining or discoloration and/or petroleum-like odors; and
    - Assessing the soil for the presence of volatile organic vapors using a photoionization detector.
- Coordinate with the general contractor to excavate the contaminated soil for temporary stockpiling on plastic sheeting.
- Collect in-situ soil samples from the limits of the excavation for laboratory analysis to confirm that appropriate remediation levels have been achieved.
- Collect soil samples from the stockpiles for laboratory analysis for soil profiling, manifesting, and disposal off the Property.

- Coordinate the soil assessment and cleanup activities with the general contractor to minimize adverse effects on the construction schedule.
- Document the soil assessment and cleanup activities, and incorporate the results into the Interim Action Report to be prepared for the Property.

The general contractor will confirm that excavation personnel performing the excavation of contaminated or potentially contaminated soil have successfully completed the 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training in accordance with Part 1910.120 of Title 29 of the Code of Federal Regulations.

3.3 SOIL HANDLING AND DISPOSAL

Excavated soil containing concentrations of COPCs exceeding remediation levels, and/or exhibiting other evidence of contamination as determined using field-screening methods, will be classified for disposal based on the Ecology Soil Guidance, and the disposal criteria for the selected disposal facility. Based on its category, soil will be managed as nonhazardous waste, and transported to a facility permitted to receive the specific soil category for treatment and/or disposal.

The criteria for soil categorization and disposal are summarized as follows:

- Category 1 soil has no detectable petroleum hydrocarbons, no odor, and no visual or other evidence of contamination (e.g., staining, sheen, elevated volatile organic vapor measurements using a photoionization detector). Category 1 soil is not a threat to human health or the environment, and can be placed at any location where allowed under other regulations. Category 1 soil will be segregated to the extent practicable and either used as fill on the Property or transported off the Property for disposal at an approved location selected by Prologis or the general contractor.
- Category 2 soil contains residual petroleum hydrocarbons at concentrations within the ranges referenced in Table 12.1 (Appendix A), or does not contain detectable concentrations of petroleum hydrocarbons but has a petroleum-like odor, or visual or other evidence of contamination; and meets the criteria for direct disposal at a permitted disposal facility. Category 2 soil may be used on the Property as fill above the high seasonal groundwater level and capped with asphaltic or concrete pavement, or may be transported off the Property for disposal at an approved facility.
- Category 3 and 4 soil contains petroleum hydrocarbon concentrations exceeding the ranges referenced in Table 12.1, and requires treatment and/or disposal off the Property. Category 3 and 4 soil will be loaded into trucks for transport to an approved and permitted facility for treatment by thermal desorption, followed by landfill disposal; or will be transported to a Subtitle D landfill for direct disposal.

3.4 POTENTIAL GROUNDWATER DEWATERING

Dewatering may be necessary to allow for excavation of impacted soil that is located below the water table. If necessary, generated wastewater will be pumped to aboveground tanks, pretreated on the Property, and discharged to surface water under a Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program. The Administrative Order will establish Indicator Levels for the project based on known contaminants for compliance with Water Quality Standards for Surface Waters of the State of Washington. The Administrative Order defines the conditions and actions necessary to comply with the Construction Stormwater General Permit. The general contractor is responsible for obtaining wastewater discharge permits. If requested, Farallon can assist the general contractor with obtaining permit coverage and ensuring compliance with the permit requirements.

3.5 SOIL AND GROUNDWATER SAMPLE ANALYSES

The COPCs detected at concentrations exceeding the most-stringent Lower Duwamish Waterway Preliminary Cleanup Levels in soil and/or groundwater samples collected during subsurface investigations conducted at the Property are:

- Total petroleum hydrocarbons (TPH) as diesel-range organics;
- TPH as oil-range organics;
- TPH as gasoline-range organics;
- Polychlorinated biphenyls;
- Polycyclic aromatic hydrocarbons;
- Volatile organic compounds; and
- Metals (arsenic, cadmium, copper, lead, manganese, mercury, and zinc).

Following the pre-interim action design investigation and before the Interim Action Work Plan is implemented, a Draft Interim Action Design Report will be prepared and submitted to Ecology for review and approval. The Draft Interim Action Design Report will document the results from the pre-interim action design investigation, provide an updated conceptual site model based on the results from the investigation, establish the remediation levels applicable for the interim action, and provide the final design components of the interim action.

Wastewater sampling will be dependent on the Construction Stormwater General Permit and an Administrative Order issued by the Ecology Water Quality Program. The Administrative Order will establish Indicator Levels for the project based on known contaminants, for compliance with Water Quality Standards for Surface Waters of the State of Washington. Laboratory analysis of wastewater samples will be dependent on the Indicator Levels established for the project.

3.6 HEALTH AND SAFETY PLAN

A HASP is required for the interim action activities per WAC 173-340-810. Each party involved, including the general contractor and subcontractors, will be responsible for preparing and implementing a HASP that complies with the requirements of the Occupational Safety and Health Act of 1970, and the Washington Industrial Safety and Health Act (Chapter 49.17 of the Revised Code of Washington). Farallon's HASP will be included in the Interim Action Design Report.

All workers involved with UST decommissioning and contaminated soil excavation activities are assumed to be covered by HAZWOPER requirements of the Occupational Safety and Health Administration standard (Part 1910.120 of Title 29 of the Code of Federal Regulations). In which case, all workers will have received certificates for the 40-hour HAZWOPER training course and current 8-hour refresher training course.

4.0 REFERENCES

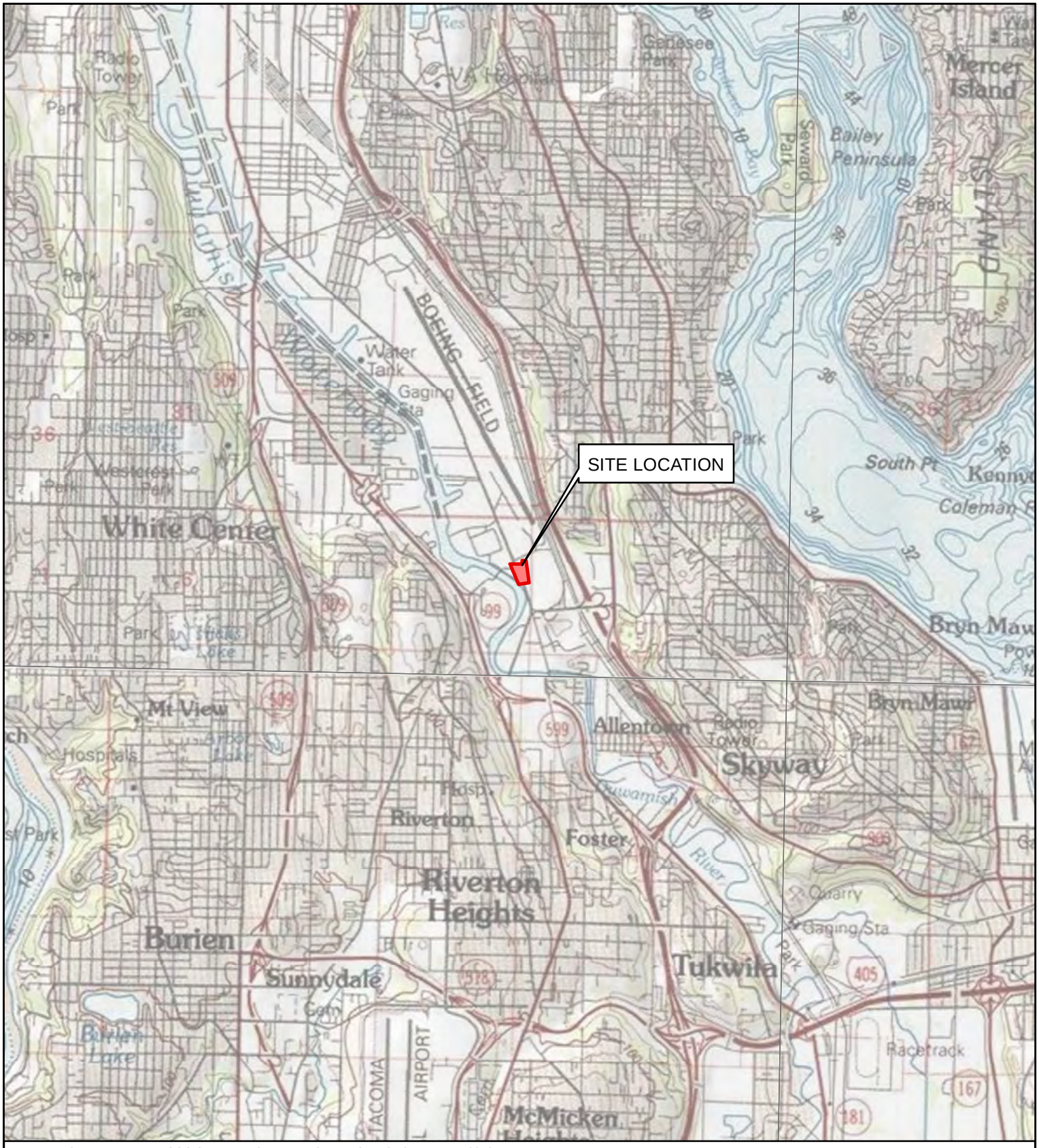
Washington State Department of Ecology (Ecology). 1991. *Guidance for Site Checks and Site Assessments for Underground Storage Tanks.* Publication No. 90-52. Revised April 2003. February.

———. 2011. *Guidance for Remediation of Petroleum Contaminated Sites.* Publication No. 10-09-057. Revised June 2016. September.

FIGURES

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

Farallon PN: 1071-026



REFERENCE: 7.5 MINUTE USGS QUADRANGLE RENTON, WASHINGTON, DATED 2013

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SCALE IN FEET

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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: jjones | Checked By: KS | Date: 6/13/2019 | Disc Reference:
Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\Reg_Interaction\IAWP\Figure-01_SiteVicinityMap.mxd

KING COUNTY INTERNATIONAL AIRPORT - BOEING FIELD

SOUTH NORFOLK STREET

OFFICE BUILDING

FORMER PUMP ISLAND

FORMER TRUCK REPAIR SHOP

FORMER BUILDING

FORMER OLD HUMBLE OIL SERVICE STATION

FORMER UST

FORMER PUMP ISLAND

UST-H

UST-I

FORMER TRUCK REPAIR SHOP

UST-G

FORMER PUMP ISLAND

UST-J

FORMER BANK BUILDING

FORMER TRAILER MAINTENANCE SHOP

AIRPORT WAY SOUTH

DRY GROCERY WAREHOUSE

FORMER WAREHOUSE

FORMER PARTS CLEANING AND DISMANTLING SHOP

FORMER STOCKPILES AND PETROLEUM-IMPACTED SOIL EXCAVATION AREAS

FORMER OFFICE

FORMER GASOLINE UST

HISTORICAL STOVE OIL UST AREA

FORMER HYDRAULIC HOIST AREA

RELIC UST AREA

FORMER 10,000-GALLON USTS

FORMER STORAGE BUILDINGS

RETURNS BUILDING

FORMER AUTOMOBILE SERVICE STATIONS

LOWER DUWAMISH WATERWAY

UST-B

UST-C

UST-A

FORMER GASOLINE AST

FORMER DIESEL USTS

UST-F

FORMER DISPENSER ISLAND

UST-E

FORMER TRUCK WASH

FORMER SOUTH MAINTENANCE SHOP

UST-K

UST-L

UST-D

PERISHABLES WAREHOUSE

EAST MARGINAL WAY SOUTH

SOUTH BOEING ACCESS ROAD

N

0 200

SCALE IN FEET

LEGEND

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

AST = ABOVEGROUND STORAGE TANK

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

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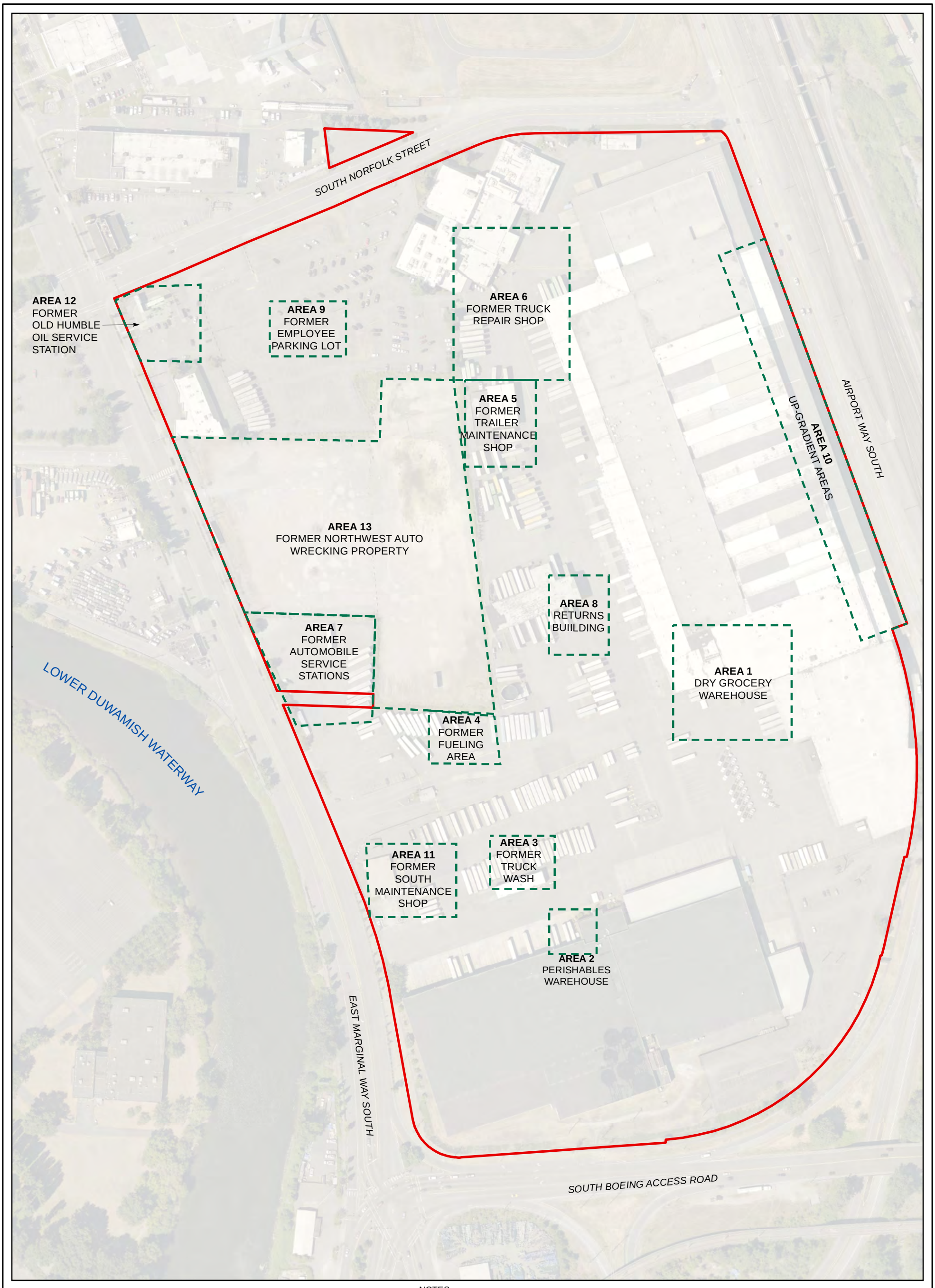
FIGURE 2

PROPERTY PLAN WITH
HISTORICAL SITE FEATURES
EMERALD GATEWAY SITE
3301 SOUTH NORFOLK STREET
SEATTLE/TUKWILA, WASHINGTON

FARALLON PN: 1071-026

Drawn By: jjones | Checked By: PK | Date: 6/13/2019 | Disc Reference:

Path: Q:\Projects\1071 Prologis\026_EMarginalWay_SouthNorfolk\Mapfiles\Reg_Interaction\IAWP\Figure-02_PropertyPlan.mxd



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

LEGEND

- INVESTIGATION AREA
- SITE BOUNDARY

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FIGURE 3

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

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Drawn By: jjones | Checked By: PK | Date: 6/13/2019 | Disc Reference:

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APPENDIX A
ECOLOGY GUIDANCE TABLES

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

Farallon PN: 1071-026

Table 12.1 Guidelines for Reuse of Petroleum-Contaminated Soil

Parameter	Analytical Method	Soil Category (8)(9)(10)			
		1 No detectable Petroleum Components (mg/kg)	2 Commercial Fill Above Water Table (mg/kg)	3 Paving Base Material & Road Construction (mg/kg)	4 Landfill Daily Cover or Asphalt Manufacturing (mg/kg)
Total Petroleum Hydrocarbons (1)(2) See Table 7.1 for petroleum products that fall within these categories.					
Gasoline Range Organics	NWTPH-Gx	<5	5 - 30	>30 - 100	>100
Diesel Range Organics	NWTPH-Dx	<25	25 - 200	>200 - 500	>500
Heavy Fuels and Oils*	NWTPH-Dx	<100	100 - 200	>200 – 500	>500
Mineral Oil	NWTPH-Dx	<100	100 - 200	>200 – 500	>500
Volatile Petroleum Components					
Benzene	SW8260B	<0.005	0.005 - 0.03	0.03 or less	See Table 12.2
Ethyl benzene	SW8260B	<0.005	0.005 - 6	6 or less	>6
Toluene	SW8260B	<0.005	0.005 - 7	7 or less	>7
Xylenes (3)	SW8260B	<0.015	0.015 - 9	9 or less	>9
Fuel Additives & Blending Components					
(MTBE) Methyl Tert-Butyl Ether	SW8260B	<0.005	0.005 - 0.1	0.1 or less	>0.1
Lead	SW6010A	<17	17 - 50	>50 - 220	See Table 12.2
Other Petroleum Components					
Polychlorinated (4) Biphenyls (PCBs)	SW8082	<0.04	<0.04	<0.04	See Table 12.2
Naphthalenes (5)	SW8260B	<0.05	0.05 - 5	5 or less	>5
cPAHs (6)	SW8270C	<0.05	0.05 - 0.1	>0.1 - 2	>2
Other Petroleum Characteristics (Applies to soils contaminated with any petroleum product.)					
Odors	Smell	No detectable odor			
Staining	Visual	No unusual color or staining			
Sheen Test	See Footnote # 7	No visible sheen			

IMPORTANT: See Table 12.2 and the footnotes to this Table on the following pages!

Test soil for the parameters specified in Table 7.2.

****Does NOT include waste oil contaminated soils, which should be disposed of in a landfill.***

"<" means less than; ">" means greater than

Table 12.2 Description and Recommended Best Management Practices for Soil Categories in Table 12.1 (continues on next page)		
Category	**Acceptable Uses**	**Limitations**
Category 1 Soils: Soils with no detectable/ quantifiable levels of petroleum hydrocarbons or constituents using the analytical methods listed in Table 7.3 and are not suspected of being contaminated with any other hazardous substances.	• Can be used anywhere the use is allowed under other regulations. • Any use allowed for Category 2, 3 & 4 soils.	• These soils may have a slight petroleum odor, depending on the sensitivity of individuals, and this should be considered when reusing these soils.
Category 2 Soils: Soils with residual levels of petroleum hydrocarbons that could have adverse impacts on the environment in some circumstances.	• Any use allowed for Category 3 & 4 soils. • Backfill at cleanup sites above the water table. • Fill in commercial or industrial areas above the water table. • Road and bridge embankment construction in areas above the water table.	• Should be placed above the highest anticipated high water table. If seasonal groundwater elevation information is not available, place at least 10 feet above the current water table. • Should not be placed within 100 feet of any private drinking water well or within the 10 year wellhead protection area of a public water supply well. • Should not be placed in or directly adjacent to wetlands or surface water where contact with water is possible. • Should not be placed under a surface water infiltration facility or septic drain field. • Any other limitations in state or local regulations.
Category 3 Soils: Soils with moderate levels of residual petroleum contamination that could have adverse impacts on the environment unless re-used in carefully controlled situations.	• Any use allowed for Category 4 soils. • Use as pavement base material under public and private paved streets and roads. • Use as pavement base material under commercial and industrial parking lots.	• Should be placed above the highest anticipated high water table. If seasonal ground water elevation information is not available, place at least 10 feet above the water table. • Should be a maximum of 2 feet thick to minimize potential for leaching or vapor impacts. • Should not be placed within 100 feet of any private drinking water well or within the 10 year wellhead protection area of a public water supply well. • Should not be placed in or directly adjacent to wetlands or surface water. • Should not be placed under a surface water infiltration facility or septic drain field. • When exposed, runoff from area in use should be contained or treated to prevent entrance to storm drains, surface water or wetlands. • Any other limitations in state or local regulations.

Table 12.2 Description and Recommended Best Management Practices for Soil Categories in Table 12.1 (continued)		
Category	**Acceptable Uses**	**Limitations**
Category 4 Soils: Soils with high levels of petroleum contamination that should not be re-used except in very limited circumstances.	• Use in the manufacture of asphalt. • Use as daily cover in a lined municipal solid waste or limited purpose landfill provided this is allowed under the landfill operating permit.	**Landfill Limitations:** The soil should be tested for and pass the following tests: ➢ Free liquids test. Soils that contain free liquids cannot be landfilled without treatment. ➢ TCLP for lead and benzene. Unless exempt under WAC 173-303-071(3)(t), soils that fail a TCLP for lead or benzene must be disposed of as hazardous waste. ➢ Flammability test. Soils that fail this test must be disposed of as hazardous waste. ➢ Bioassay test under WAC 173-303-100(5). Soils that fail this test must be disposed of as hazardous waste. ➢ PCBs. Soils with a total PCB content of 2 ppm or more must be disposed of as hazardous waste. Soil used for daily cover should be stockpiled within the landfill lined fill area. Soil containing more than 10,000 mg/kg TPH should be buried immediately with other wastes or daily covered to limit potential worker exposure. Any additional limitations specified in the landfill permit or in other state or local regulations. **Asphalt Manufacturing Limitations:** Soil storage areas should be contained in a bermed area to minimize contact with surface water runoff from adjacent areas. Runoff from storage areas should be considered contaminated until tested to prove otherwise. Soil storage areas should also be lined and covered with a roof or secured tarp to minimize contact with precipitation and potential groundwater contamination. Leachate from storage areas should be considered contaminated until tested to prove otherwise. The soil should be tested for and pass the following tests: ➢ TCLP for lead and benzene. Unless exempt under WAC 173-303-071(3)(t), soils that fail a TCLP for lead or benzene must be disposed of as hazardous waste. ➢ Flammability test. Soils that fail this test must be disposed of as hazardous waste. ➢ Bioassay test under WAC 173-303-100(5). Soils that fail this test must be disposed of as hazardous waste. ➢ No detectable levels of PCBs in soil (<0.04 mg/kg). Precautions should be taken to minimize worker exposure to soil storage piles and any dust or vapors from these piles prior to feeding into the asphalt batch plant.
IMPORTANT: See the following page for additional information!		