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March 4, 2015

MR. ROBERT BLISS
GENERAL SERVICES ADMINISTRATION
400 15TH STREET SW
AUBURN, WASHINGTON 98134

Re: Opinion pursuant to WAC 173-340-515(5) on Proposed Remedial Action for the following Hazardous Waste Site:

- **Site Name:** GSA Federal Center S. Bldg 1206
- **Site Address:** 4735 E. Marginal Way S., Bldg 1206, Seattle, Washington
- **Facility/Site ID No.:** 18866
- **VCP Project No.:** NW2930
- **Cleanup Site ID No.:** 12493

Dear Mr. Bliss:

Thank you for submitting documents regarding your proposed remedial action for the **GSA Federal Center S. Bldg 1206** facility (Site) for review by the Washington State Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding a review of submitted documents/reports pursuant to requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site:

- Total petroleum hydrocarbons in the diesel- (TPH-D) and heavy oil- (TPH-O) ranges and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) into the Soil

Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in

accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding your proposed remedial action(s):

1. The Riley Group, Inc., 2014. *Underground Storage Tank Closure Report, Federal Center South, 4735 East Marginal Way South, Seattle, Washington 98134.* July 23.

2. EHS International, 2011. *U.S. General Services Administration Federal Center South Underground Storage Tank Assessment Final.* October 5.

The documents listed above are kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. You can make an appointment by calling the NWRO resource contact at (425) 649-7235 or sending an email to: nwro_public_request@ecy.wa.gov.

This opinion is void if any of the information contained in those documents is materially false or misleading.

The Site is defined by the extent of contamination caused by the following release(s):

- Total petroleum hydrocarbons in the diesel- (TPH-D) and heavy oil- (TPH-O) ranges and carcinogenic polycyclic aromatic hydrocarbons (cPAHs) into the Soil

The Site is more particularly described in Enclosure A to this letter, which includes a detailed Site diagram. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of supporting documentation listed above, pursuant to **requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing the following release(s) at the Site, Ecology has determined:**

- The 2014 UST Closure Report (report) (Section 2.0; page 1) states that EHS International was retained in '2001' but according to the cited reference, it was '2011'.

- The report needs to include figures that clearly show sampling locations where the contamination was encountered (performance sampling) and sampling locations demonstrating how the contamination (confirmation sampling) was removed.

- The report (Section 3.0; 7th bullet) states that *Technical Memorandum No. 1* dated March 11, 2014 and *Technical Memorandum No. 2* dated April 2, 2014 were prepared and submitted to a contractor. Copies (paper and electronic) of these documents need to be provided to Ecology for the project file and for review.

- The report (page 5) states that 23 soil characterization samples were submitted for analysis in December 2013 and March 2014. Table 1 lists 10 soil characterization samples being submitted for analysis during December 2013 to March 2014. Table 1 then lists 10 UST assessment samples, 11 Area 1 soil samples and 6 Area 2 soil samples. Which of these are the other 13 soil characterization samples referred to in the text?

- The report (page 5) states that 23 soil characterization samples were collected from soil overlying the USTs and along some piping runs, and references Figure 3. Figure 3 shows 25 soil sample locations. The figure legend contains symbols for soil characterization samples, UST assessment soil samples and performance soil sample locations. The figure needs to indicate which samples were collected above the USTs.

- The report text (Section 9.1; page 8) states that the final limits of each excavation area along with locations of performance and characterization samples are depicted on Figure 4. Figure 4 shows about half of Areas 1 and 2. Is the text referring to Figure 3?

- The report figures show a concrete retaining wall on the north and east sides of Area 2. The report text (Section 8.2) states that the presence of the wall precluded collection of soil samples in that part of the excavation. What is the approximate depth of the retaining wall (are there construction or as-built drawings available)? It appears that soil sample UA-4E:12 is a sidewall sample collected at 12 feet below the ground surface (bgs) along or beneath the eastern edge of the retaining wall. Was an effort made to collect excavation sidewall samples at or under the base of the north and northeast portions of the retaining wall? No sidewall or bottom soil samples were collected to represent the northeast corner of the Area 2 excavation.

- The report figures show a 'former broken line' in Area 1 which is not discussed in the text. Was there a former release in this area and was it investigated?

- The report figures show a small 'L' shaped concrete wall in Area 1. The dimensions and purpose of the wall should be discussed in the text.

- Soil sample NWEX-10W:6 contained the highest levels of TPH contamination (81,000 mg/kg) on the Site but the sample is not close to a former UST or a pipeline. What is the source of this contamination?

- In Section 12 (Conclusions) of the report (page 9), the second bullet refers to "relatively minor releases that are the result of product piping and overfilling of the USTs". A maximum concentration of 81,000 mg/kg TPH in soil cannot be considered indicative of a minor release. Also, there were limited soil samples collected from the east ends of the USTs where the fill ports and related vaults were actually located.

- Figure 2 of the 2014 UST Closure report shows the excavation boundary as of 03/20/14 while Figure 3 shows the excavation boundary as of 05/27/14 but both figures show the same boundary. If it is the same boundary on both dates, the label should be shortened to "Area 2 Excavation Boundary" on both figures.

- Figure 3 of the report shows a former test pit location south of the USTs. The test pit is not described in the text and no text pit log is included in the report appendices. The rationale for both the test pit excavation and soil sample collection as well as the results, need to be discussed in the text.

- Figure 3 shows the results of soil sampling. On all figures, Please include the concentration of the laboratory reporting limit with a '<' symbol rather than using 'ND'. Also, if displaying data, include the analyses that were conducted. For example, the samples P11-5 and Vault-5 are shown as 'ND' but neither was analyzed for TPH-D and TPH-O.

- Figures 3 and 4 of the report include notes for samples stating 'VOCs Not Included in TPH Screening Level Calculation'. No screening level calculations are discussed in the text or presented in Table 1 so this notation should be eliminated.

- One soil sample, P7-1, is shown in Figures 3 and 4 to represent soil at the three former product lines leading into Building 1206. The sample was collected at a depth of 1 foot bgs. Other product line samples were collected at depths of 4 to 6 feet bgs. The report text needs to include information on the actual depths of the product lines as well as a description of the removal of the product lines.

- Figures 3 and 4 of the report show two former product lines extending from UST1 to Building 1206 that were not sampled. The two figures also show a set of what appear to be product lines and vaults north of excavation A1 but this feature is not discussed in text although several soil samples were collected. One sample, P8-5, was collected but not analyzed, this is also not discussed in the report.

- According to Figure 4, there were no excavation sidewall samples collected along the Area 2 excavation boundary between A1-6S:6 and A2-3W:8. This linear distance, approximately 30 feet, is twice what is stated in the report text as being the general distance between sidewall samples (15 feet).

- Table 1 of the report should differentiate which characterization soil samples were collected from soil overlying the USTs. Table 1 should also indicate which soil samples are sidewall and bottom samples. A soil sample in Area 1 is called "A2-3E:6" but appears to be actually named "A1-3E:6" in Figure 4. The table should be corrected with the correct sample name.

- Ecology does not consider samples of excavation water representative of ground water therefore MTCA Method A cleanup levels for ground water are not applicable to the excavation water samples. Site ground water has not been characterized.

- Ecology does not accept the use of silica gel cleanup for NWTPH-Dx analyses unless uncontaminated background samples indicate that naturally-occurring organic matter is a significant component of the TPH detected in ground water (see Ecology publication No. 10-09-057 *Guidance for Remediation of Petroleum Contaminated Sites* pages 91 and 92 for more detail).

This opinion does not represent a determination by Ecology that a proposed remedial action will be sufficient to characterize and address the specified contamination at the Site or that no further remedial action will be required at the Site upon completion of the proposed remedial action. To obtain either of these opinions, you must submit appropriate documentation to Ecology and request such an opinion under the VCP. **This letter also does not provide an opinion regarding the sufficiency of any other remedial action proposed for or conducted at the Site.**

Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or conducted at the Site meet those requirements.

If you have any questions regarding this opinion, please contact me at (425) 649-7064 or hvic461@ecy.wa.gov.

Sincerely,

Heather Vick

Heather Vick, LHg
NWRO Toxics Cleanup Program

Enclosures: (1) A Description and Diagrams of the Site

cc: Sonia Fernandez, VCP Coordinator, Ecology

Enclosure A

Description and Diagrams of the Site

Site Description

This section provides Ecology's understanding and interpretation of Site conditions, and is the basis for the opinions expressed in the body of the letter.

Site: The Site is defined as total petroleum hydrocarbons in the diesel (TPH-D) and oil ranges (TPH-O) in soil at 4735 East Marginal Way South in Seattle, Washington (Property). The Property corresponds to King County tax parcel number 3573200975 which is 32.99 acres in size. The Site is located in the southeastern portion of the Property. The Property is also the location of another VCP site, NW2177, which is located in the northwestern portion of the Property.

Area and Property Description: The Property is located in the Duwamish Waterway area of south Seattle. The Property contains a 424,367-square foot masonry building that was constructed in 1931. Other industrial operations extend both north and south along the Duwamish Waterway shoreline and eastward across East Marginal Way South. Three underground storage tanks (USTs) were formally located east of Building 1206 which is in the southeast corner of the Property (see Figure 1 in the Site Diagrams). Two abandoned rail spurs are located east of the USTs.

Property History and Current Use: The Property and surrounding area were originally a tidal marsh near the mouth of the Duwamish River. Fill placement has created the current land surface, and the river was straightened and channelized in the early 1900s to become the Duwamish Waterway. In 1930, the Ford Motor Company (Ford) built an automobile manufacturing plant on the Property consisting of Building 1201. In 1940, Ford released the Property to the U.S. Government and it became the Seattle Quartermaster Depot and Army Port of Embankment. Shortly after, the 1202 building was constructed on the Property and the Army Corps of Engineers took over activities at the Property. In 1957, the U.S. Air Force took over the Property to begin manufacturing the supersonic, self-guided nuclear-tipped "BOMARC" interceptor missile. ACOE moved back into the 1201 building in 1974. In the following years, Building 1202 became a major storage and shipment facility for the Alaska Native Corporation. Building 1202 was also used for final assembly of the AMTRAK Cascades high-speed rail cars. Building 1203 was constructed in 1969 and used for a motor pool. Building 1206 was part of the original Ford motor plant complex and was formerly designated as an 'oil house'. Fuel for steam heat was routed through Building 1206 to Building 1201 where the boilers were formerly located.

In 2012, the northern portion of Building 1202 was demolished in order to construct a new building which is called the Federal Central South Building 1202; Building 1203 was also demolished at that time. The southern half of Building 1202 was later demolished and is currently a concrete slab only. Building 1201 is currently used for offices. Building 1206 housed the Bureau of Indian Affairs until 2014. The U.S. Army Corps of Engineers (ACOE) is currently headquartered in the new 1202 building. The Property is currently used for warehousing and offices.

Sources of Contamination: Sources of contamination on the Site include three 30,000-gallon USTs that were installed by Ford in 1930. The three USTs were numbered with the northernmost being UST1 and the southernmost being UST3 as shown in Figure 2 of the attached Site Diagrams. Multiple former piping runs between the USTs and Building 1206, west of the USTs, are also considered potential sources of contamination on the Site. The three USTs, which were located just east of Building 1206, were first used to store bunker C oil used for boilers in Building 1201. The

USTs were later used to store heating oil. The USTs were most likely last used in the 1970s and 1980s. The boilers in Building 1201 currently use natural gas as fuel. Analysis of the UST contents prior to removal indicated that primarily total petroleum hydrocarbons in the diesel range (TPH-D) with minor amounts of TPH in the oil range (TPH-O) were present. The USTs and related appurtenances on the Property were removed in March 2014.

Physiographic Setting: The Site is located within the Puget Sound Lowland physiographic province, a north-south trending structural and topographic depression that is bordered on its west side by the Olympic Mountains, and to the east by the Cascade Mountain foothills. The Puget Sound Lowland is underlain by Tertiary volcanic and sedimentary bedrock, and has been filled to the present day land surface with Pleistocene glacial and nonglacial sediments.

Surface/Storm Water System: The closest surface water body to the Site is the Duwamish Waterway located immediately west of the Site. Storm water runoff on and in the vicinity of the Property disperses via sheet flow to catch basins connected to the City of Seattle stormwater system.

Ecological Setting: Limited wildlife habitat exists along the eastern shoreline of the Duwamish Waterway. More extensive terrestrial habitat exists in a small park, Terminal 108 Park, located immediately north of the Property, and in the larger Kellogg Island situated mid-stream across from the Site. The island is about 1,000 feet west of the Site.

Geology: Soil within the UST excavation consisted primarily of sand (fill) which was underlain by a silt layer at approximately 14 feet bgs.

Ground Water: Ground water occurs within the base of the fill and in the underlying alluvium under generally unconfined (water table) conditions. The depth to water varies seasonally and with the tide, ranging from 5 to 6 feet below ground surface. Ground water flow directions are to the west towards the waterway, except at high tide when some flow reversal occurs in the northwestern portion of the Site.

Water Supply: The Property is supplied with water from the City of Seattle which obtains drinking water from the Cedar and Tolt River watersheds. No water supply wells are located in the area according to Ecology's well log database.

Release and Extent of Soil and Ground Water Contamination:

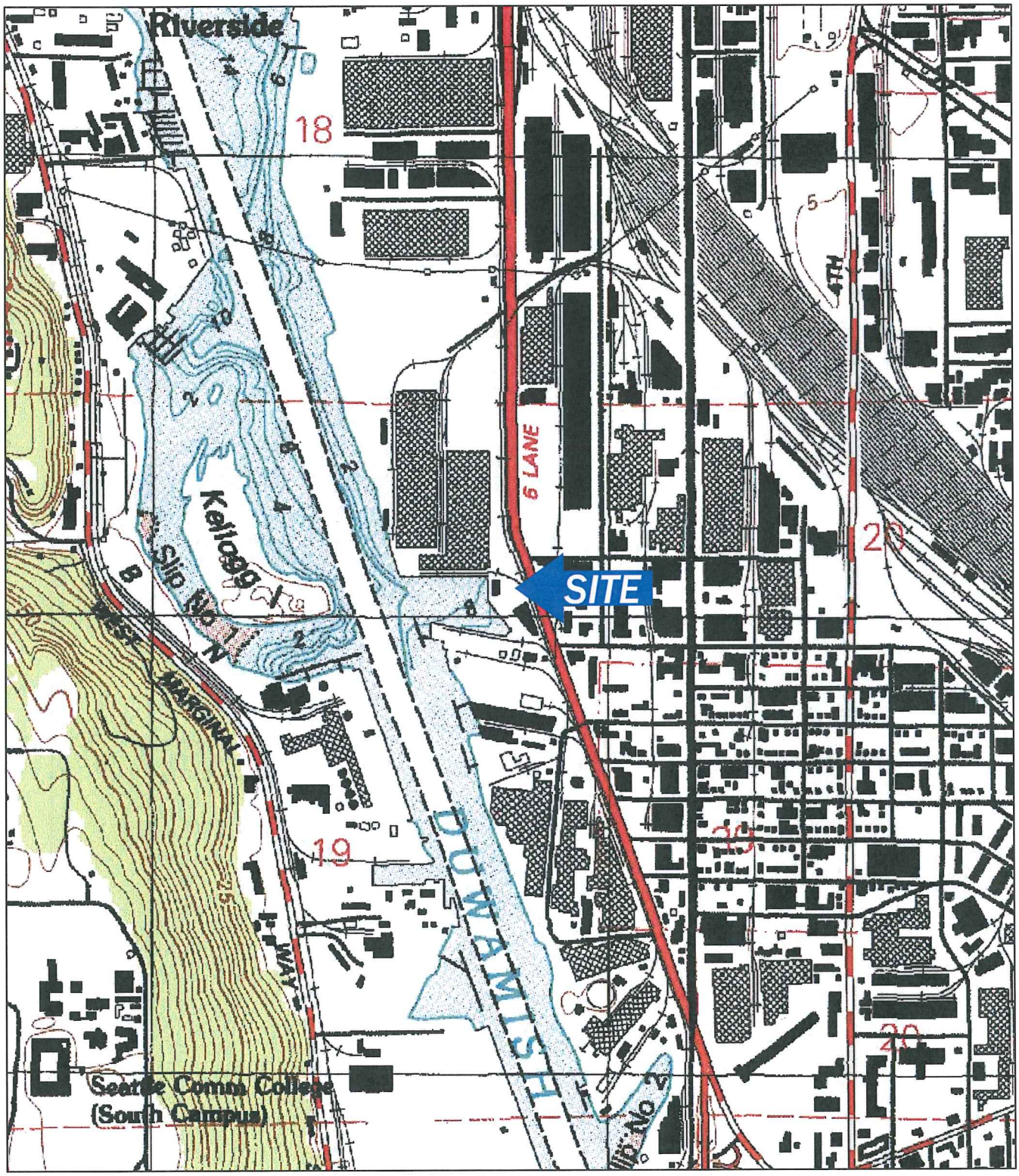
The three 30,000-gallon USTs were decommissioned and removed from the Property in March 2014. The USTs were pumped, rinsed and inerted prior to removal. Following removal of the three USTs, soil was overexcavated in the area that formerly contained the USTs. The excavation was divided into two areas, Area 1 and Area 2. Area 1 was located immediately northwest of the three

USTs (see Figure 2 in the Site Diagrams) and contained a former broken line. Area 1 was excavated to a maximum depth of 9 feet bgs. Area 2 contained the three USTs and was excavated to a maximum depth of 12 feet bgs. Soil samples collected during the excavation work were mostly analyzed for TPH-D and TPH-O; selected soil samples were analyzed for benzene, toluene, ethylbenzene and xylenes as well as volatile organic compounds and naphthalene.

In December 2013, soil overlying the USTs was first removed and sampled as was soil underlying some of the fuel piping. A total of 23 soil characterization samples were collected and submitted for analysis.

The three USTs were removed in March 2014. The bottoms of the three USTs were submerged in water that occurred at approximately 13 feet bgs. Seven sidewall soil samples (UA-4 through UA-9; UA-11) were collected in the excavations above the level of the water. A soil sample was collected from beneath each of the former UST locations (UA-1B through UA-3B); these samples were collected below the level of the water in the excavation. Nine of the ten soil samples contained no detectable petroleum hydrocarbons above laboratory detection limits. Only sidewall soil sample UA-8W:12 contained 1,700 mg/kg of TPH-D, which is below the Method A cleanup level.

Site Diagrams



USGS, 1983, Seattle South, Washington
7.5-Minute Quadrangle

Approximate Scale: 1"=1000'

0 500 1000 2000

N

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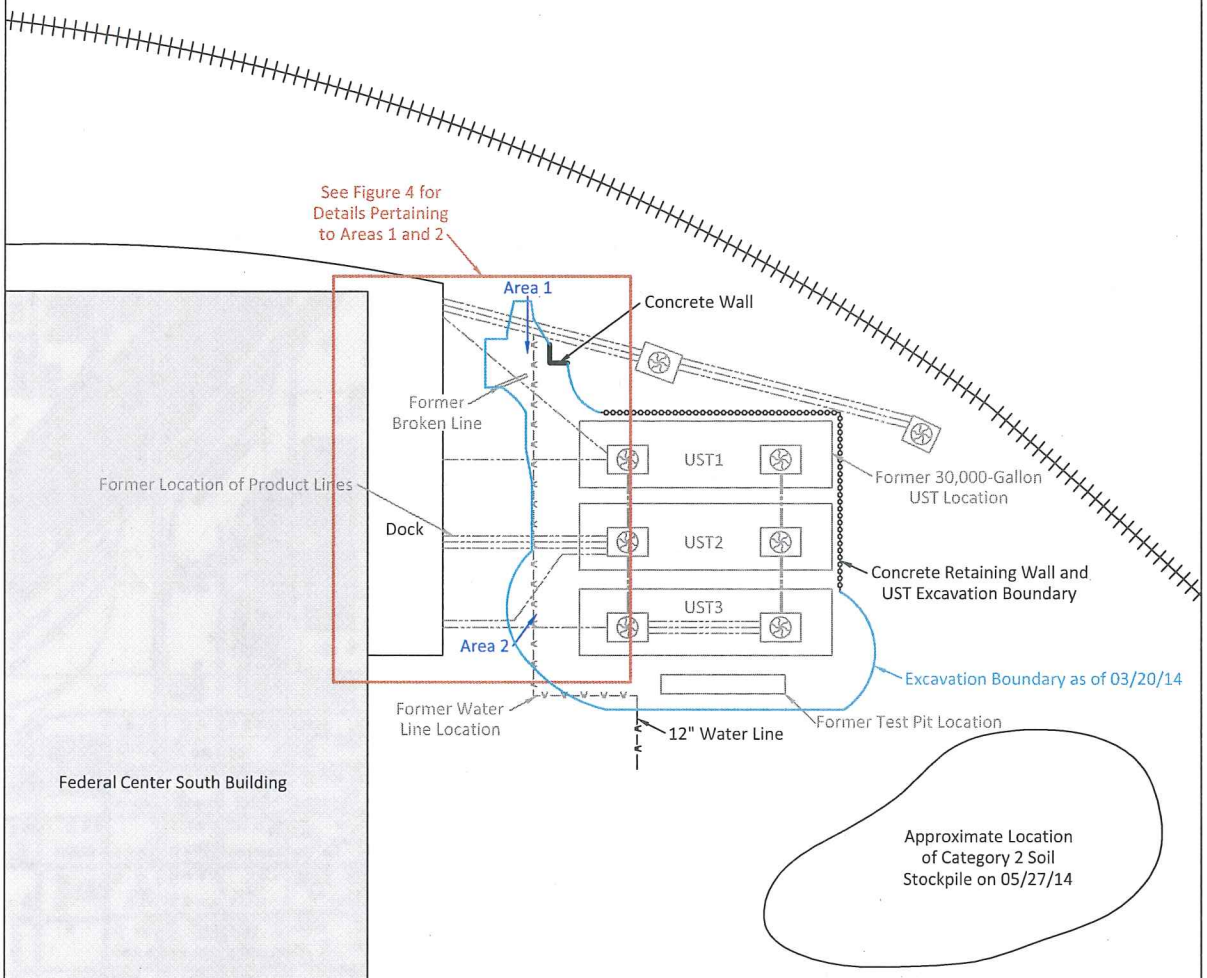
GSA Federal Center South Building		Figure 1
RGI Project Number 2013-364	Site Vicinity Map	Date Drawn: 07/2014
Address: 4735 East Marginal Way South, Seattle, Washington 98134		



= (in gray) Former concrete vault with valve

= (in gray) Former product line

= (in gray) Former water line

Approximate Scale: 1"=20'

0 10 20 40

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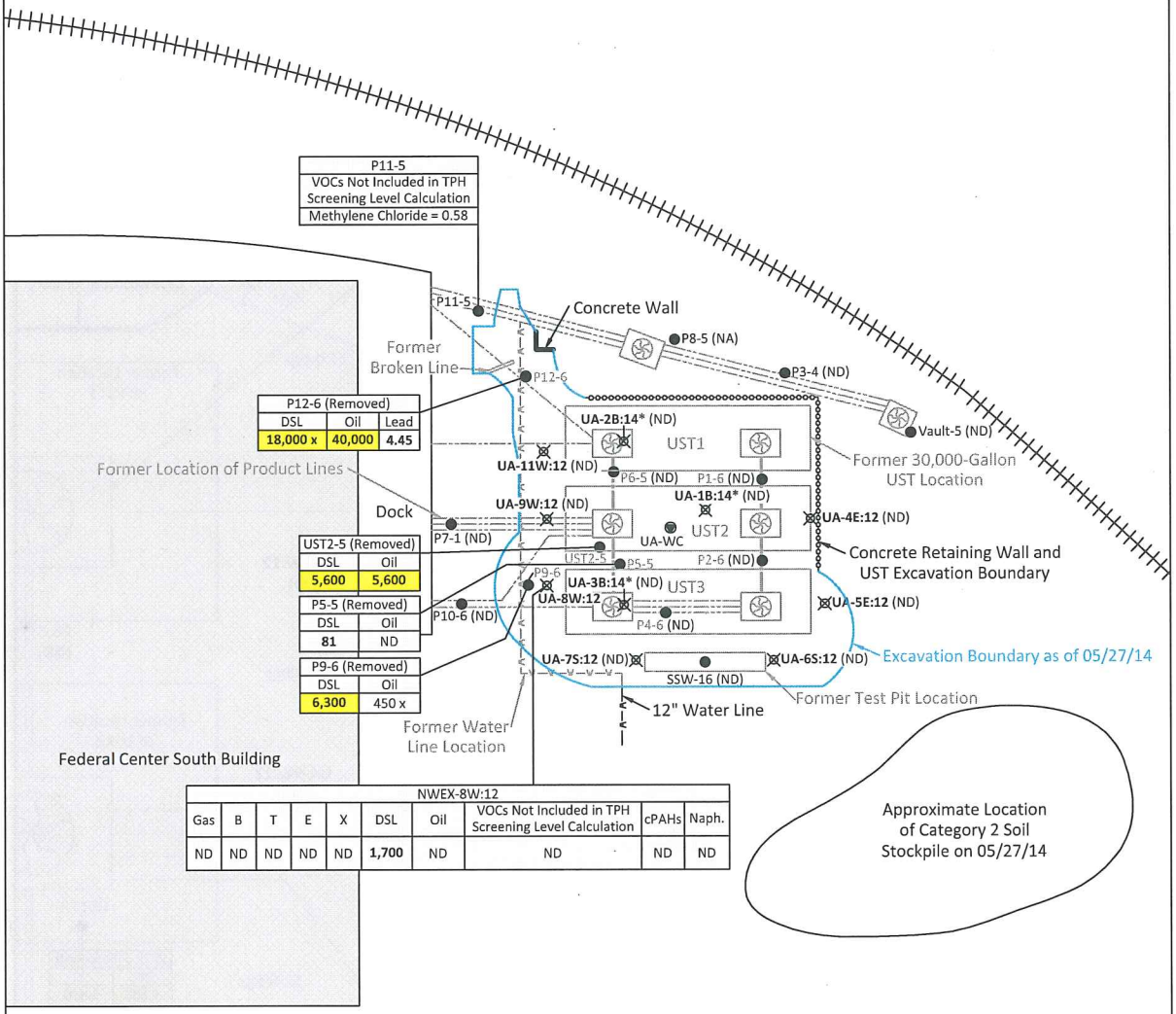
GSA Federal Center South Building		Figure 2
RGI Project Number 2013-364	Site Representation Map	Date Drawn: 07/2014
Address: 4735 East Marginal Way South, Seattle, Washington 98134		



= Soil analytical results in mg/kg

Gas = Gasoline hydrocarbon identification
BTEX = Benzene, toluene, ethylbenzene, xylenes
DSL/Oil = Diesel/Oil total petroleum hydrocarbons or hydrocarbon identification
VOCs = Volatile organic compounds
cPAHs = Carcinogenic polynuclear aromatic hydrocarbons
Naph. = Naphthalene
ND = Not detected at a concentration above the laboratory detection limit
Bold and yellow highlighted result indicates concentration exceeds the MTCA Method A Soil Cleanup Level.

(NA) = Not analyzed. Field screening did not indicate the presence of contamination. Therefore, no soil samples were submitted for analyses.
(ND) = Contaminants of concern not detected at a concentration above the laboratory method detection limit.
= Excavation water sample location by RGI (03/2014 and 05/2014)
= Performance soil sample location by RGI (03/2014 and 05/2014). Bold black ID indicates final performance sample.
= UST assessment soil sample by RGI (03/2014)
= Soil characterization sample location by RGI (12/2013)
* = Soil sample was collected from beneath the level of the water in the UST excavation.
= (in gray) Former concrete vault with valve
= (in gray) Former product line
= (in gray) Former water line
Note: Gray sample ID indicates sample removed as part of remedial excavation and/or UST excavation.

Approximate Scale: 1"=20'
0 10 20 40
N

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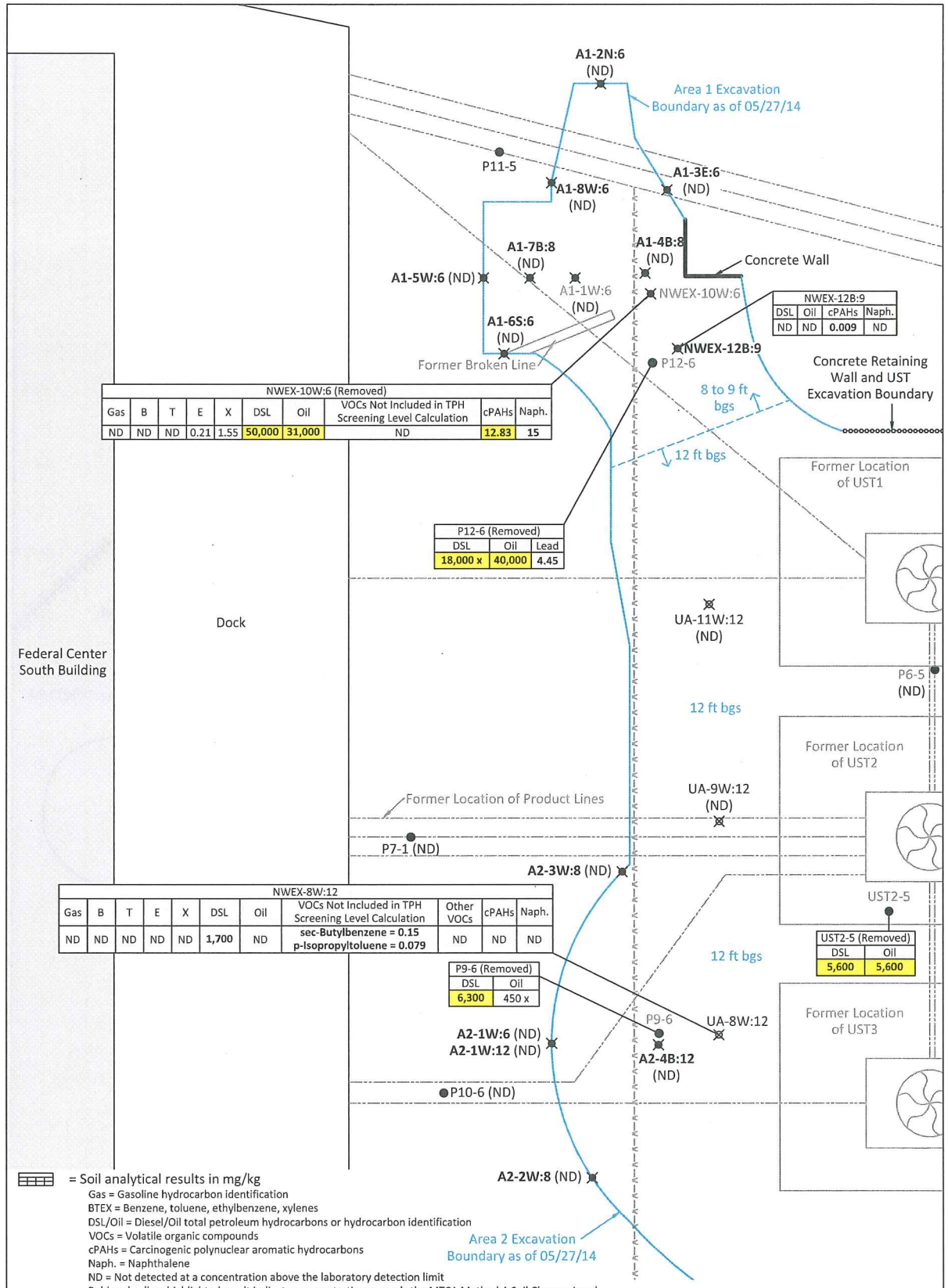
GSA Federal Center South Building | Figure 3

RGI Project Number: 2013-364

Site Plan Showing Sample Locations and Analytical Data for UST Assessment and Soil Characterization Samples

Date Drawn: 07/2014

Address: 4735 East Marginal Way South, Seattle, Washington 98134



NWEX-10W:6 (Removed)									
Gas	B	T	E	X	DSL	Oil	VOCs Not Included in TPH Screening Level Calculation	cPAHs	Naph.
ND	ND	ND	0.21	1.55	**50,000**	**31,000**	ND	**12.83**	**15**

NWEX-12B:9			
DSL	Oil	cPAHs	Naph.
ND	ND	**0.009**	ND

P12-6 (Removed)		
DSL	Oil	Lead
18,000 x	**40,000**	**4.45**

NWEX-8W:12										
Gas	B	T	E	X	DSL	Oil	VOCs Not Included in TPH Screening Level Calculation	Other VOCs	cPAHs	Naph.
ND	ND	ND	ND	ND	**1,700**	ND	**sec-Butylbenzene = 0.15** **p-Isopropyltoluene = 0.079**	ND	ND	ND

P9-6 (Removed)	
DSL	Oil
6,300	450 x

UST2-5 (Removed)	
DSL	Oil
5,600	**5,600**

= Soil analytical results in mg/kg
Gas = Gasoline hydrocarbon identification
BTEX = Benzene, toluene, ethylbenzene, xylenes
DSL/Oil = Diesel/Oil total petroleum hydrocarbons or hydrocarbon identification
VOCs = Volatile organic compounds
cPAHs = Carcinogenic polynuclear aromatic hydrocarbons
Naph. = Naphthalene
ND = Not detected at a concentration above the laboratory detection limit
Bold and yellow highlighted result indicates concentration exceeds the MTCA Method A Soil Cleanup Level.

(ND) = Contaminants of concern not detected at a concentration above the laboratory method detection limit.
= Performance soil sample location by RGI (03/2014 and 05/2014). Bold black ID indicates final performance sample.
= UST assessment soil sample by RGI (03/2014)
= Soil characterization sample location by RGI (12/2013)
= (in gray) Former concrete vault with valve
= (in gray) Former product line
= (in gray) Former water line
Note: Gray sample ID indicates sample removed as part of remedial excavation and/or UST excavation.

Approximate Scale: 1"=5'
0 2.5 5 10
N

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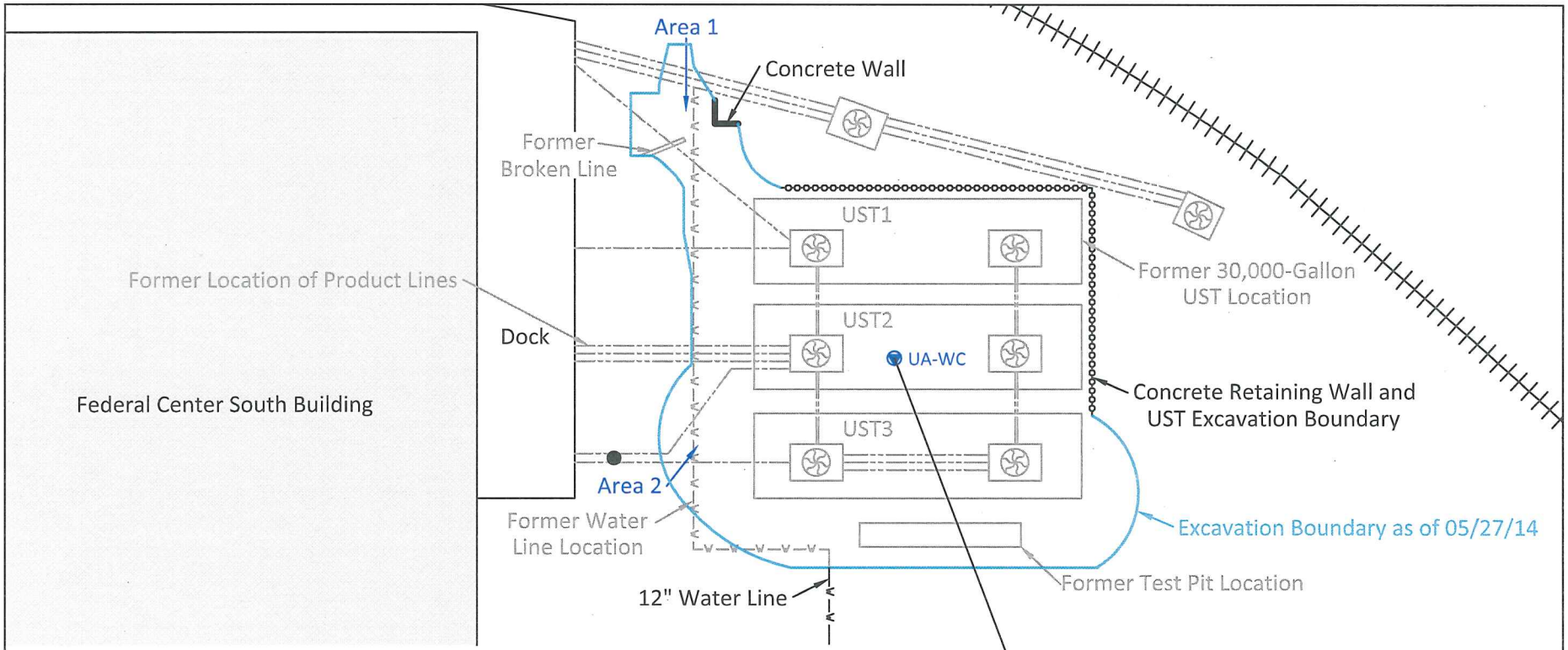
GSA Federal Center South Building | Figure 4

RGI Project Number	Site Plan with Excavation Areas 1 and 2 and Soil Analytical Results	Date Drawn:
2013-364		07/2014

Address: 4735 East Marginal Way South, Seattle, Washington 98134



= Excavation water analytical results in ug/L

Gas = Gasoline hydrocarbon identification
BTEX = Benzene, toluene, ethylbenzene, xylenes
DSL/Oil = Diesel/Oil total petroleum hydrocarbons
cPAHs = Carcinogenic polynuclear aromatic hydrocarbons
VOCs = Volatile organic compounds
ND = Not detected at a concentration above the laboratory detection limit
---- = Not analyzed
Bold and yellow highlighted result indicates concentration exceeds the MTCA Method A Cleanup Level for Ground Water.

= (in blue) Excavation water sample location by RGI (03/2014 and 05/2014)

* = Sample UA-WC was collected at time of removal of UST 2 while the other two USTs remained in place.
The estimated depth to water was not consistent with the depth observed after removal of all the USTs (approximately 10 feet bgs).

= (in gray) Former concrete vault with valve

= (in gray) Former product line

= (in gray) Former water line

UA-WC						
Date	Depth to Water	Gas	BTEX	Total DSL/Oil	cPAHS	Other VOCs
05/16/14	~10	----	----	**1,800**	ND	----
03/18/14	~13	ND	ND	**530**	----	ND

Approximate Scale: 1"=20'

0 10 20 40

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GSA Federal Center South Building | Figure 5

RGI Project Number 2013-364 | Site Plan Showing Excavation Water Sample Locations | Date Drawn: 07/2014

Address: 4735 East Marginal Way South, Seattle, Washington 98134

Google

To see all the details that are visible on the screen, use the "Print" link next to the map.