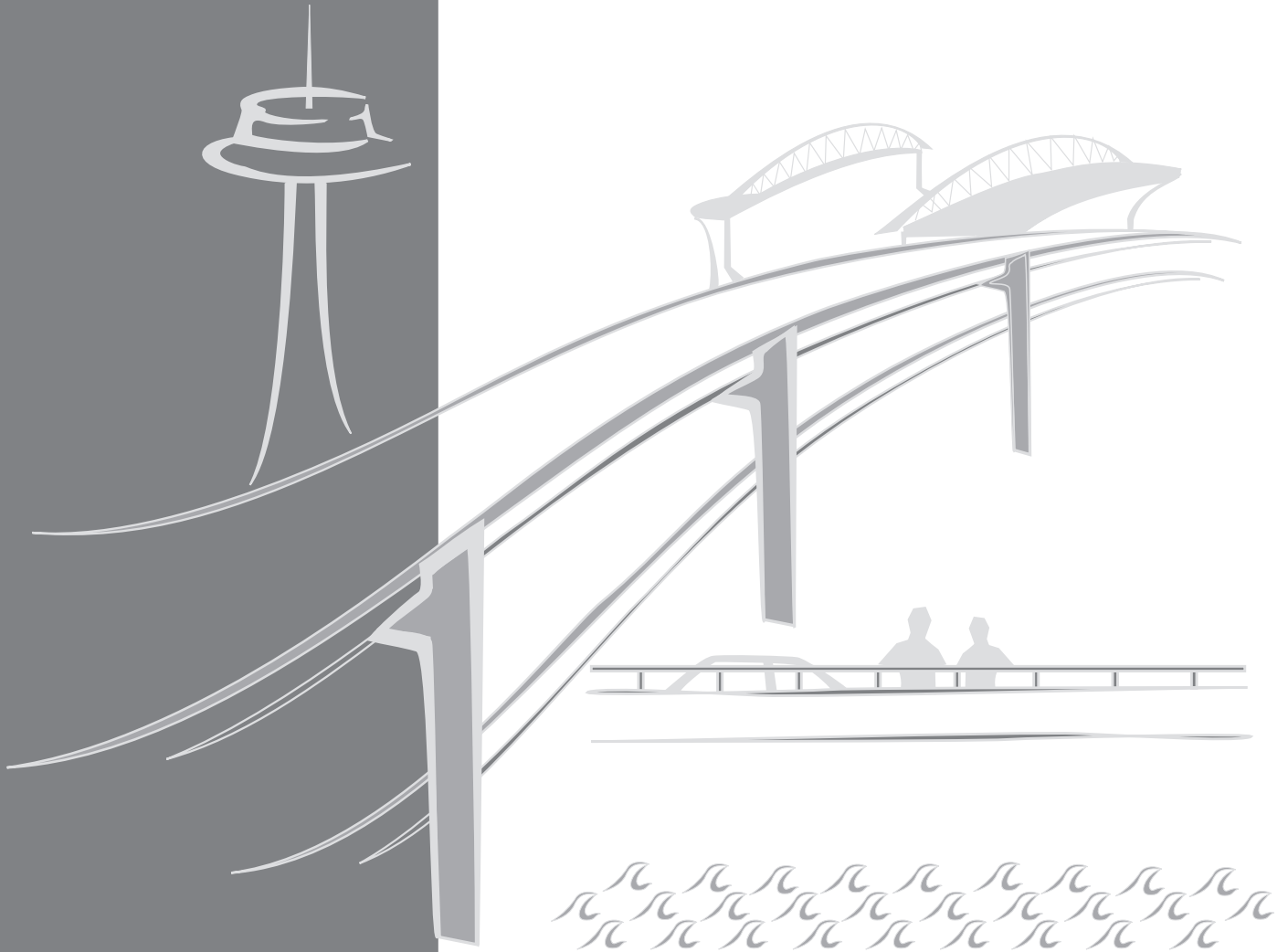


SR 99: ALASKAN WAY VIADUCT &
SEAWALL REPLACEMENT PROJECT

Draft Environmental Impact Statement Appendix U Hazardous Materials Discipline Report



MARCH 2004

Submitted by:
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SR 99: ALASKAN WAY VIADUCT & SEAWALL REPLACEMENT PROJECT

Draft EIS Hazardous Materials Discipline Report

AGREEMENT No. Y-7888

FHWA-WA-EIS-04-01-D

Submitted to:

Washington State Department of Transportation

Alaskan Way Viaduct and Seawall Replacement Project Office

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Seattle, WA 98104

The SR 99: Alaskan Way Viaduct & Seawall Replacement Project is a joint effort between the Washington State Department of Transportation (WSDOT), the City of Seattle, and the Federal Highway Administration (FHWA). To conduct this project, WSDOT contracted with:

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ACRONYMS

AHERA	Asbestos Hazard Emergency Response Act
BMP	best management practice
BNSF	Burlington Northern Santa Fe Railroad
BST	Battery Street Tunnel
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CSCSL	Confirmed and Suspected Contaminated Sites List
CSOs	combined sewer outfalls
CWA	Clean Water Act
cy	cubic yard
DCE	1,2-transdichloroethylene
Ecology	Washington Department of Ecology
EDR	Environmental Data Resources, Inc.
EIS	environmental impact statement
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
FHWA	Federal Highway Administration
H ₂ S	hydrogen sulfide
HCID	hydrocarbon identification
HPAHs	heavy polycyclic aromatic hydrocarbons
HSWA	Hazardous and Solid Waste Amendments
LPAHs	light polycyclic aromatic hydrocarbons
LUST	leaking underground storage tank
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MSE	mechanically stabilized earth
MTCA	Model Toxics Control Act
NEPA	National Environmental Policy Act
NFA	no further action
NFRAP	no further remedial action is planned
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List

NWTPH-Dx	northwest total petroleum hydrocarbon-diesel-extended
NWTPH-G	northwest total petroleum hydrocarbon-gasoline
OSHA	Occupational Safety & Health Administration
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCE	tetrachloroethylene
PCS	petroleum-contaminated soil
ppb	parts per billion
ppm	parts per million
PSI	preliminary site investigation
RCRA	Resource Conservation and Recovery Act
RCRIS	Resource Conservation and Recovery Information System
RCW	Revised Code of Washington
SEPA	Washington State Environmental Policy Act
SMS	Sediment Management Standards
SQG	small quantity generator
SQS	Sediment Quality Screening
SR	State Route
TCE	trichloroethylene
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
TSD	treatment, storage, and disposal
µg/L	micrograms per liter
UPRR	Union Pacific Railroad
USCG	U.S. Coast Guard
UST	underground storage tank
VOCs	volatile organic compounds
WAC	Washington Administrative Code
WA-ICR	Washington Site Register of Independent Cleanup Reports
WISHA	Washington Industrial Safety and Health Act
WOSCA	Washington- Oregon Shippers Cooperative Association
WSDOT	Washington State Department of Transportation
WTPH-D	Washington Total Petroleum Hydrocarbon-Diesel
WTPH-G	Washington Total Petroleum Hydrocarbon-Gasoline

Chapter 1 SUMMARY

This report presents the results of a study to identify properties that have the potential to contain or create hazardous materials that could impact the proposed Alaskan Way Viaduct project and to assess the environmental impacts of the proposed project design. The project alternatives and options are described in detail in Appendix B, Alternatives Description and Construction Methods Technical Memorandum. The identification process focused on sites where it is likely that contamination will be encountered during excavation or dewatering or that will be acquired or modified as part of the project.

Sources of information regarding current and historical land uses and records of environmental enforcement were reviewed to identify potentially contaminated sites and sites with documented releases. These sites were then screened to assess their potential to adversely affect the project and to categorize them as either being potentially “substantially contaminated” or potentially requiring remediation approaches that would be “reasonably predictable.” Those sites situated along or adjacent to the project also were ranked as posing low, moderate, or high risk to the project.

The project corridor boundaries generally follow the State Route (SR) 99 alignment from approximately S. Spokane Street on the south to Ward Street north of the Battery Street Tunnel (BST). It passes through highly developed commercial and industrial areas that have a long and varied land use history. These land uses potentially resulted in releases of a variety of hazardous materials into the surrounding environment, causing soil and groundwater contamination that could adversely affect the Build Alternatives for this project. Also, because there has been only limited redevelopment in this section of the city, most of the buildings were constructed prior to recent laws restricting the use of hazardous building materials. Therefore, asbestos-containing material and lead-based paint should be anticipated in buildings that are demolished or modified for the project.

For discussion purposes, the project has been broken into the following sections:

- South – S. Spokane Street to S. King Street.
- Central – S. King Street up to the Battery Street Tunnel.
- North Waterfront – Alaskan Way surface street from Pike Street up to Myrtle Edwards Park (near Broad Street).

- North – Battery Street Tunnel to approximately Ward Street.
- Seawall – S. Washington Street up to Myrtle Edwards Park (near Broad Street).

The project corridor along the waterfront in the south is characterized by industrial activity and railroad operations. Waterfront industries have included metal works, foundries and plating operations, machine shops, boat building and repair, warehouses, and fueling facilities, including several bulk fuel facilities. The most likely contaminants from such operations include metals, solvents, and petroleum products. Also, the area along the waterfront has a unique set of conditions that adversely affect the environmental conditions in the project area. This area is underlain by thick fill materials that were placed in the early 1900s, covering and incorporating timber and debris that previously had been used in construction of piers, wharves, and trestles. Common contaminants in this old fill include petroleum constituents and heavy metals. In addition, most of the buried piles and timbers were probably treated with creosote, which likely has leached into the adjoining soil and groundwater. Lubricating oil associated with railroad operations may also be encountered in the fill soils in this area.

Several chemicals of concern have also been identified in sediments along the waterfront. Chemicals that have been found to exceed regulatory cleanup criteria include mercury, silver, lead, zinc, copper, polychlorinated biphenyls (PCBs), and polycyclic aromatic hydrocarbons (PAHs). The exceedances occurred down to sediment depths of 6 to 10 feet. Overall, mercury may be the most widespread chemical of concern in both subsurface and surface sediments in the Seattle waterfront area.

In the central area, the commercial district to the east of the alignment historically included numerous dry cleaners, laundries, print shops, lithographers, and automobile gas stations. Likely contaminants from such operations include solvents and gasoline, both of which can be highly mobile in subsurface soil and groundwater. Waste lubricating oil is also likely at old gas stations. A power plant has operated at Western Avenue and University Street since the 1900s. Bunker C, a heavy fuel oil, has contaminated soil and groundwater at that location, and contamination extends into the Alaskan Way Viaduct right-of-way. Potential contamination by PCBs is also a risk at power plant and former substation sites, several of which are located along the alignment.

The north area of the alignment is characterized by light industrial and commercial businesses, including many current or former dry cleaners, gas stations, and repair shops. Likely contaminants from these types of uses include solvents, gasoline, and other petroleum products.

The construction impacts related to environmental contamination are similar for all Build Alternatives. Construction impacts could arise if contaminated soil and/or groundwater is encountered during construction activities (e.g., drilled shafts and piles, deep soil mixing or jet grouting, excavation for retaining walls, stormwater detention vaults, and relocating utilities). In addition to the sites that have been identified as potentially contaminated, the alignment from S. Spokane Street to the north waterfront is underlain by fill that consists of soil and debris from unknown sources. Construction throughout this area could encounter contaminants such as petroleum, metals, and PAHs in the fill soils, as well as creosote-treated timbers and wood debris.

Displacement of large volumes of soil and groundwater will be required for construction of each of the Build Alternatives. To the extent that this soil and groundwater is contaminated, the project would be affected by requirements for special handling and disposal and for provisions to provide for the health and safety of workers and the public, as well as to protect the environment from releases of contaminants or cross contamination.

Construction activities for each of the Build Alternatives could result in the following types of impacts related to hazardous materials:

- Large volumes of spoils containing contaminated soil and debris will be removed from the subsurface.
- Contaminated groundwater could be extracted as a by-product of construction techniques to improve ground conditions.
- Slurries formed to aid in construction techniques could become contaminated by contact with contaminated soil or groundwater.
- Air quality could be affected by release of contaminants and dust during construction and handling of contaminated media.
- Groundwater pathways could be modified by subsurface construction or dewatering resulting in the mobilization and spread of existing contaminants.
- Sediment that is potentially contaminated could be disturbed during construction, potentially affecting water quality (see Appendix S, Water Resources Discipline Report).
- Hazardous building materials (primarily asbestos and lead-based paint) could be released to the environment as a result of demolition or modification of buildings and structures.

Construction methods that will involve direct soil removal include excavation for retaining walls, changes in grade, utilities and vaults, and cut-and-cover tunnels. Similarly, the use of drilled shafts for construction of piles and diaphragm walls will generate large volumes of spoils that will have to be handled and properly disposed. Soil improvement techniques that will be employed in construction of each of the Build Alternatives will also generate large volumes of spoils and groundwater. Jet grouting operations, which inject cement grout to strengthen the subsurface soils, typically produce spoil volumes equal to about 30 to 50 percent of the volume of soil treated. An estimated 20 percent of these spoils will be solids. This spoil material will consist of a blend of eroded soil and cement grout that is flushed to the ground surface during grouting. Deep soil mixing, which involves in situ mechanical mixing of soil and cement, is estimated to produce spoil volumes equal to about 25 to 30 percent of the volume of soil treated. An estimated 20 percent of these spoils will be solids. The spoils from this method will consist of blended soil and cement with the consistency of a thick mud that will have to be allowed to settle before it could be handled or disposed of.

Although the Build Alternatives follow similar routes and employ similar construction methodologies, there are some distinctions between the hazardous materials impacts that would result from their construction. The Rebuild Alternative will end at the BST, thereby eliminating any impacts that would result from construction of the north end of the corridor. The fewest number of parcels and buildings would be acquired or modified for this alternative (14 properties). The Rebuild Alternative also would avoid potentially contaminated properties north of the BST. The greatest number of parcels and buildings would be acquired for the Surface Alternative (33 properties), primarily because this alternative will extend approximately 1,400 feet farther south and encompass numerous parcels for relocating the railroad. This will result in impacts from considerably more contaminated sites because the southern portion of the corridor is industrial, with many metal plating operations, foundries, and machine shops that pose a high risk to the project. The other Build Alternatives would acquire or modify a similar number of parcels and buildings (ranging from 18 to 20 properties).

The greatest quantity of spoils that would be generated will be associated with the Tunnel Alternative (estimated at 2.3 million cubic yards [cy]). Of this volume, an estimated 672,000 cy could be contaminated. Most spoils will be removed from the central area, in an area of fill and wood debris (including creosote-treated pilings that had supported former elevated railroads and a wood-plank road). There is a high potential that most of the material removed from the central area will be contaminated. An estimated 1.5 million cy of material will be removed from the Bypass Alternative, of

which an estimated 554,000 cy could potentially be contaminated. The volume of material removed for the Rebuild, Aerial, and Surface Alternatives are similar (estimated between 741,000 and 809,000 cy). The estimated quantities of potentially contaminated materials are also similar for these three alternatives (between 317,000 and 353,000 cy).

Construction of the Rebuild, Aerial, and Surface Alternatives will each generate large quantities of spoils from ground improvement (deep soil mixing and jet grouting), primarily associated with the seawall and the south area. The total quantity of spoils (solids) from ground improvements is estimated at between 55,000 and 99,000 cy, of which between 6,000 and 27,000 cy are estimated to be contaminated. These spoils will require special handling because they will consist of commingled soil and cement; the material will have to be stockpiled to allow it to stabilize prior to transport and disposal.

The estimated quantities of soil to be removed from piling and drilled shafts will be similar for the Rebuild and Aerial Alternatives (between 176,000 and 181,000 cy). Approximately half that volume or less will be removed from the piling and drilled shafts required for the other alternatives. However, soil from the same area will be removed for the cut-and-cover tunnels and diaphragm walls in the Tunnel and Bypass Tunnel Alternatives.

The Surface Alternative and the Bypass Tunnel Alternative will have a water treatment system with a large vault located northwest of the intersection of S. Royal Brougham Way and First Avenue S. Soils in this area have the potential to be contaminated with petroleum. Dewatering will be necessary to construct the vault, and treatment will likely be required prior to discharge.

Dewatering activities will also be required for the Tunnel and Bypass Tunnel Alternatives. The water could require treatment prior to discharge. In addition, the drawdown could affect groundwater gradients along the waterfront and mobilize contaminants at some distance from the excavation.

Secondary and cumulative impacts for all the Build Alternatives included an overall reduction of contaminants in the environment. Contamination may be discovered and cleaned up that otherwise would have remained in place with a potential to migrate. Also, if contaminated properties are acquired, they could result in liability for cleanup well beyond the construction phase.

Measures that could be implemented to mitigate the impacts of hazardous materials on construction are similar for all of the Build Alternatives. Performing Preliminary Site Investigations (PSIs) to identify contaminants on adjoining properties prior to acquisition and/or construction would result in a better definition of the distribution of contamination. This information could

be used in some instances to avoid acquisition of some properties that would be considered for staging areas and as an aid in planning for the efficient handling and disposal of contaminated materials during construction. In general, avoiding taking parcels in the south area, particularly as identified in the Surface Alternative, would eliminate a large potential for hazardous material impacts.

Impacts associated with hazardous building materials will be identified by conducting surveys for asbestos-containing building material and lead-based paint prior to building demolition. If such materials were identified, mitigation would consist of removing these materials in compliance with the Washington Industrial Safety and Health Act (WISHA) and Puget Sound Clean Air Agency standards (Asbestos Control Standards Regulation 111, Article 40) prior to building demolition and disposing of these materials in an approved facility.

The volume of problem waste, particularly from deep soil mixing and jet grouting, could be reduced in some areas by use of alternate technologies that would reduce the amount of spoils generated. The use of vibro-technology (stone columns), to the extent to which they are appropriate, should be considered to reduce the quantity of spoils where soil improvement is required in the south area. However, there are potential impacts from stone columns, including excessive vibrations that could damage adjacent buildings and induce overall ground settlement. For drilled shafts, casing of the shafts should be considered in areas where caving and sloughing is likely. This would reduce the volume of soil generated and reduce the potential for contamination of the slurry that is used to complete the shafts.

To the extent feasible, the dewatering systems required for construction should be designed to minimize drawdown. This would result in a reduction of the requirements for treatment and disposal of clean and contaminated groundwater, and would also reduce the potential for mobilization and spreading of groundwater contaminants.

The potential for impacts to air quality from contaminants, dust and nuisance odors could be mitigated by engineering controls such as adequate ventilation with fans and air filtration methods, where required. Best Management Practices (BMPs) could be implemented for dust suppression, if warranted.

Chapter 2 METHODOLOGY

The objective of the Hazardous Materials Discipline Report is to identify and assess land uses in the project vicinity that have the potential to contain or create hazardous materials and to assess the environmental impacts of the proposed project design.

The study consisted of the following elements:

- A review of historical data within the project corridor, defined to include the area underlying the alignments and within two city blocks (approximately 400 feet) of the alignments.
- A regulatory database search of known and suspected contaminated sites within 1 mile of the project corridor.
- A review of the Washington Department of Ecology (Ecology) files for all known and suspected contaminated sites within the project corridor.
- A review of tax assessor records for properties within the project corridor.
- A windshield survey of the project corridor to identify current land uses that could result in environmental contamination. The survey was conducted from a vehicle and observations were limited to those that could be made from public areas. Only prominent site features can be observed or verified.
- A summary of area geology from Appendix T, Geology and Soils Technical Memorandum.
- Identifying buildings or structures that would most likely be demolished or modified as part of the project based on the Building Inventory and Property Impacts list compiled by other team members. These buildings could contain asbestos or lead-based paint that could pose a hazard to the project.

All known and potentially contaminated sites identified by this study were screened to assess their potential risk to the project, as described in Section 3.8. The site screening resulted in the identification of a list of validated sites that pose some risk to the project. These properties are included either because current or historic practices at the site have been associated with hazardous material use or storage, or the properties in question have a history of contamination that presents the potential to affect the proposed project. These properties were further evaluated as to whether remediation approaches for the site will be “reasonably predictable” or the site is considered

“substantially contaminated,” as defined by the Federal Highway Administration (FHWA) (WSDOT 2003).

“Reasonably predictable” sites are typically small to medium in size, contain potential contaminants that are not extremely toxic or difficult to treat, and dictate straightforward approaches to remediation.

“Substantially contaminated” sites may pose a potential for major liability for Washington State Department of Transportation (WSDOT) either in construction liability or by virtue of acquiring all or a part of the site. If the site has undergone a detailed investigation and a feasibility study, the impacts and remediation costs may have been predicted. Nonetheless, the site is identified as substantially contaminated because of its potential impact to the project. Other sites are considered substantially contaminated sites because their impacts are not reasonably predictable. In general, substantially contaminated sites possess a potential for substantial soil, water, and/or sediment contamination, and/or the information necessary to predict remedial costs is lacking, and/or the contaminants are persistent and/or expensive to manage.

Chapter 3 STUDIES AND COORDINATION

This section presents a summary of the studies that were undertaken to identify potentially hazardous materials that may be present within the project corridor.

3.1 Historical Records Reviewed

The following sources were reviewed to identify historic uses of properties in the study areas commonly associated with generation, storage, or transportation of hazardous materials. Historical review was limited to the project corridor (proposed alternatives and adjacent areas within approximately 400 feet, or two city blocks).

3.1.1 Sanborn Maps

Historical fire insurance maps (Sanborn) are available for a majority of the project area for intermittent periods between 1888 and 1969. The most useful maps for this project were those dated 1905, 1917, 1949–50, and 1969. Some maps were illegible because of scale or reproduction quality. Information contained in the Sanborn maps was used to identify historic businesses by name, exact location, and unique concerns for insurance underwriters, such as large fuel tanks and chemical hazards.

3.1.2 Polk Directories

Polk Directories identify businesses by name, type of business, and address for the years 1938 to 1990. The directories can be searched using the address and are an excellent source of information regarding area development and use of properties over time. Directories for the years 1938, 1940, 1943–44, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, and 1989–90 for the city of Seattle were reviewed at the Seattle Public Library.

3.1.3 Aerial Photographs

Black and white aerial photographs for the entire study area dated 1936, 1946, 1951, 1956, 1961, 1966, 1970, 1974, 1979, 1985, and 1992 and color photographs taken in 2000 were obtained from the WSDOT Photography Series Division and from Walker & Associates. Photographs were examined to provide general information regarding the historical and current development along the corridor.

3.1.4 Washington State Archive Records

Archives of the King County Tax Assessor records for the project corridor from approximately 1936 to 1972 are stored at the regional branch of the Washington State Archives. Records after 1972 were stored electronically and were updated periodically by the tax assessor's office. These archive records provide information regarding building construction dates, heat sources, presence of underground tanks, site use, and ownership.

3.1.5 King County Tax Assessor Records

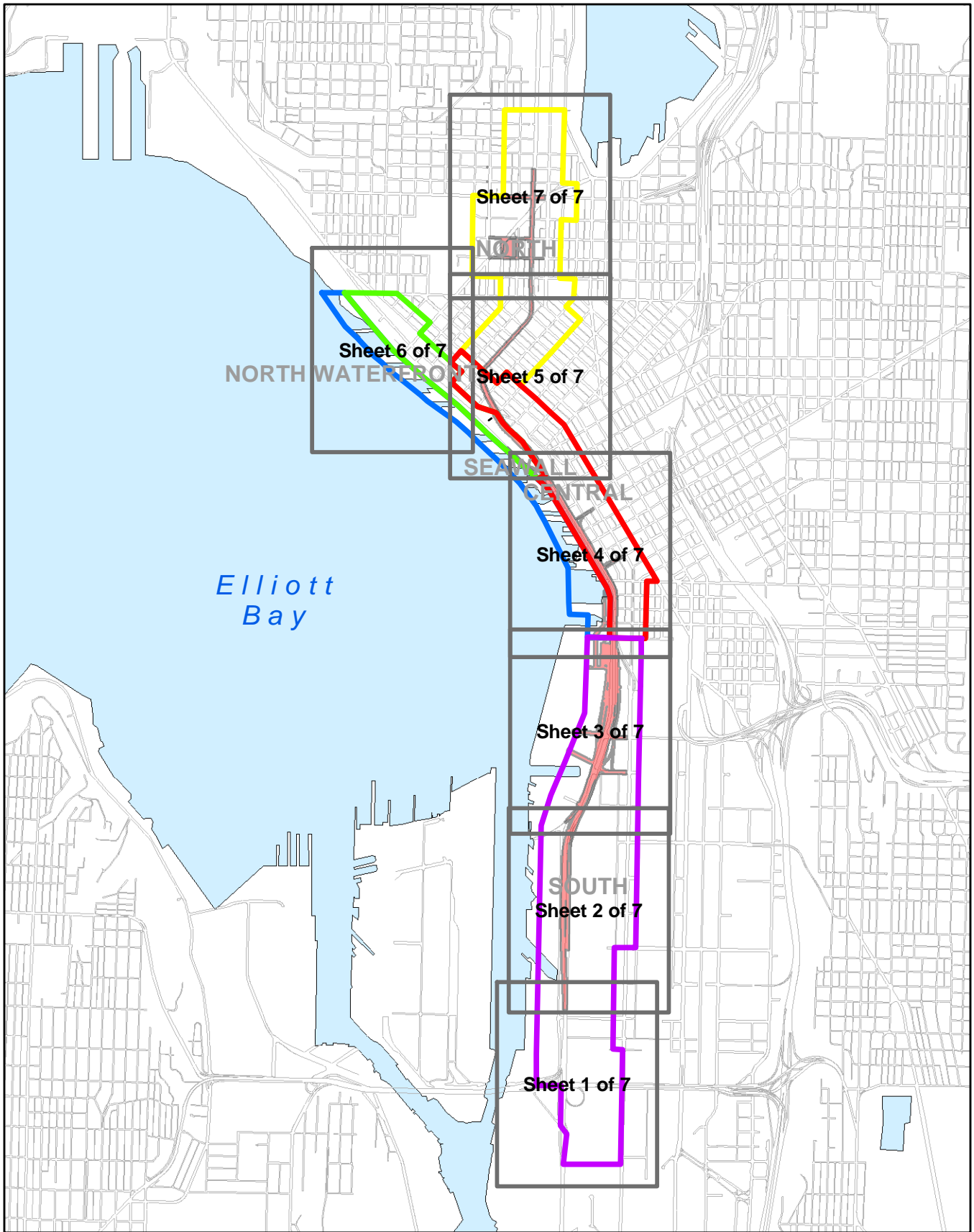
Current Tax Assessor records obtained from the King County web site were reviewed for the blocks underlying and/or immediately adjacent to the alignments. The current records confirm the age of the building, current use and ownership, and current heat source.

3.1.6 Previous Studies

Geotechnical data from previous explorations in the study area were reviewed as part of the *Geotechnical and Environmental Data Report* (Shannon & Wilson 2002). These geotechnical data were used to supplement the field explorations and provide a database of subsurface geologic, hydrogeologic, and environmental information for use in evaluation of individual sites. Project files and archives from several sources were reviewed. Data were collected from the following sources:

- City of Seattle
- Port of Seattle
- WSDOT
- University of Washington Mapping Project (includes files from the City of Seattle Department of Design, Construction and Land Use; King County; WSDOT; and other sources)
- Shannon & Wilson, Inc.

Data from Shannon & Wilson, Inc. files and publicly available reports for previous geotechnical studies performed within the study area were copied and organized into binders. Our studies yielded 213 previous projects with subsurface data (1,243 field explorations [borings, probes, wells, etc.]) in the study area. All boring logs were reviewed for field observations that were indicative of potential for contamination, most notably odor or visual identifiers. Approximate locations of the previous explorations with evidence of potential contamination and the description are shown in Exhibit 3-1. A more complete description of the database and source of information is included in the *Geotechnical and Environmental Data Report* (Shannon & Wilson 2002).



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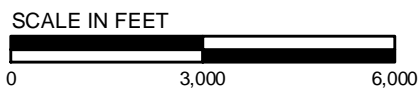


Exhibit 3-1
Sheet Index
For Explorations
Sheet A

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LEGEND

Borings

⊕ Shannon & Wilson Borings

Research Borings

- 0 - 50 (depth in feet)
- 51 - 100 (depth in feet)
- 101 - 150 (depth in feet)



Proposed Alignment



Fill



Historic Railroad Use



Block w/Designation

Corridor Zones



Central



North



North Waterfront



Seawall



South

Outfalls

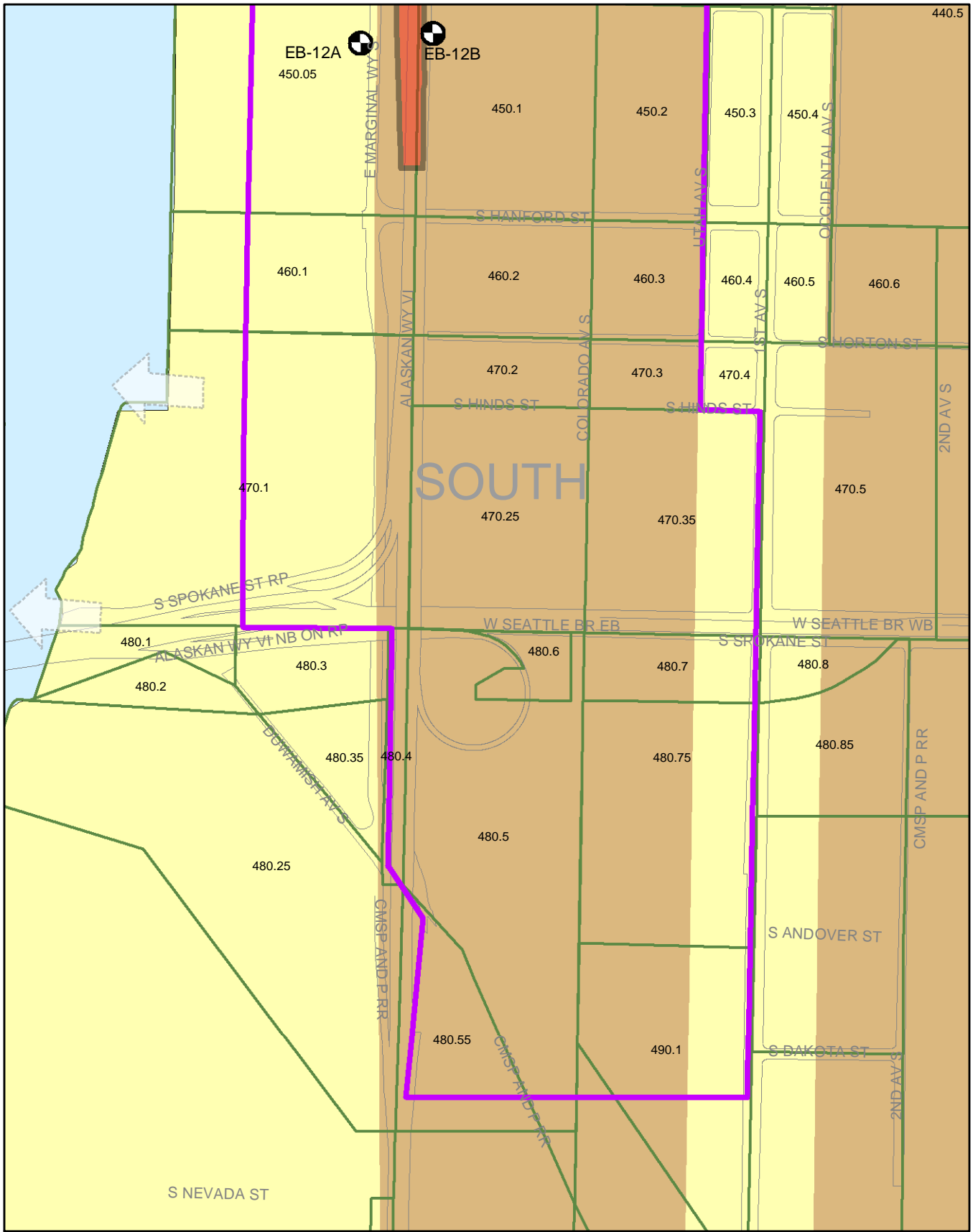


Combined Sewer Outfall



Sewer Drain Outfall

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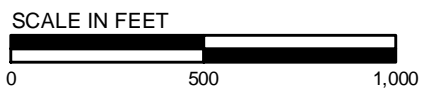
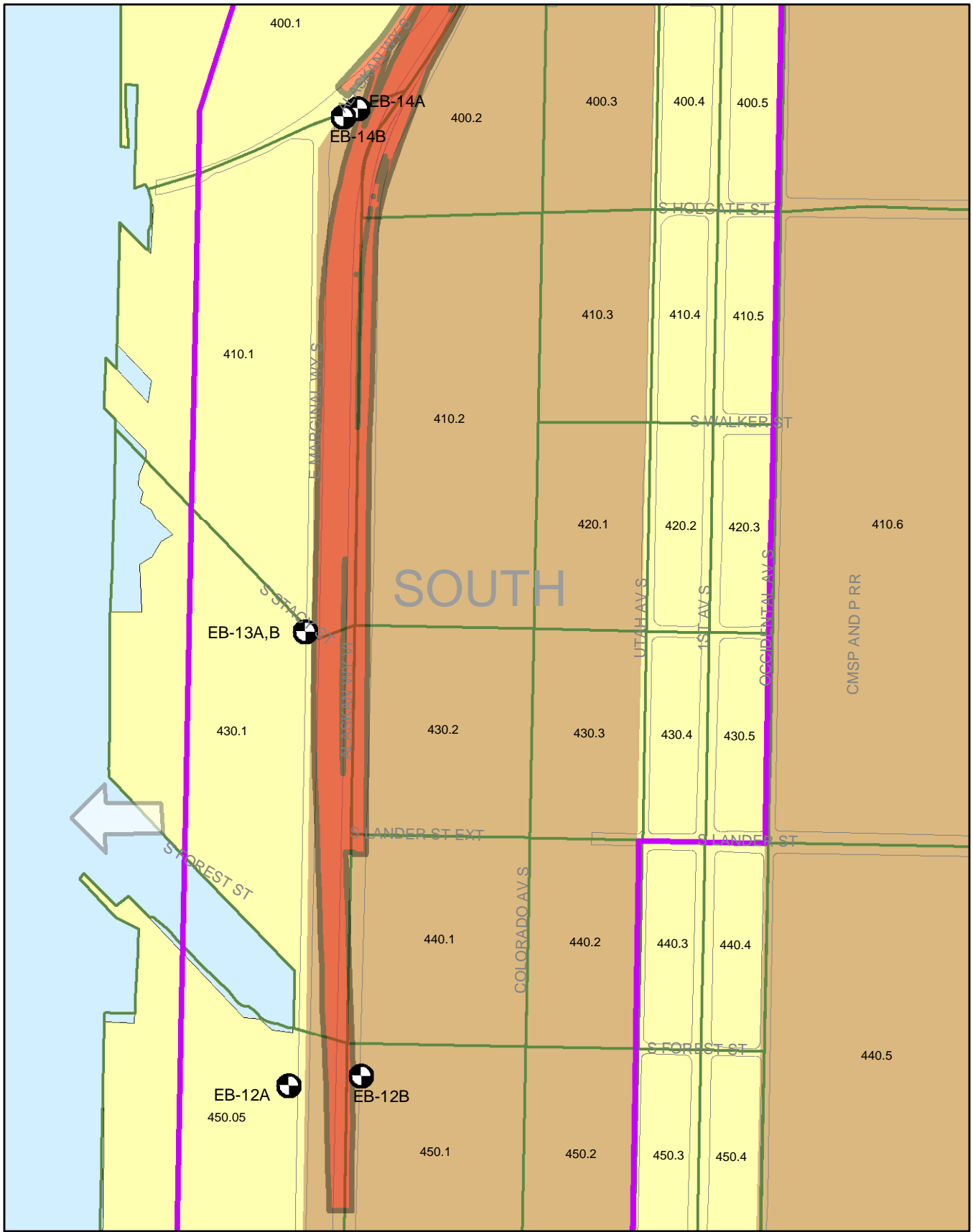
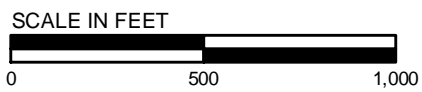


Exhibit 3-1
Explorations
 Sheet 1 of 7

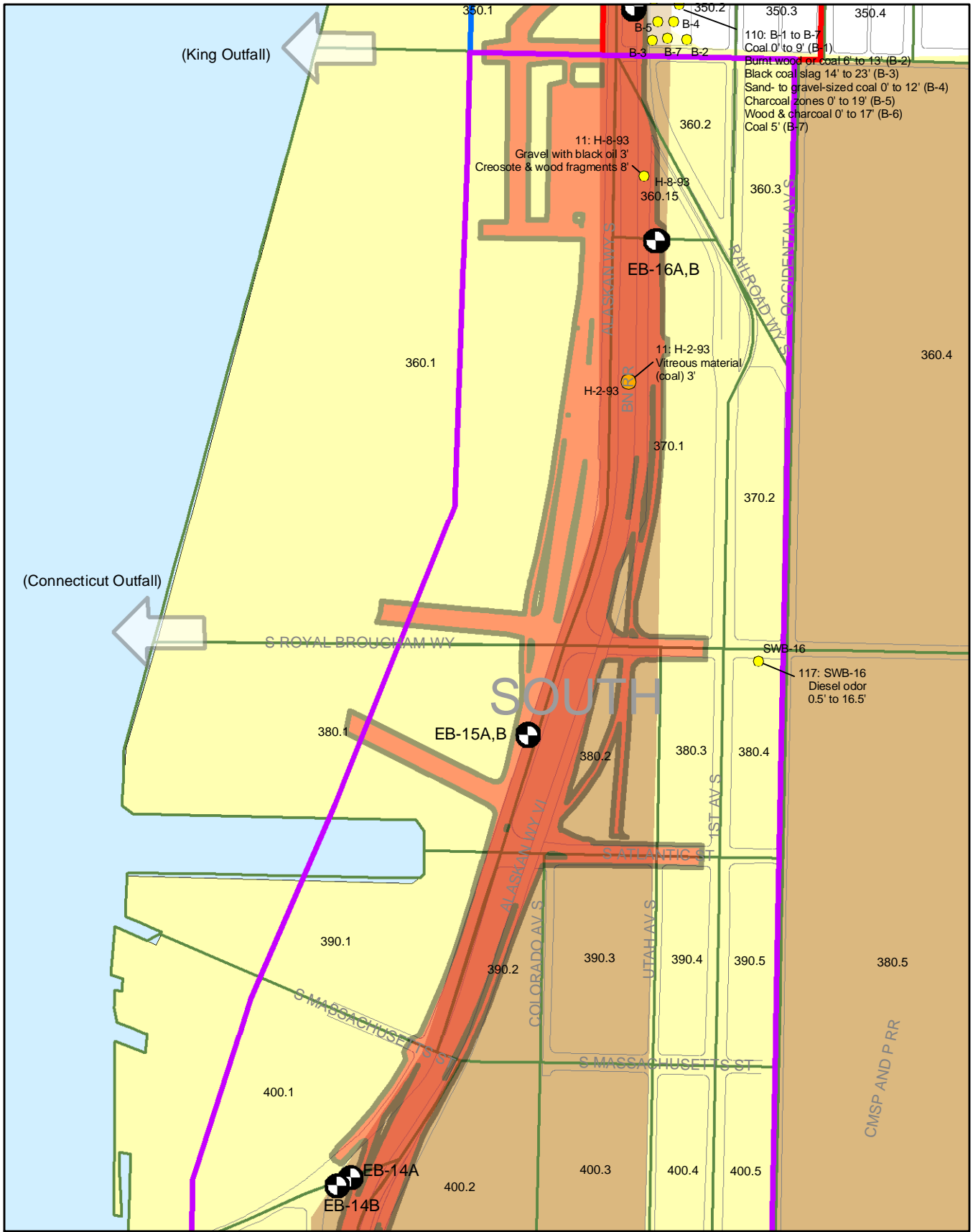
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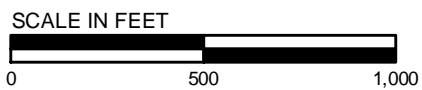
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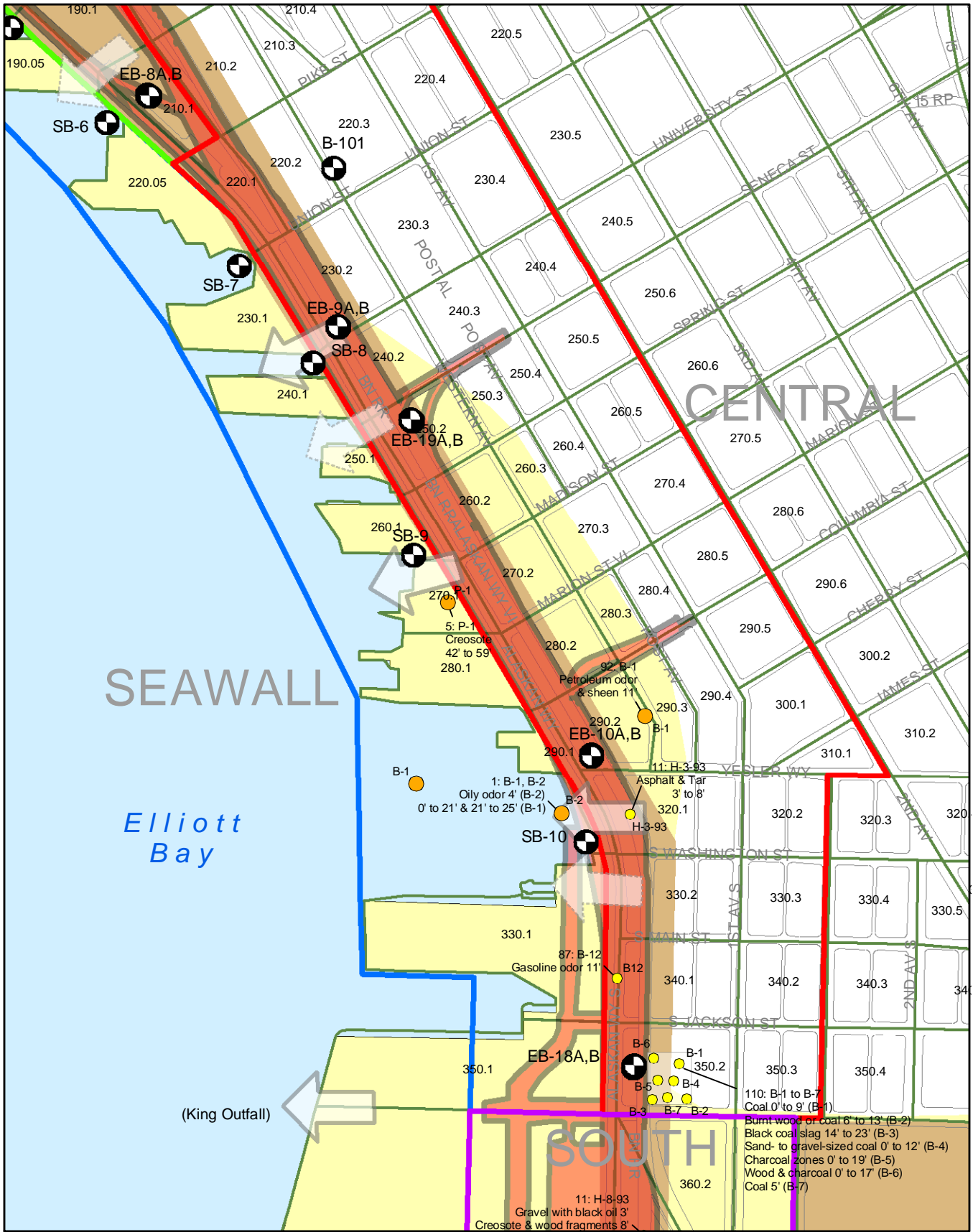
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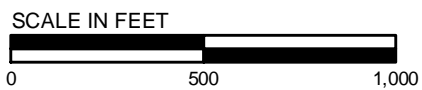
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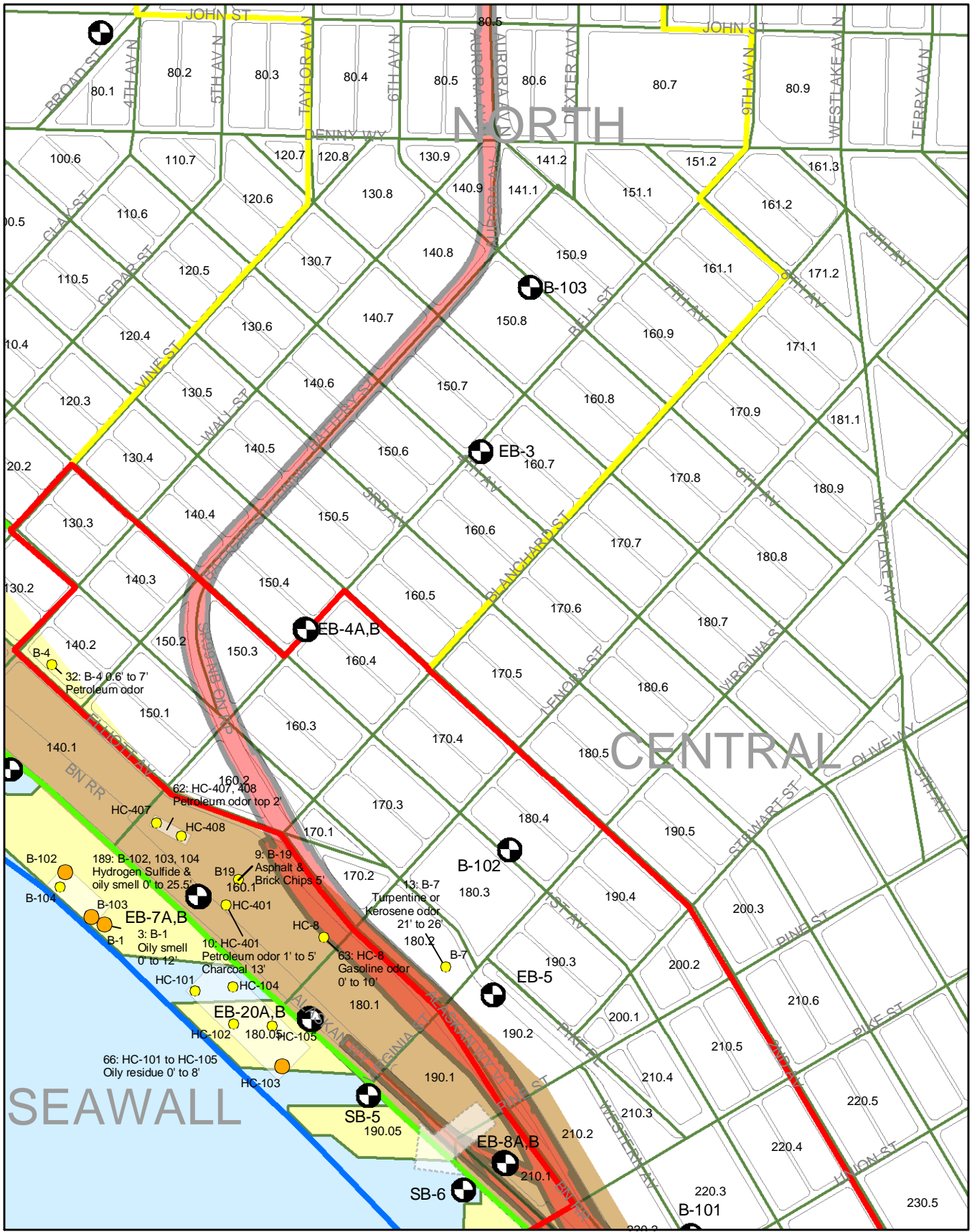
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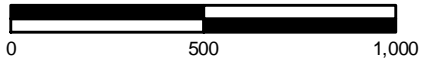


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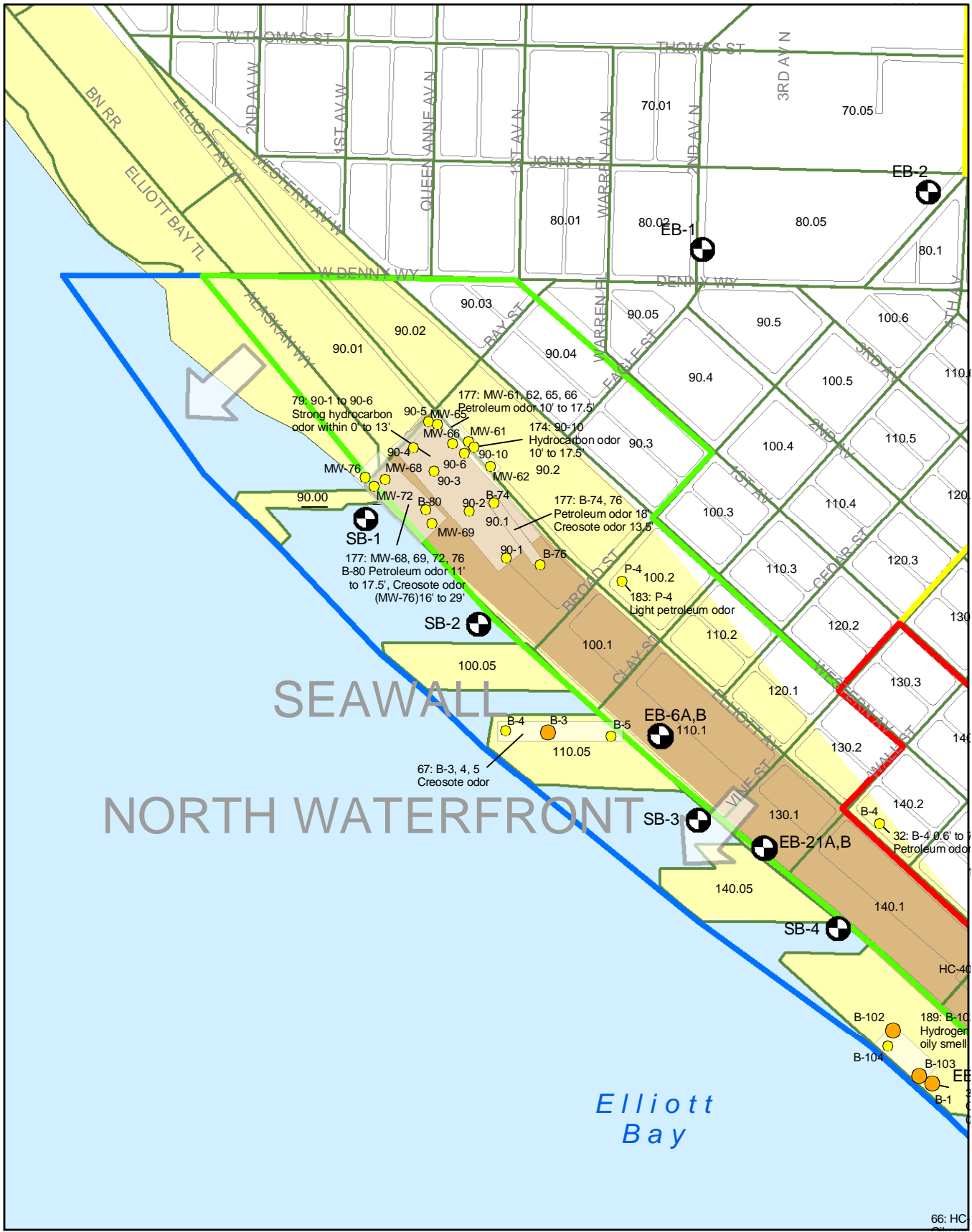


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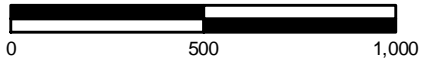
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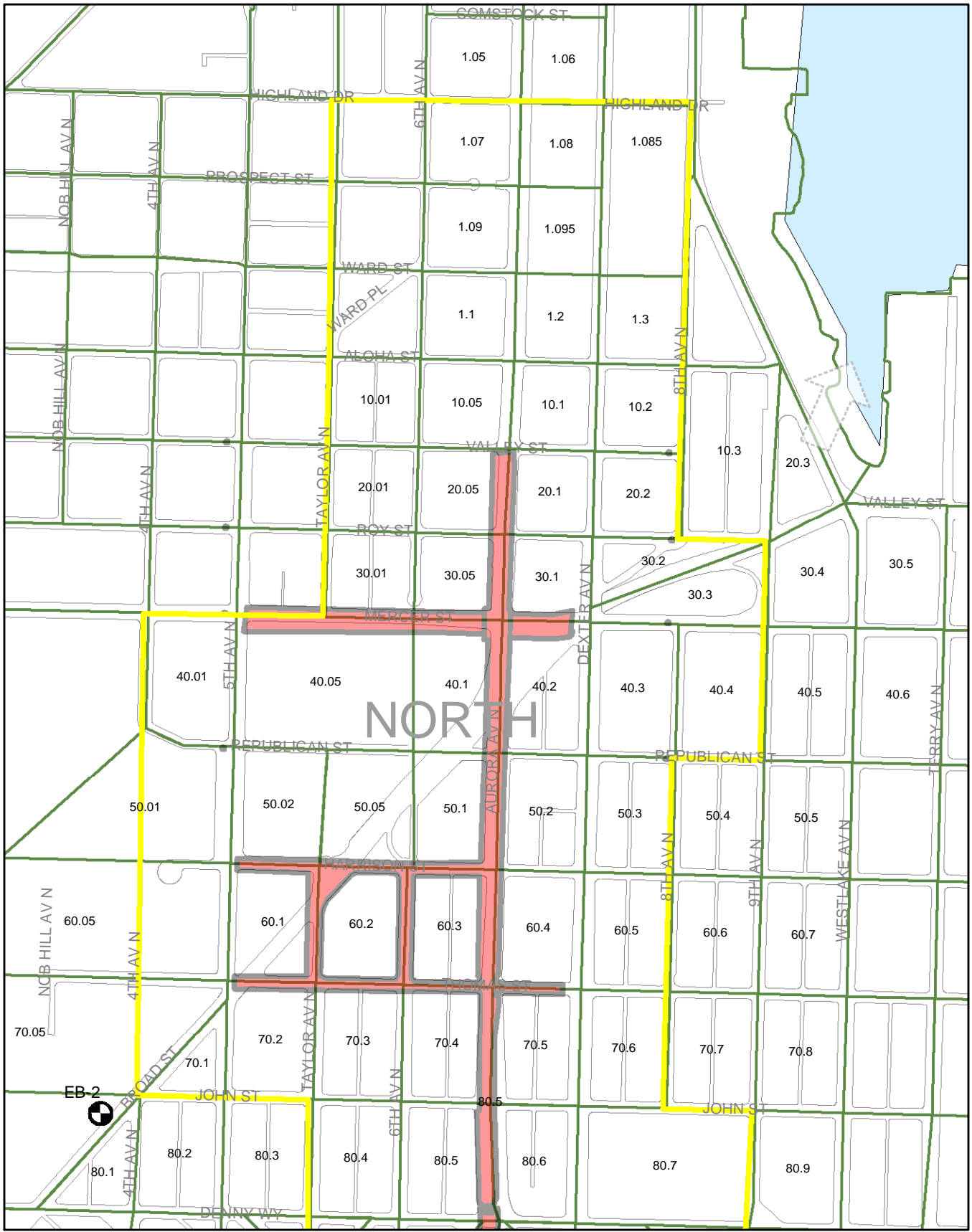
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3.2 Regulatory Records Review

Federal and state databases were reviewed to identify former and current land uses that could result in the contamination of soil and/or groundwater within the project corridor. The objective of this review was to identify and document reported releases of hazardous or toxic materials to the environment as well as to pinpoint businesses and industries that use, generate, store, transport, and/or dispose of regulated hazardous materials in the normal course of business.

Environmental Data Resources, Inc. (EDR) was subcontracted to conduct a search (as recommended by the American Society for Testing and Materials [ASTM]) of available agency databases, including those of the Environmental Protection Agency (EPA) and Ecology, for known and suspected contaminated sites within 1 mile of the project corridor boundary. A total of approximately 415 known and potentially contaminated sites and/or sites that use, transport, or handle hazardous or regulated materials were identified during the database review (EDR 2001). Some of the sites appear on more than one database.

All federal National Priority List (NPL) and Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) sites within 1 mile of the project corridor and all state Confirmed and Suspected Contaminated Sites List (CSCSL), Washington Site Register of Independent Cleanup Reports (WA-ICR), and leaking underground storage tank (LUST) sites within 400 feet of the project corridor boundary were evaluated (approximately two city blocks). The NPL and CERCLIS sites were deemed to have a low potential to adversely affect the project based on the extent and type of contamination and the relative distance of the sites from the project area.

Sites identified on the state lists that are located greater than two blocks from the project corridor were not evaluated because they do not have as likely a potential to affect the project relative to the large number of similar sites identified in the project corridor.

A total of 197 sites located within the project corridor have the potential to impact the project. These sites are summarized in this report. The EDR Area Study Executive Summary Report is presented in Attachment A. The complete EDR report (EDR 2001) is on file at Shannon & Wilson, Inc. Sites identified in the EDR search were identified and are presented in Exhibits 3-2 and 3-3 and Attachment B. As described in Section 3.8, Site Screening Criteria, some sites were excluded from further evaluation because they are unlikely to affect the project. These sites are presented in Attachment B.

A numbering system was created to identify unique sites with documented or potential releases. For example, Le's Deli located at 1108 Aurora Avenue N. has a site number 1.08-3, where 1.08 is the block number and -3 is the site number (within that block). The site number consists of one or more parcels depending upon the business. In some instances, individual parcels have been sold and may have subsequently been used for a different type of business. Site numbers and parcels would then overlap.

3.2.1 Federal Databases

The following EPA databases were searched:

- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS): data on potentially hazardous material sites that have been reported to EPA by states, municipalities, private companies, and private persons. Sites listed in CERCLIS are either proposed NPL sites or included on the NPL. Sites currently in the screening or assessment phase of the investigation for possible inclusion on the NPL may also be included in the CERCLIS. This list also includes sites for which no further remedial action is planned (NFRAP). Three CERCLIS-NFRAP sites were identified within the project corridor. A complete listing of EPA sites is provided in Exhibit 3-2 and a summary is provided below.
- National Priority List (NPL): a subset of CERCLIS that identifies more than 1,200 sites (nationwide) for priority cleanup under the Superfund program. No NPL sites were identified within the project corridor.
- Resource Conservation and Recovery Information System (RCRIS): selective information on sites that generate hazardous material or transport, store, treat, and/or dispose of hazardous material as defined by the Resource Conservation and Recovery Act (RCRA). RCRIS also identifies treatment, storage, and disposal (TSD) facilities with RCRA corrective action activity (CORRACTS). There are no TSD facilities listed within the project corridor. There are three large quantity generator (LQG) and 79 small quantity generator (SQG) sites listed within the project corridor that are not identified as sites with known or suspected contamination. A list of these generators is provided in Exhibit B-1, Attachment B.
- Emergency Response Notification System (ERNS): records and stores information on reported releases of oil and hazardous substances. There are 13 sites within the project corridor that have reported spills. A complete listing of ERNS sites is provided in Exhibit B-2, Attachment B.

Exhibit 3-2. Sites Within the Project Corridor with Documented or Suspected Contaminant Releases (Legend at end of exhibit)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
1.08	1.08-3	1108 Aurora Avenue N.	Le's Deli	Le's Deli: Two tanks removed from this site and four from an adjacent property. Sites reportedly cleaned up to MTCA B levels. Ecology lists as "reported cleaned up," and the potential for contaminants to have migrated off the site is unknown.	gasoline	11	LUST
1.3	1.3-1	912 Dexter Avenue N.	Yellow Cab/Diamond Tank Transport	Yellow Cab/Diamond Tank Transport: Demolished building and excavated petroleum-contaminated soil to a depth of 10 to 12 feet. Limited perched groundwater observed. Received NFA in 1999.	petroleum, gasoline	16	CSCSL
1.3	1.3-2	760 Aloha Street	Jarvie Paint Manufacturing Co.	Jarvie Site: Six USTs removed. Installed injection manifold system to remediate gasoline- and VOC-contaminated soil. Groundwater remediated to below MTCA Method A levels. Received NFA in 1999.	gasoline	16	CERCLIS- NFRAP
10.2	10.2-1	810 Dexter Avenue N.	Seattle School District 1 Facility	Seattle School District #1: Six USTs removed and TPH-contaminated soil excavated. Gasoline-contaminated soil remains on north wall of excavation (2,000 ppm). Excavation stopped because of potential of undermining retaining wall.	gasoline	17	LUST
20.01	20.01-5	720 Taylor Avenue N.	Plaid Pantry No. 309	Plaid Pantries Store #309: Gasoline leaked from three USTs. Vapor extraction system installed. Volatiles no longer detected in groundwater at 6 to 13 feet below ground surface. Received NFA in 2001.	gasoline	30	LUST
20.2	20.2-1-3	771 Valley Street	Maryatt Industries	Maryatt Industries: Reported in 1992, no recent data. Dry-cleaning solvents (PCE, TCE, and vinyl chloride), gasoline, and BTEX detected in groundwater. The highest concentration of PCE was 0.8 mg/L, and the highest concentration of vinyl chloride was 0.1 mg/L. Planned to continue monitoring. Depth to groundwater is 7 to 17 feet. Groundwater gradient was towards the west (Dexter).	solvents, gasoline	17	CSCSL, WA-ICR
30.01	30.01-1	601 Sixth Avenue N.	PCY Corporation	PCY Corporation: Decommissioned tank encountered in 1998. Gasoline soil contamination at 5,000 ppm. Contamination and/or tank may still be present on site.	petroleum, gasoline	37	LUST
40.05	40.05-1	506 Republican Street & 520 Fifth Avenue N.	Seattle Transit System/Metro Transit (Bus Barn)	City of Seattle maintenance, fueling, and storage facility for streetcars, trolleys, and buses since early 1900s. Nine USTs were removed in 1990 and three additional USTs were removed in 1996. Approximately 3,000 to 4,000 cy of petroleum-contaminated soil were treated on-site using landfarming. Over 10,000 cy of heavy TPH-contaminated soil remains on site (above MTCA A).	solvents, metals, petroleum	46	CSCSL

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
40.1	40.1-5	601 Mercer Street	Seattle City Seattle Center Property	Seattle City Seattle Center Property: Contaminated soil encountered during construction of Sonics training facility. Affected soil was excavated and transported to adjacent bus barn site; no assessment or clean up was conducted. No additional information was provided in the file.	solvents	37	CSCSL
60.3	60.3-1	325 Aurora Avenue N.	Vagabond Inn	Vagabond Inn: High concentrations of PCE and TCE in site soil and groundwater. Wells were not installed to evaluate if contaminants have migrated off the site. Plans to install remediation system, although no follow-up in file.	solvents, gasoline	66	CSCSL, WA-ICR
70.5	70.5-2	203 Dexter Avenue N.	Leavitt, Shay, Dexter Property	Leavitt, Shay, Dexter Property: UST removed, petroleum-contaminated soil was over-excavated; cleanup appears complete.	petroleum	74	LUST
80.5	80.5-1	101 Aurora Avenue N.	Wright's Restaurant (Former)	Wright's Restaurant (Former): USTs removed, PCS was overexcavated. NFA issued 10/97.	gasoline	73	LUST
80.5	80.5-2	600 Denny Way	Bob's Downtown Union Gas Station	Bob's Downtown Union Gas Station: USTs removed, petroleum-contaminated soil was excavated and treated on site via air stripping, and reused as backfill. Groundwater not encountered.	gasoline	86	LUST, WA-ICR
80.6	80.6-5	127-35 Dexter Avenue N., 711 W. John Street	Ewing Investments Property	Ewing Investments Property: Heating oil tank removed. Petroleum-contaminated soil was over-excavated to extent possible. Contamination may extend beneath W. John Street but not remediated because of road stability.	petroleum	80	LUST, WA-ICR
90.04	90.04-6	3005 First Avenue	Dendreon Corporation	Dendreon Corp/Briston-Myers Squibb: Site contains diesel-range TPH-contaminated soil beneath load-bearing wall, structural column, and the elevator on the southern side of the building by the loading dock. Restrictive Covenant-1999.	petroleum	100	CSCSL
90.1	90.1-1	3001 Elliott Avenue	Union Oil of California	Union Oil of California: Upper 15 to 20 feet of soil excavated. TPH concentrations in remaining soil are generally above 200 mg/kg but below 1,300 mg/kg. Covered with 2 feet of clean soil. Elevated concentrations of TPH likely still present behind the shoring wall along the northern property boundary. Gasoline-contaminated soil present along the northern boundary. Free-phase kerosene- to oil-range hydrocarbons present along the southern boundary of yard. Sheen and free-phase product encountered south of yard.	petroleum, gasoline	143	CSCSL

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
90.1	90.1-1	3035 Elliott Avenue	Union Service Stations, Inc.	Union Oil of California: Upper 15 to 20 feet of soil excavated. The TPH concentration in remaining soil is generally above 200 mg/kg but below 1,300 mg/kg. Covered with 2 feet of clean soil. Elevated concentrations of TPH likely still present behind the shoring wall along the northern property boundary. Gasoline-contaminated soil present along the northern boundary. Free-phase kerosene- to oil-range hydrocarbons present along the southern boundary of yard. Sheen and free-phase product encountered south of yard.	gasoline	18	CSCSL
90.1	90.1-2	10 Broad Street	Elliott and Broad	Elliott and Broad: Gasoline- and BTEX-contaminated soil present above MTCA Method A. Groundwater is contaminated at levels below surface water criteria. Site is undergoing air sparging. Plume is primarily located in northeast corner of site.	gasoline	132	CSCSL
90.2	90.2-1	2901 Western Avenue	Union Oil Co. of California-entire block	Union Oil Co. of California: Petroleum concentrations in soil are below MTCA Method A cleanup criteria. 110 cy are present at depth of approximately 16 to 26 feet below ground surface, along the northwestern boundary with Elliott Avenue, adjacent to shoring wall. Soils exceeding MTCA Method B appear to be present 10 to 20 feet below ground surface within the northwestern portion of Elliott Avenue. Gasoline-contaminated soil was encountered south of the Unocal tunnel in Elliott Avenue. Groundwater quality is typically below MTCA Method A except for groundwater located along the northwestern boundary. Dissolved petroleum present in groundwater in this area.	gasoline	107	CSCSL
110.2	110.2-1	2700 Elliott Avenue	Northwest Protective Service 1	Northwest Protective Service: UST removed in 1998. Gasoline-contaminated soil removed. Backfilled with clean fill.	petroleum	144	LUST, WA-ICR
130.2	130.2-1	Elliott Avenue/ Vine Street	Belltown Pea Patch	Belltown Pea Patch: Petroleum- and lead-contaminated soil excavated in 1999. Lead above MTCA residential level remains at a depth of 36 inches along the northeast sidewalk; site covered with topsoil.	petroleum, metals	151	CSCSL
130.3	130.3-2	2505 First Avenue	Sailor's Union of the Pacific	Sailor's Union of the Pacific: 9,000-gallon heating oil tank closed in place. Bunker C-contaminated soil appears to have been excavated.	petroleum	140	LUST, WA-ICR
130.6	130.6-4	2500 Third Avenue	Centennial Court	Centennial Court: Three USTs removed during site redevelopment in 1999. PCS remains at east wall. Carcinogenic polycyclic aromatic hydrocarbons slightly above MTCA Method A. No groundwater at a depth of 18 feet.	solvents, petroleum	112	WA-ICR
130.7	130.7-1	2500 Fourth Avenue	Selig property/ Keylock Parking Lot	Selig Property/Keylock Parking Lot: NFA issued January 1999. Removed UST and excavated petroleum-contaminated soil for off-site disposal.	gasoline	115	WA-ICR

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
140.7	140.7-2	2400 Fourth Avenue	Fountain Court Apartments	Fountain Court Apartments: Removed four USTs when developing site as apartments. Excavated soil to below MTCA cleanup levels. Received NFA on 4/2/01.	solvents, gasoline	123	CSCSL, LUST, WA- ICR
140.8	140.8-2	521 Wall Street	Seattle Post Intelligencer	Seattle Post Intelligencer: Anonymous complaint regarding discharge of spent fixer and other photographic chemicals down the sewer drain. As of 1994, chemicals transported to a photo processor for disposal.	solvents	104	CERCLIS - NFRAP
141.1	141.1-1	616 Battery Street	Elephant Car Wash	Elephant Car Wash: Removal of three USTs that were used to store gas and diesel. Affected soil was removed and a vapor extraction system was installed. Highest concentration of TPH was 120 mg/kg; groundwater not encountered. Migration of contaminants off the site is not likely.	gasoline	102	WA-ICR
150.4	150.4-4	2300 First Avenue	Douglas Hotel (Former)	Douglas Hotel (former): UST (heating oil) removed; 3 cy of soil were removed. Petroleum not detected in confirmation samples.	petroleum	155	LUST
150.5	150.5-3	2324 Second Avenue	Master Auto Service Co./Holman Body & Fender	Master Auto Service Co.: UST removed, approximately 50 to 70 tons of PCS removed and disposed off-site. No apparent groundwater impact; some soil contamination remains on site. Former UST was adjacent to Second Avenue.	petroleum	143	LUST, WA- ICR
150.6	150.6-2	2301 Fourth Avenue	Phom Property	Phom Property: Former gas station; tanks apparently removed, soil borings advanced to investigate remaining conditions, gas/BTEX present above MTCA Method A. Also heating oil tank below floor of building. No further info in file.	gasoline	127	LUST, WA- ICR
150.7	150.7-2	2334 Fourth Avenue	Seattle Fire Station 2	Seattle Fire Station 2: Two USTs removed, diesel-range TPH remains above MTCA Method A in soil, groundwater not encountered. No further info in file.	petroleum	127	LUST, WA- ICR
151.1	151.1-1	2300-24 Seventh Avenue	British Motor Car Distributors/MG dealership; American Automobile Used Cars	Per EDR: Removed two tanks containing leaded gasoline and used oil/waste oil in 1989. Reported cleaned up in 1995. No file available at Ecology.	petroleum, gasoline	103	LUST
160.1	160.1-1	No Address Available	World Trade Center	World Trade Center: Metals and PAHs detected in soil samples, predominantly along railroad tracks. Concentrations slightly above MTCA Method A soil cleanup levels. Diesel slightly above 200 mg/kg. Concentrations of PAHs detected in groundwater below Marine Discharge Criteria. Site verified based on maps provided in consultant reports submitted to Ecology.	petroleum	177	LUST, WA- ICR

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
160.1	160.1-2	2100 Alaskan Way	Bell Street Terminal (Pier 66)/Port of Seattle	Bell Street Terminal/Port of Seattle: 2100 Alaskan Way, 200 feet north of Lenora. UST release of gasoline and BTEX. Contaminants detected in soil above MTCA Method A. Also, diesel and oil detected above 200 mg/kg—most likely associated with railroad tracks/uncontrolled fill. Groundwater near trolley track contaminated with low levels of gasoline (2.4 to 5.4 mg/L) and BTEX. Floating product not encountered.	gasoline	177	LUST, WA- ICR
160.3	160.3-5	2201 First Avenue	Lewiston Hotel	Lewiston Hotel: TPH, TCE, and lead in soil; TCE in groundwater at 30 feet below ground surface. Metal plating formerly conducted in basement; TCE could be from plating or adjacent dry cleaner or auto repair. TPH is likely from heating oil UST. No cleanup was documented.	solvents	161	CSCSL
160.6	160.6-1	306 Blanchard Street	Cornelius Apartments	Cornelius Apartments: According to EDR (2001) - Petroleum products present in soil from heating fuel tank; interim cleanup report filed in 1993. Ecology file not available for review	petroleum	149	WA-ICR
160.6	160.6-3	2255 Fourth Avenue	Metro PDH	Metro PDH: TPH, BTEX, and PAHs in site soil and groundwater following UST removal. Monitoring is ongoing.	metals, petroleum, gasoline, PAHs	319	CSCSL
160.8	160.8-1	Fifth Avenue and Blanchard Street	Neuffer Construction Company	Neuffer Construction Co.: Eight abandoned USTs encountered during construction, all petroleum-contaminated soil removed, perched groundwater was pumped from excavation and did not return.	petroleum	129	LUST, WA- ICR
180.3	180.3-3	2001 First Avenue	Reliable Tailors & Cleaners	Reliable Tailors and Cleaners: Abandoned Bunker C UST encountered during building demolition; affected soil overexcavated and disposed; groundwater not encountered.	solvents, metals, petroleum	168	LUST, WA- ICR
180.4	180.4-3	First Avenue and Virginia Avenue	One Pacific Tower West Construction Site	One Pacific Tower West Construction Site: Four gasoline USTs removed in 1994. Removed petroleum-contaminated soil. Samples at limits of excavation were below MTCA Method A standards. Site redeveloped.	gasoline	168	WA-ICR
190.1	190.1-1	1990 Alaskan Way	Port of Seattle Central Waterfront	Port of Seattle: 1990 Alaskan Way - east side of the block. Diesel-contaminated soil excavated to below MTCA Method A cleanup levels.	petroleum	184	WA-ICR
190.4	190.4-3	1915 Second Avenue	Autopark USA, Inc.	Auto Park Garage/Second Avenue Garage: Gasoline-contaminated soil remains under the sidewalk along Second Avenue. Received NFA in 2000. Not practical to remove soil.	gasoline	174	WA-ICR

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
220.4	220.4-4	1401, 1415 Second Avenue	JC Penney Site	JC Penney: Release not confirmed. Small amount of Bunker C was released during UST removal in 1990. Site redeveloped and named the Newmark.	petroleum	189	LUST
230.2	230.2-1	1319 Western Avenue	Puget Sound Power & Light	Puget Sound Power & Light: Bunker C by viaduct footing to a depth of 17 to 19 feet below ground surface in soil and groundwater.	petroleum	202	CSCSL, LUST, WA- ICR
240.2	240.2-2	1203 Western Avenue	Flinn, John	Flinn, John: EDR: metals and petroleum in soil, source unknown; final clean-up report issued by consultant. File missing at Ecology.	metals, petroleum	211	WA-ICR
260.2	260.2-1	1011 Western Avenue	Waterfront Place	Waterfront Place: Arsenic, chromium, lead, mercury, and TPH present in site soil and groundwater. Although total metals exceed MTCA Method A, dissolved metals do not. NFA issued April 2000.	metals	220	WA-ICR
270.1 (water- front from 220.05 to 290.1)	270.1-1	Pier 53	Central Seattle Waterfront	Central Seattle Waterfront: Compounds exceeding the sediment cleanup screening levels in subsurface sediments include mercury, lead, zinc, copper, HPAHs and LPAHs, and PCBs. Other compounds were also detected above screening levels in surface sediments. Mercury appears to be the most widespread contaminant. Sediments to a depth of 6 to 10 feet below the mudline have contaminant concentrations above screening levels.	metals, PAHs, PCBs	207	CSCSL
280.1	280.1-1	801 Alaskan Way	Colman Dock Sediments	Colman Dock Sediments: Compounds exceeding the Washington State Minimum Cleanup Level in sediments include copper, mercury, HPAHs, and LPAHs. The site was capped south of Colman Dock and the site is being monitored.	metals, petroleum	236	CSCSL
280.2	280.2-2	801-809 Western Avenue	Mitchell & Shelly/Commuter Centre Parking	Mitchell & Shelly: Listed as a medium quantity generator, no description of waste provided. 809 Western - five USTs (possibly from former gas station) removed, ~20 yards affected soil removed and disposed off-site. Some PCS remains near footing from waste oil tank.	gasoline	231	LUST, WA- ICR
280.2	280.2-4	815 Western Avenue	Turner & Pease Co./Commuter Center Parking Facility	Turner & Pease Co./Commuter Center Parking Facility: 815 Western - two USTs discovered, both appear to be heating oil tanks. First tank removed, second tank is on adjoining property and not removed. Affected soil removed and disposed. Small pocket of PCS remains near adjacent UST. Site reported "cleaned up" by consultant.	petroleum	231	LUST, WA- ICR
290.3	290.3-6	700 Post Avenue	Seattle Steam Co. Post Avenue	Seattle Steam Co. Post Avenue: 55,000-gallon Bunker C UST for emergency use, TPH in soil and groundwater at site. The potential for contaminants to migrate off the site was not evaluated, but it is possible.	PCBs, petroleum	235	CSCSL

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
300.1	300.1-6	607 Second Avenue, 114 James Street	Butler Garage	Butler Garage: Gasoline -contaminated soil excavated. Contaminated soil and groundwater remain at the site by the perimeter of the building and downgradient (alley). Pump and treat system for remediating groundwater operating (2001).	gasoline	238	LUST, WA- ICR
340.1	340.1-1	84 Jackson Street	Old Seattle Parking Garage	Old Seattle Parking Garage: Two abandoned USTs found near footings of buildings; soil samples indicate that gas and diesel are above MTCA A. Groundwater not tested. No further information in file; tanks and contamination likely still in place.	gasoline, petroleum	251	LUST
350.1	350.1-2	401, 403 Alaskan Way S.	Union Oil Co., Terminal 46	Union Oil Co./Port of Seattle-Pier 46: EDR: Petroleum in soil; final clean-up report October 1992. Three diesel USTs removed; two leaded gasoline USTs closed in place; two used oil/waste oil USTs closed in place; one operational unleaded gasoline UST. No remedial actions planned.	gasoline	248	LUST, WA-ICR
370.1	370.1-2	801 First Avenue S.	Union Pacific Railroad	Union Pacific Railroad: Isolated areas of TPH contamination in soil resulting from removed or abandoned USTs. Groundwater has not been affected based on limited sampling. It does not appear that contaminants pose a potential to migrate off the site.	petroleum	273	WA-ICR
370.2	370.2-19	1046 First Avenue S.	Kohl & Kohl	Kohl and Kohl/Texaco-Appel: EDR: Texaco - Five unknown media tanks removed; one diesel UST removed; one leaded gasoline UST removed; one waste oil UST removed; one unleaded gas UST removed; three operational unleaded gasoline USTs in place.	gasoline	278	LUST
370.2	370.2-6	820-824 First Avenue S.	Squire Shop Warehouse (former)	EDR: Squire Shop Warehouse: petroleum release from heating fuel tank in 1993. Interim cleanup report received. No Ecology file.	metals, petroleum	273	WA-ICR
380.1	380.1-4	1255 Railroad Avenue S.	Terminal 37	Terminal 37: Ecology notified in 1995 of petroleum release when four tanks removed. Gasoline contamination encountered. Waste oil remains beneath the office trailer. Benzene is present in groundwater above MTCA (59 ppb). Groundwater flows to the northwest.	gasoline	283	LUST
390.1	390.1-1	1305-1343, 1555 Alaskan Way S.	Federal Warehouse	Federal Warehouse/U.S. Coast Guard: Extent of petroleum contamination in soil and groundwater beneath the building has not been addressed. TPH remain at 25,900 ppm adjacent to the loading dock. Soil contamination exceeds MTCA residential cleanup levels in the area north of the former gasoline UST excavation near the fiber optics line. Coast Guard does not want to enter into restrictive covenant. VOLUNTARY CLEANUP PROGRAM suspended.	solvents, metals, gasoline	288	LUST

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
390.1	390.1-5	1519, 1545 Alaskan Way S.	United States Coast Guard Support Center Seattle	United States Coast Guard Support Center Seattle: Lead encountered above MTCA Method A cleanup level. The Coast Guard is proceeding with an independent interim action to remove contaminated soil during the upcoming project (1995).	metals	288	LUST
390.3	390.3-1	1527, 1531 Utah Avenue S.	Rental Machinery Co.	Rental Machinery Co./Coast Crane: Three USTs removed, TPH as oil, diesel, and gas with BTEX, and PAHs present in soil and groundwater. Petroleum-contaminated soil was land-farmed. Groundwater monitoring from 1999 shows all constituents below MTCA. The site is also a hazardous waste generator of mineral spirits (for degreasing). Mineral spirits are recycled off-site.	petroleum, gasoline, PAHs	290	LUST, WA- ICR
390.3	390.3-3	1541 Utah Avenue S.	City Light	Seattle City Light: EDR: PCBs spilled in soil; no report at Ecology.	PCBs	290	WA-ICR
400.1	400.1-5	9 S. Massachusetts Street	Emerald City Disposal/Sea Bay Transport	Emerald City Disposal/United States Coast Guard Pier 35: Removed three tanks in 1990. Gasoline present (840 mg/kg) at the bottom of the excavation (10 feet) and at the south wall (3,500 mg/kg). BTEX also present. United States Coast Guard not planning to remediate. Tanks were owned by Rabanco/Emerald City Disposal.	gasoline	298	LUST
400.1	400.1-6	1727 Alaskan Way S.	California Ink Co. (Flint Ink Co.)	Flint Ink Co./Terminal 30: Chlorinated solvents and petroleum detected in groundwater. Groundwater monitoring and sampling conducted at Terminal 30.	solvents, petroleum	300	CERCLIS - NFRAP
400.1	400.1-7	1723-1739 Alaskan Way S.	GATX Facility/First Recovery/Tosco	GATX/Pier 34: Bulk fuel tanks removed. PCS excavated. Air-sparge system operated from 1996 to 1998 to remediate soil and groundwater. Groundwater monitoring will continue semiannually through at least 2003. Constituent concentrations (metals, gasoline, diesel, PAHs, and BTEX) below trigger levels that are protective of aquatic life (MTCA Method C). Most of the contamination is located in the center of the property and closer to the waterfront. The site is paved.	petroleum, gasoline	300	CSCSL
410.1	410.1-1	1901, 2431 E. Marginal Way S.	Terminal 30/Drew, E.F., and Co.	Port of Seattle Terminal 30: Petroleum contamination predominantly in middle to western portions of the property. Product recovery shut down in 1992. Entire site is now paved and has a groundwater-monitoring program. Diesel- and kerosene - range petroleum hydrocarbons detected in right-of-way (290 mg/kg TPH soil, 5 ppm gas and diesel in groundwater). Record of decision in 1995.	solvents, petroleum	318	LUST, WA- ICR
420.2	420.2-5	2233 First Avenue S.	Thrifty Office Furniture	Surface spill of fuel for boiler. Soil and groundwater contaminated with TPH (diesel and oil). Approximately 23 tons petroleum-contaminated soil excavated. Some affected soil remains beneath building. 2,100 gallons groundwater removed from excavation by vacuum truck. The potential for contaminants to migrate off the site is unknown.	solvents, metals, petroleum	320	WA-ICR

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
430.4	430.4-5	2463 First Avenue S.	Sears Roebuck & Co.	EDR: Petroleum-contaminated soil from UST; closure in process for five leaded gasoline USTs and six waste oil tanks; final clean-up report issued 1994. Final Independent Remedial Action Report received, and NFA dated December 1994.	gasoline	330	WA-ICR
440.2	440.2-3	2753 Utah Avenue	Sears Roebuck & Co.	EDR: Petroleum-contaminated soil and groundwater from UST. Soil cleanup started at auto service center; awaiting cleanup in soil and groundwater at retail facility. Nine unknown media tanks removed, and one waste oil tank removed	petroleum	336	LUST, WA-ICR
450.1	450.1-1	2943 Colorado Avenue S.	BNSF Railroad	2,000-gallon heating oil UST removed and backfilled with PCS (olfactory identification-diesel). No sampling conducted. No cleanup because of proximity to a car shop and utilities. Site is listed as a LUST; nothing is in file regarding regulatory action.	petroleum	399	LUST
460.1	460.1-1	55 S. Hanford Street	Terminal 25, Port of Seattle	One UST removed and TPH/BTEX-affected soil removed. Groundwater monitoring wells have been abandoned. Groundwater contamination remains above MTCA.	solvents, gasoline	376	LUST
460.2	460.2-2	25 S. Hanford Street	Crescent Foods Warehouse	Removed two USTs in 1989; diesel present in soil and groundwater above MTCA. Plan to monitor groundwater. No additional info in file.	petroleum	355	LUST, WA-ICR
470.2	470.2-3	25 S. Horton Street, 3314 E. Marginal Way S.	Port of Seattle	Five USTs removed: gas, diesel, and waste oil. Groundwater encountered at 7.5 feet below ground surface. Three consecutive semiannual groundwater monitoring events were below MTCA for WTPH-D, WTPH-G, and BTEX, and two monitoring wells were then abandoned. TPH-contaminated soil was excavated, but soil with concentrations above MTCA is still present beneath the building. Also, a hand boring advanced in the southeast corner of the property contained 1,000 ppm TPH.	solvents, metals, petroleum	366	LUST, WA-ICR
470.25	470.25-2	40 S. Spokane Street	MC Terminals	Groundwater monitoring for VOCs, vinyl chloride, and 1,2-dichloroethene detected below MTCA at last sampling (June 1991). No discussion of source or initial reason for investigation.	solvents	385	CSCSL, WA-ICR
470.35	470.35-2	54-64 S. Spokane Street	AO Smith Water Corp.	One gasoline UST removed in 1990. No indication of contamination provided; status of site is unknown.	metals, gasoline, petroleum	384	LUST
470.35	470.35-6	3443 First Avenue S.	Rollins Leasing Corp.	Four USTs were removed in January 1991; oil-absorbent pads removed free product on groundwater. Soil was over-excavated and removed from site. Ecology reviewed cleanup and reported status as "cleanup completed."	petroleum	374	LUST, WA-ICR

Exhibit 3-2. Sites Within the Project Corridor With Documented or Suspected Contaminant Releases (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	Address	Site/Business Name	Ecology File Summary	Known or Suspected Contaminants	EDR Map No.	List
480.6	480.6-1	47 S. Spokane Street, 3601 Colorado Avenue S.	Nelson Iron Works	Oil-range TPH in soil and groundwater as a result of a leaking sump within the building. An oil/water separator was installed. Contaminants reported as contained beneath building and not migrating. No further info in file.	metals, petroleum	384	CSCSL, WA-ICR

Notes:

BTEX = benzene, toluene, ethylbenzene, xylenes
 CERCLIS -NFRAP = Comprehensive Environmental Response, Compensation, and
 Liability Information System-No Further Remedial Action Planned
 CSCSL = Ecology's Confirmed and Suspected Contaminated Sites List
 cy = cubic yard
 HPAHs = heavy polycyclic aromatic hydrocarbons
 LPAHs = light polycyclic aromatic hydrocarbons
 LUST = Leaking Underground Storage Tank
 mg/kg = milligrams per kilogram
 MTCA = Model Toxics Control Act
 NFA = No Further Action Determination (presented by Ecology)
 PAHs = polycyclic aromatic hydrocarbons

PCBs = polychlorinated biphenyls
 PCE = tetrachloroethylene
 PCS = petroleum-contaminated soil
 ppb = parts per billion
 ppm = parts per million
 TCE = trichloroethylene
 TPH = total petroleum hydrocarbons
 UST = underground storage tank
 VOCs = volatile organic compounds
 WA-ICR = Washington Site Register of Independent Cleanup Reports
 WTPHD= Washington Total Petroleum Hydrocarbon-Diesel (analytical method)
 WTPHG= Washington Total Petroleum Hydrocarbon-Gasoline (analytical method)

3.2.2 Washington Regulatory Databases

The following Ecology databases were searched:

- Confirmed and Suspected Contaminated Sites List (CSCSL): State hazardous material site records. Washington's equivalent to CERCLIS. Some of these sites are also listed on the federal CERCLIS list. A total of 21 sites within the project corridor are included on the CSCSL. A complete listing is provided in Exhibit 3-2.
- Washington Site Register of Independent Cleanup Reports (WA-ICR): remedial action reports that Ecology has received from either the owner or operator of the sites. These actions have been conducted without Ecology oversight or approval and are not under an order or decree. There are 41 sites within the project corridor that are included on the WA-ICR list. A complete listing is provided in Exhibit 3-2.
- Leaking Underground Storage Tank (LUST) Database: an inventory of reported LUST incidents along with cleanup status and the affected medium (soil, groundwater). There are 41 LUST sites within the project corridor. A complete listing is provided in Exhibit 3-2.
- Underground Storage Tank (UST) List: identifies all properties that have registered USTs with Ecology. Information includes operational status, removal status, and tank contents. Twenty-six UST sites were identified adjacent to the alignments. There are 11 UST sites within the project corridor that are identified as having a low potential for a release because they were installed after 1980. A list of these UST sites is provided in Exhibit B-1, Attachment B. There are 15 UST sites that are located adjacent to the alignments and were installed prior to 1980. A complete listing of these sites is provided in Exhibit 3-3. These sites are not listed in WA-ICR, CSCSL, LUST, or CERCLIS lists.

Exhibit 3-3. Potentially Contaminated UST Sites

Block	Site No./ Exhibit 4-1 Sheet No.	EDR Site Number	Site Name	Site Address	UST info
1.2	1.2-1	16	Korry Electronics Co. – Tenant	901 Dexter Avenue N.	One UST, installed 1964, closed in place, substance not reported
50.2	50.2-4	52	Interstate Brands Corp Hostess	434 Aurora Avenue N.	Three USTs, installed 1964, one closed in place, two exempt (heating fuel)
80.6	80.6-4	80	Dave's Auto Electric	701 W. John Street	One UST, install date not reported, heating fuel, used oil/waste oil, closure in process

Exhibit 3-3. Potentially Contaminated UST Sites (continued)

Block	Site No./ Exhibit 4-1 Sheet No.	EDR Site Number	Site Name	Site Address	UST info
140.5	140.5-1	112	U.S. Postal Service	2445 Third Avenue	Two USTs, installed 1964, closure in process, one used oil/waste oil, other substance unknown
150.5	150.5-6	135	Alaska USA Federal Credit Union	2333 Third Avenue	One UST, date installed not reported, heating fuel, exempt
150.8	150.8-2	117	Frederick Cadillac, Ltd.	2301 Sixth Avenue	One UST, installed 1976, removed, used oil/waste oil
240.2	240.2-1	199	Harbor Properties	85 University Street	Two USTs, installed 1964, closed in place, leaded gasoline
260.1	260.1-1	218	Seafood Enterprises, Inc.	Pier 54	Two USTs, installed 1964, closed in place, leaded gasoline and heating fuel
290.2	290.2-5	235	Ace Novelty	621/625 Western Avenue	Two USTs, installed 1964, leaded gasoline, removed
290.5	290.5-4	227	Martin Selig Real Estate Co.	115 Columbia Street	Two USTs, installed 1964, leaded gasoline, closed
360.2	360.2-5	257	83 King Street Building	83 S. King Street	Two USTs, install date not reported, unleaded gasoline, one removed, one closure in process
240.4	240.4-4	282	Service Station	1200 First Avenue S.	6 USTs, install date not reported, all removed, substances unknown
380.2	380.2-4	290	Fortune	84 S. Atlantic Street	One UST, installed 1964, removed, substance not reported
450.2	450.2-3	351	Growing Green Interiors	2959 Utah Avenue S.	Two USTs, installed 1964, removed, substance not reported
450.2	450.2-2	351	Washington Chain & Supply	2935 Utah Avenue S.	One UST, installed 1964, substance not reported, exempt

3.3 Ecology Files Review

Ecology files were sought to further evaluate the potential for the listed/reported sites to impact the study area and planned project. The sites were selected based on their location and their potential to impact the project. Each site was assigned a number based on the city block where it was located. The block numbering system developed for the project area allowed flexibility to add or eliminate city blocks as the project corridor changed. City blocks within the project area were numbered from north to south by increments of 10 south of Ward Street. Blocks west to east were then assigned decimal numbers. The site number consists of one or more parcels depending upon the business. In some instances, individual parcels have been sold and may have subsequently been used for a different type of business. Site numbers would then overlap. Files for CERCLIS, CSCSL, WA-ICR, and LUST sites were requested from Ecology for 77 sites. Files were not available at Ecology for 9 of the 77 sites. A summary of the Ecology files reviewed is presented in Exhibit 3-2.

3.4 Windshield Survey of the Project Corridor

A windshield survey was conducted to evaluate current site uses in the project corridor that are likely to involve the use, treatment, storage, or disposal of hazardous materials and to verify the location of listed and orphan sites associated with the regulatory review, where possible. All observations were from public areas. Detailed site investigations were beyond the scope of this evaluation. Properties that could be acquired for the project were viewed to compare the current tax assessor description of the site/buildings with site conditions. Findings from the windshield survey are included in the Study Area Summary of Chapter 4.

3.5 Sediment Study

Historical sediment information was obtained through searches of standard literature databases (Aquatic Sciences Fisheries Abstract, Current Contents, etc.), library catalogs (University of Washington, Parametrix, etc.) and web searches (National Oceanic and Atmospheric Administration [NOAA] Elliott Bay/Duwamish River Natural Resource Damage Assessment and Restoration Planning website). The relevant information is presented in Chapter 4.

3.6 Asbestos

Asbestos is a potential concern when the project will require demolition or modification of buildings or other structures that contain this material. The potential for asbestos-containing building materials to release asbestos fibers into the environment is dependent on their content and the friability of the material.¹ Asbestos was used widely in building materials until 1977, when laws regulating its use and disposal were established. The likelihood of encountering asbestos in buildings constructed after 1980 is low, as stockpiles of asbestos-containing building materials were mostly exhausted. Asbestos can be found in a variety of building materials, including exterior siding, roofing shingles, flooring, sprayed-on fireproofing, insulation, soundproofing, and ceilings. Asbestos was commonly used as a major component of heating systems, gaskets, pipe wrapping, wire duct lining, and brake linings in trucks and cars.

No site-specific surveys were conducted to identify asbestos hazards in buildings and other structures along the alignment. A listing of potential impacts for buildings that would either be modified or acquired for each alignment was compared to current Tax Assessor records to confirm the age of the buildings. Those buildings constructed prior to 1977 are assumed to have a high potential to have asbestos-containing building material, whereas younger buildings are substantially less likely to pose a significant hazard from asbestos. A summary of buildings that would potentially be modified or acquired is presented in Chapter 6, Construction Impacts (Exhibit 6-3).

3.7 Subsurface Explorations Conducted for the EIS

The field exploration program conducted as of the spring of 2002 included three borings performed during the Preliminary Phase (November/December 2001), 19 borings completed during the Environmental Impact Statement (EIS) Phase (February through May 2002), and 10 over-water borings completed for the Alaskan Way Seawall studies (March 2002). These explorations were generally conducted along proposed alignments and in areas where geotechnical data were critical for developing the conceptual design. One or more groundwater monitoring wells/piezometers were installed at each of the boring locations, as shown in Exhibit 3-1. The boring locations were selected based on a review of the available existing geotechnical data and the anticipated locations of project features and/or structures. Environmental laboratory tests (chemical analyses) were performed on samples collected

¹ A friable material can be crushed with hand pressure so that the fibers are readily emitted into the environment.

during the geotechnical field explorations to assess potentially contaminated soil, sediment, and groundwater. Specifically, selected soil, groundwater, and sediment samples were analyzed to identify contaminants that may affect disposal/treatment of the respective media. The results are discussed in Chapter 4. Summaries of soil, sediment, and groundwater analytical testing results, along with complete analytical laboratory reports, are provided in the *Geotechnical and Environmental Data Report*, Attachment D (Shannon & Wilson 2002).

3.7.1 Waterfront and Upland Borings

Soil samples were analyzed for petroleum hydrocarbons either by hydrocarbon identification (HCID) methodology or by northwest total petroleum hydrocarbon–gasoline (NWTPH-G) and/or northwest total petroleum hydrocarbon–diesel–extended (NWTPH-Dx) methodology. Most samples were also analyzed for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. Selected samples where creosote was suspected were also analyzed for semivolatile organic compounds (SVOCs) or polycyclic aromatic hydrocarbons (PAHs). Samples from one boring were analyzed for volatile organic compounds (VOCs) because this boring was directly downgradient from historic operations that may have used solvents. Five samples that contained oil were also analyzed for polychlorinated biphenyls (PCBs). CCI Analytical Laboratories, Inc., of Everett, Washington, performed chemical analyses under subcontract to Shannon & Wilson.

3.7.2 Over-water Borings

Sediment samples for chemical analysis were generally obtained from between 1 to 4 feet below the mudline. These samples were analyzed for parameters identified in Washington State Sediment Management Standards (SMS) to evaluate contaminants, including metals, organic compounds, and PCBs; samples were also analyzed for conventional sediment parameters, including sulfide, N-ammonia, preserved total solids, total organic carbon (TOC), and total solids. In addition, samples were analyzed for tributyl tin (TBT) because of its use in marine paints to prevent fouling of vessels by marine organisms. Analytical Resources Inc. of Tukwila, Washington, and Rosa Environmental and Geotechnical Laboratory of Seattle, Washington, analyzed all samples.

3.7.3 Groundwater

Each monitoring well was sampled for a variety of potential contaminants, depending on whether it was a shallow waterfront well or an upland or deep

waterfront well. The list of analyses for each of these types of wells is shown in Exhibit 3-4.

Exhibit 3-4. Summary of Environmental Sampling of Wells

Parameter	Shallow Waterfront Wells	Upland and Deep Waterfront Wells
Volatile Organic Compounds (VOCs)	X	X
Gasoline-Range Total Petroleum Hydrocarbons (NWTPH-G)	X	NT
Diesel-Extended-Range Total Petroleum Hydrocarbons (NWTPH-Dx)	X	NT
Pentachlorophenol and Polycyclic Aromatic Hydrocarbons (PAHs)	X	NT
Hydrocarbon Identification (NWTPH-HCID) and Appropriate Follow -up (NWTPH-G, NWTPH-Dx)	NT	X
Total Dissolved Solids (TDS)	X	X
Total Suspended Solids (TSS)	X	X
Hardness	X	X
Ammonia	X	X
Total sulfide	X	X
Chemical Oxygen Demand (COD)	X	X
Biological Oxygen Demand (BOD)	X	X
Methane	NT	X
Total and Dissolved Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc)	X	X

X = groundwater was sampled for the parameter listed

NT = not tested

Only shallow waterfront wells were analyzed for pentachlorophenol and PAHs, which are contaminants that would typically be associated with petroleum hydrocarbons and/or treated timbers that are present in the fill along the waterfront. Deep waterfront wells EB -6B, -9B, -10B, -13B, -14B, -18B, and -20B were also sampled for methane.

CCI Analytical Laboratories, Inc., of Everett, Washington, generally performed chemical analyses of the groundwater samples under subcontract

to Shannon & Wilson. OGW Research Labs, Inc., of Tukwila, Washington, performed the methane analyses.

3.8 Site Screening Criteria/Evaluation Criteria

3.8.1 Listed Sites with Documented, Suspected, or Potential Releases

Databases were searched for sites within a distance of 1 mile from the project corridor boundary to encompass all potential alignments during the preliminary design phase of this project. Documented release sites are defined as those that appear in the regulatory database search as having reported a release of contaminants into the soil, sediment, or groundwater of a property. Other sites included in the regulatory database search (EDR 2001) include generators of hazardous wastes (not necessarily indicating a release) and registered USTs.

A total of 415 sites within 1 mile of the study area were identified by the environmental database search. Many of the sites appear on more than one list. All federal NPL and CERCLIS sites within 1 mile of the project corridor and all state CSCSL, WA-ICR, and LUST sites within 400 feet of the project corridor were evaluated (approximately two city blocks). The NPL and CERCLIS sites were deemed to have a low potential to adversely affect the project based on the extent and type of contamination as described in the EDR summary (Attachment A) and the relative distance of the sites from the project area.

Sites identified on the state lists that are located greater than two blocks from the project corridor were not evaluated because they do not have as likely a potential to affect the project relative to the large number of similar type sites identified in the project corridor.

Of those listed sites, 197 sites are located within the project corridor. Of the 197 listed sites within the corridor, 105 were eliminated in the evaluation as being unlikely to affect the proposed action based on the following screening criteria:

- Sites listed solely on the RCRIS database (Exhibit B-1, Attachment B) were eliminated. Inclusion on the RCRIS list indicates that a site uses or generates regulated materials as part of their business practice, but gives no indication of releases to soil or groundwater (82 sites).
- Sites listed solely on the registered UST list were eliminated if they were commercial and industrial sites where the USTs were installed after 1980. Tank tightness testing regulations came into effect by 1980, which greatly reduced the potential for significant soil/groundwater

contamination from tank leakage (Exhibit B-1) (10 sites; one site appears in both the RCRIS and UST databases).

- Sites listed solely on the ERNS database (Exhibit B-2, Attachment B) were eliminated. Inclusion on this list indicates that a spill has occurred on site. None of the sites found here are included on other lists that would indicate soil and/or groundwater contamination, nor are the sites located within the areas of the project corridor (13 sites).

3.8.2 Historical Releases

A list of the historical businesses and industries within the project area that are likely to have been associated with generation, storage, or transportation of hazardous materials was developed based on a review of historical records discussed in Section 3.3. Exhibit 3-5 includes a list of the identified industries and associated contaminants that were considered as having the potential for a historic release. Although many contaminants may have been used at sites, the most likely contaminant that would be encountered at each business type has been identified.

Exhibit 3-5. Types of Businesses and Likely Contaminants

Business	Likely Contaminants
Asphalt paving	Petroleum , others
Auto service	Petroleum , solvents
Auto washing	Petroleum
Auto wrecking/junk yard	Petroleum , metals
Batteries	metals , other
Blacksmiths	Metals
City Light (Power) substation	PCBs
Cleaners/laundry	Solvents
Coal storage/bunkers	Petroleum , others
Dyers	Solvents , metals
Foundry	Metals , solvents
Gas station	Petroleum
Gas station with auto service	Petroleum , solvents
Hat cleaners	Solvents
Laundry/laundromat only	Solvents
Lithographers	Solvents , metals
Machinists	Metals , solvents, petroleum
Manufacturing chemists	Solvents , petroleum
Metal plating	metals , solvents

Exhibit 3-5. Types of Businesses and Likely Contaminants (continued)

Business	Likely Contaminants
Oil burner repair/sales	Petroleum
Painters	Solvents , metals
Photo finishers	Solvents , metals
Plastic fabricators	Solvents
Printers	Solvents , metals
Railroads	Petroleum , solvents, paint, fungicides, insecticides
Saw mill	Petroleum
Sheet metal works	Metals , solvents
Stockyards	Insecticides , fungicides
Trunk manufacturers	Solvents , metals
Upholstery cleaners	Solvents
Welding	Metals , solvents

Bold/Italic text = Predominant contaminant, most likely to pose a problem.

PCBs = polychlorinated biphenyls

In reviewing archive files, sites with heating oil tanks were also identified. These tanks are not required to be registered and do not appear in the state UST databases. Sites where the only potential source of contamination is a known or suspected heating oil UST were eliminated from further evaluation because of their typically smaller volume and the low mobility of heating oil. These “Oil Heat Only” sites totaled 395; they are listed in Exhibit B-3, Attachment B.

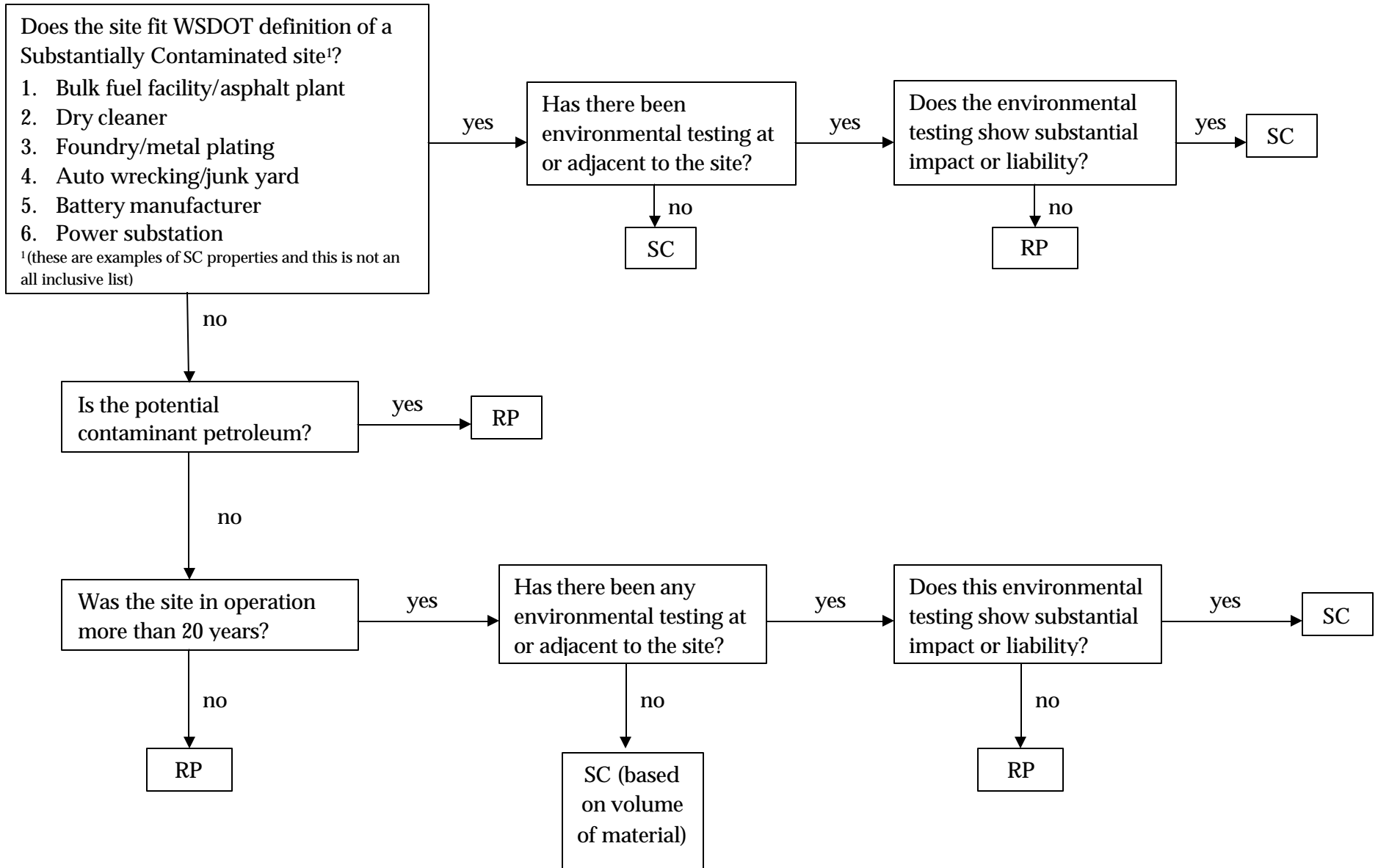
3.9 Validated Sites

The site screening resulted in the identification of a list of validated sites that pose some risk to the project. This list consists of listed sites (that were not eliminated as described above) and sites identified through review of historical information. The two lists were reconciled to avoid listing a site for both a known release (listed site) and potential release based on historic business activities. A determination was then made as to whether remediation approaches for the site would be “reasonably predictable” or the site is considered “substantially contaminated,” as defined by FHWA (WSDOT 2003). A flow chart (Exhibit 3-6) was used to classify the validated sites as reasonably predictable or substantially contaminated as defined below. Out of a total of 641 upland sites and one in-water site consisting of sediments along the Seattle waterfront, 209 are considered to potentially be substantially contaminated and 433 are considered reasonably predictable (Exhibit C-1, Attachment C). Sites are discussed and presented in Chapter 4, Affected Environment.

Reasonably predictable sites are those where the nature of potential contamination is known based on existing data, or where it can be reasonably predicted based on observations of the site, experience at similar sites, and/or best engineering judgment. Reasonably predictable sites are typically small to medium in size, contain potential contaminants that are not extremely toxic or difficult to treat, and dictate straightforward approaches to remediation. Examples of sites that are classified as reasonably predictable are gas stations, auto repair shops, most USTs, LUSTS, aboveground storage tanks, small manufacturing operations, and buildings with asbestos and/or materials containing lead paint.

Substantially contaminated sites may pose a potential for major liability for WSDOT either in construction liability or by virtue of acquiring all or a part of the site. If the site has undergone a detailed investigation and a feasibility study, the impacts and remediation costs may have been predicted. Nonetheless, the site is identified as substantially contaminated because of its potential impact to the project. Other sites are considered substantially contaminated sites because their impacts are not reasonably predictable. In general, substantially contaminated sites possess a potential for substantial soil, water, and/or sediment contamination, and/or the information necessary to predict remedial costs is lacking, and/or the contaminants are persistent and/or expensive to manage. The site may be contaminated over a large area with a single contaminant or over a smaller area with multiple contaminants. Substantially contaminated sites are typically large and/or have large volumes of contaminated material, and/or have a long history of industrial or commercial use. Examples of sites that would be classified as substantially contaminated include wood treating operations, metal plating facilities, large bulk petroleum facilities, refineries, hazardous material treatment facilities, or other sites that use or have used large amounts of contaminating materials (WSDOT 2003).

Exhibit 3-6. Substantially Contaminated (SC) and Reasonably Predictable (RP) Flow Chart



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Chapter 4 AFFECTED ENVIRONMENT

The Alaskan Way Viaduct and Seawall Replacement Project Corridor boundaries generally follow the SR 99 alignment from approximately S. Spokane Street on the south to Ward Street north of the Battery Street Tunnel (BST). The corridor passes through highly developed commercial and industrial areas of Seattle. These areas of the city were first developed in the 1870s through the early 1900s and have a long and varied land use history. As a result of the commercial and industrial use of this area, hazardous materials may have been released into the surrounding environment from a wide range of potential sources. Also, the placement of fill and road and pier construction along the waterfront may have adversely affected the environmental conditions in the project area.

The physical environment in the project corridor is another major factor that must be considered in evaluating the extent of potential contaminant releases. The most important characteristics of the physical environment are the soil and groundwater conditions in and near the project corridor. These physical characteristics affect the potential for vertical and lateral migration of contaminants and, therefore, the potential for contamination from nearby releases to migrate to soils within the project corridor or to be present in groundwater encountered during construction. The presence of hazardous materials in the soils, groundwater, and sediment could have broad implications for the construction approach and costs for this project.

The following discussion of the affected environment summarizes historic land use, the potential and known distribution of contaminants in the study area, and the physical environment. The project areas discussed in this chapter, as shown in Exhibit 4-1, from south to north, are as follows:

- South – S. Spokane Street to S. King Street
- Central – S. King Street to the Battery Street Tunnel (BST)
- North Waterfront – Pike Street to Myrtle Edwards Park
- North – Battery Street Tunnel to Ward Street
- Seawall- S. King Street to Myrtle Edwards Park

Site-specific information shown in Exhibit 4-1 is also presented in Attachment C, Exhibit C-1.

Based on historical activities, six general types of contaminants of concern have been identified in the project area; these contaminant types have varying toxicity and mobility that will determine how significant their presence may be to the proposed project. They include:

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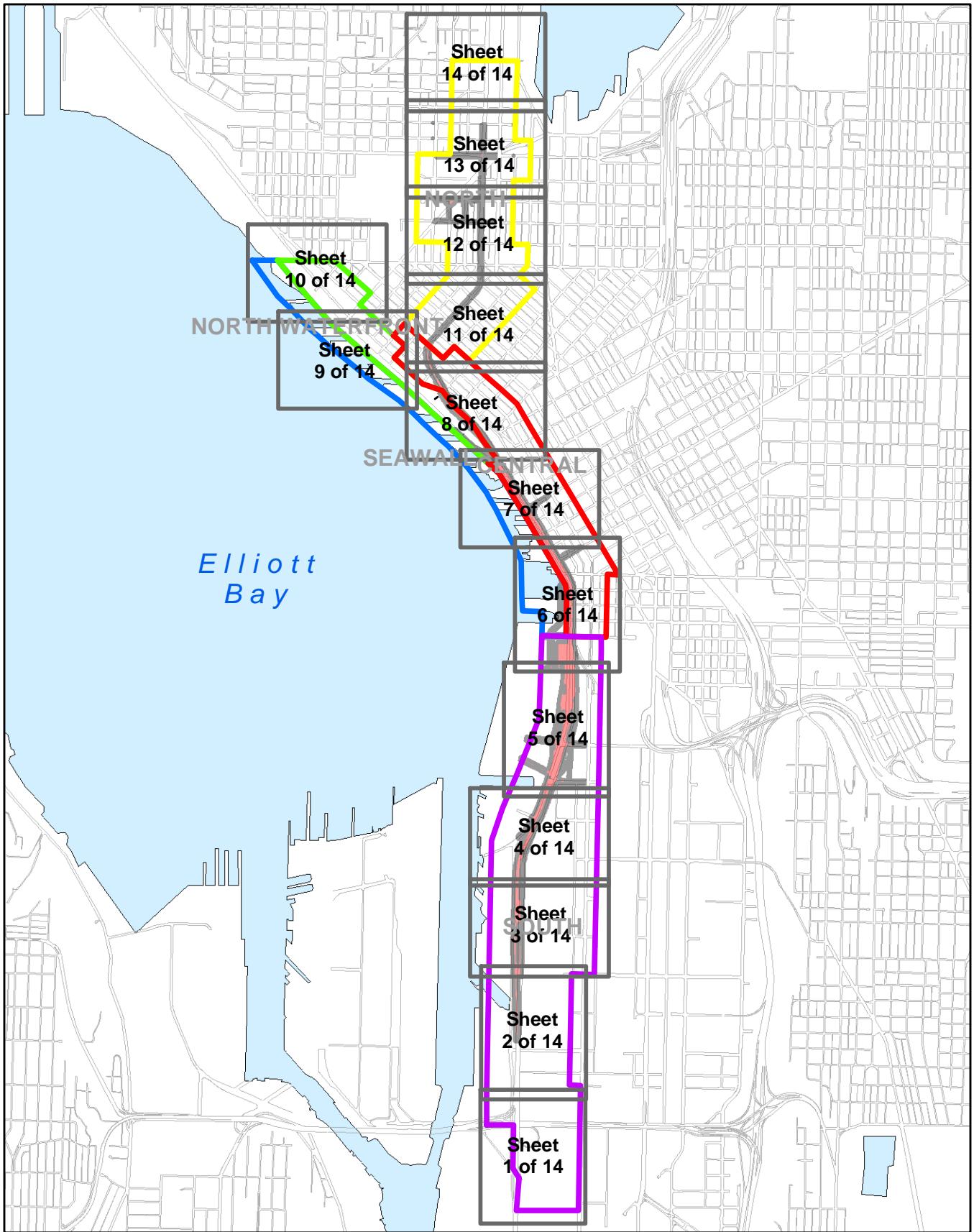


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Sheet A

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LEGEND

(See Exhibit C-1 for a summary of each site)

Hazardous Materials



Documented Releases

Gasoline



Reasonably Predictable



Substantially Contaminated

Solvents



Reasonably Predictable



Substantially Contaminated

Petroleum (diesel and/or oil)



Reasonably Predictable



Substantially Contaminated

Metals



Reasonably Predictable



Substantially Contaminated

PCBs



Reasonably Predictable



Substantially Contaminated

Combination



Metals and PCBs



Petroleum and Gas



PCBs and Petroleum



Petroleum and Metals

Combination cont...



Metals, PCBs, and Petroleum



Solvents and Metals



Solvents, Metals, Gas, and Petroleum



Solvents, Metals, Petroleum, and PCBs



Solvents and Gas



Solvents, Metals, and Gas



Solvents, Metals, and Petroleum



Proposed Alignment



Fill



Historic Railroad Use



Parcel w/Site Designation



Block w/Designation

Corridor Zones



South



Central



North Waterfront

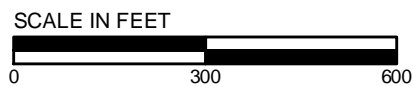
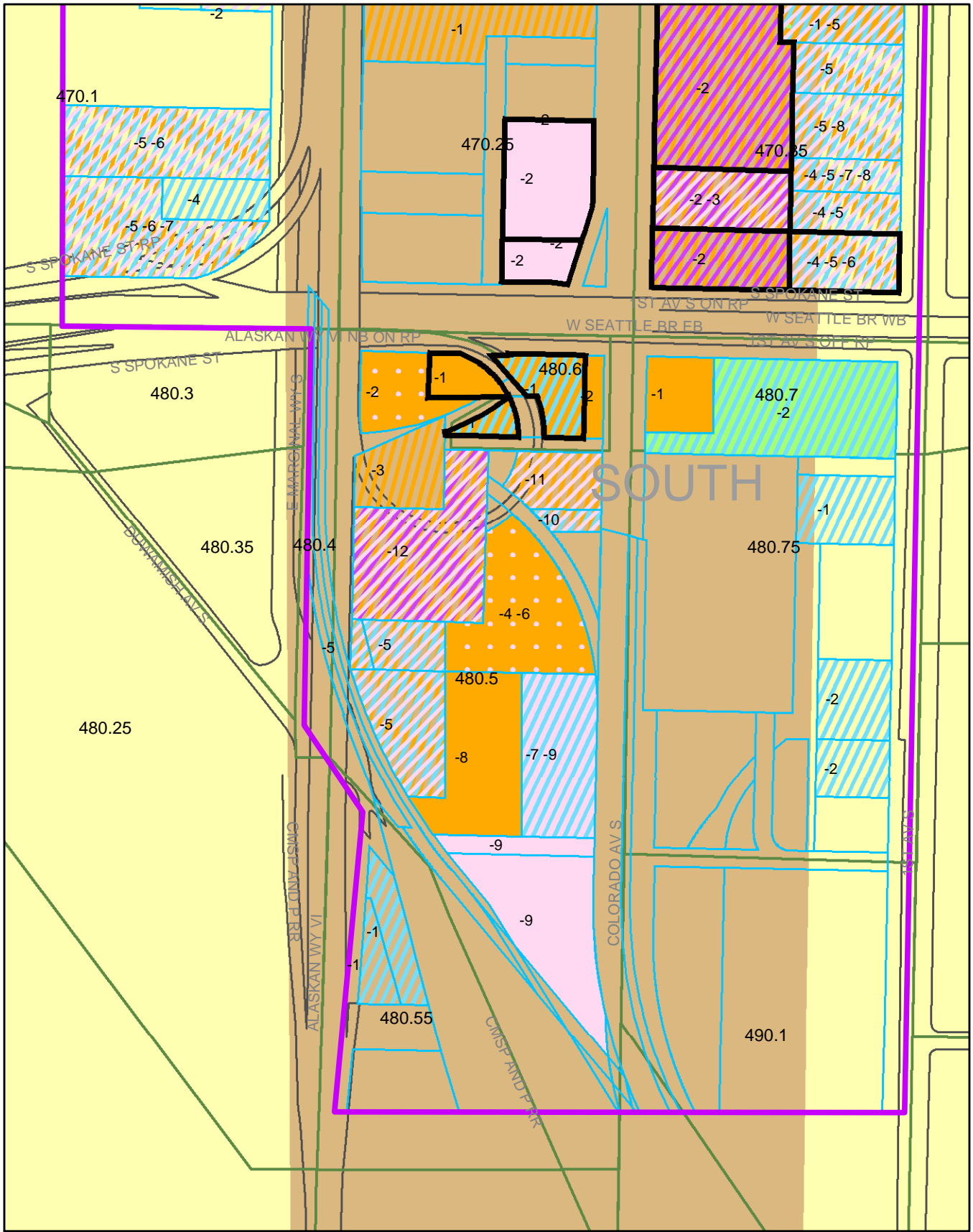


North

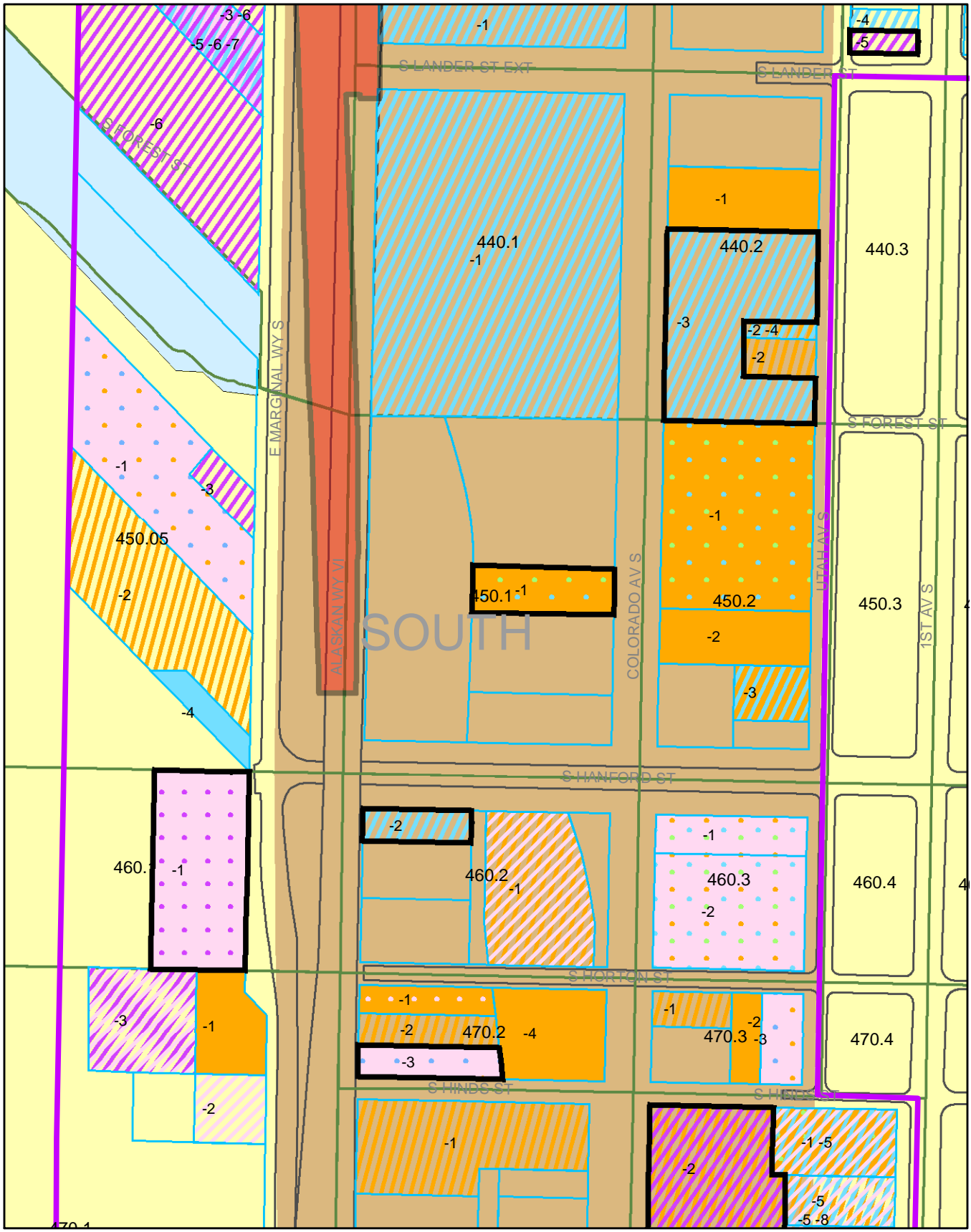


Seawall

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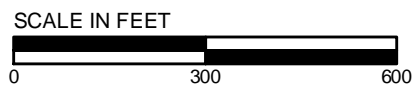
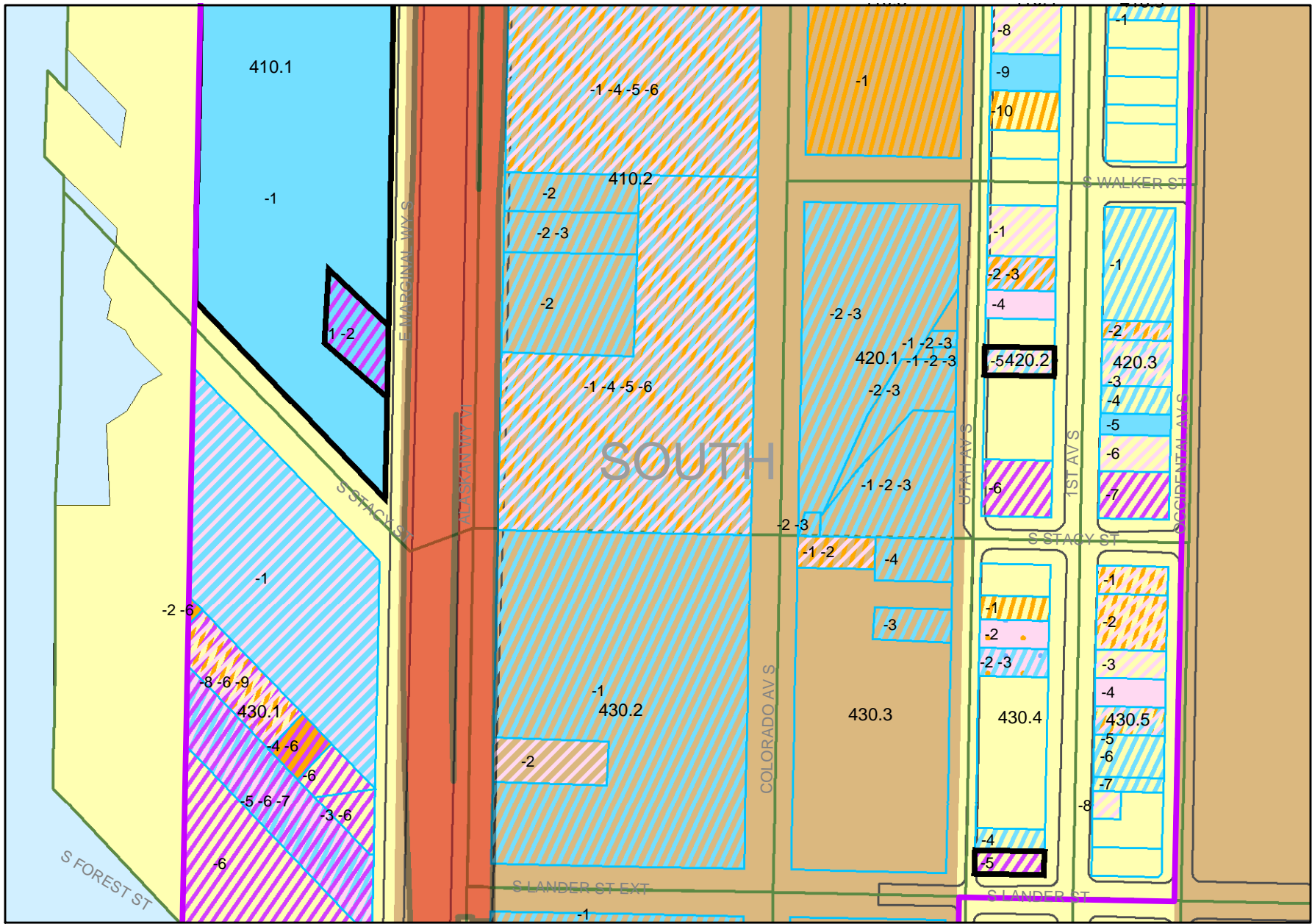


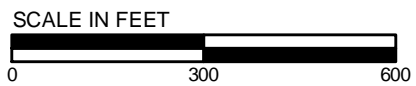
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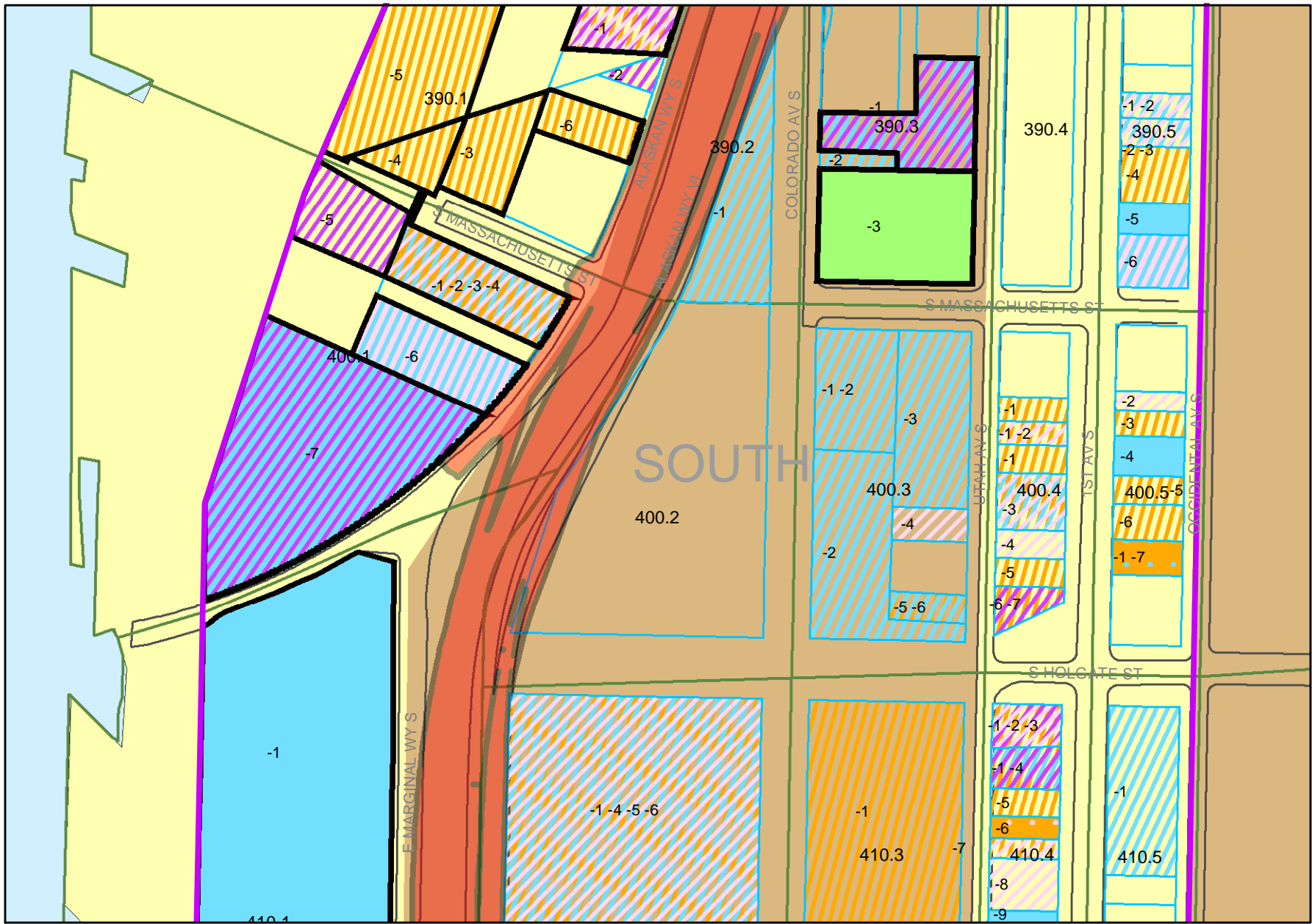


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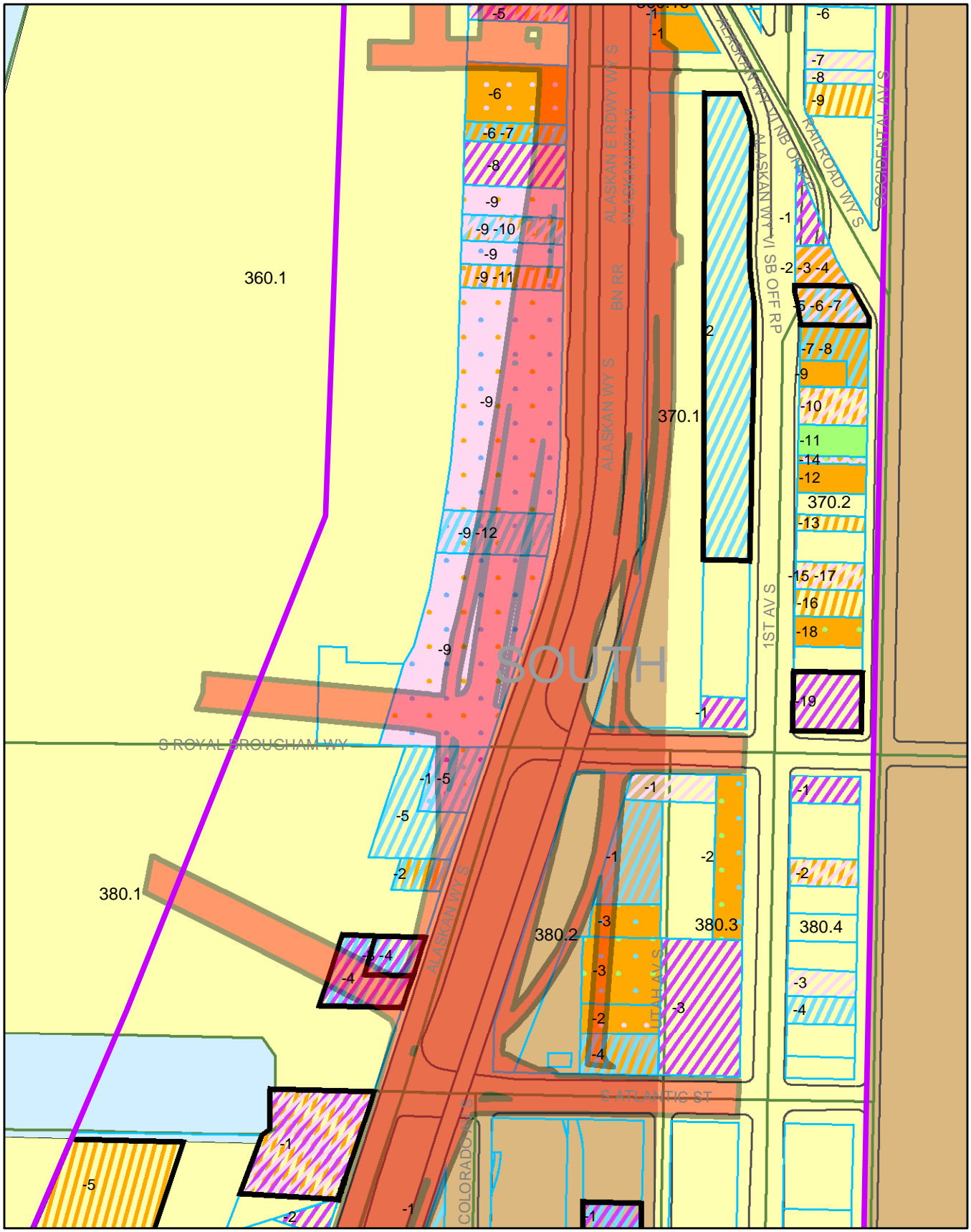


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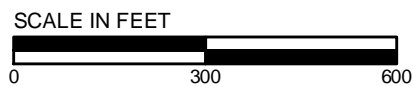
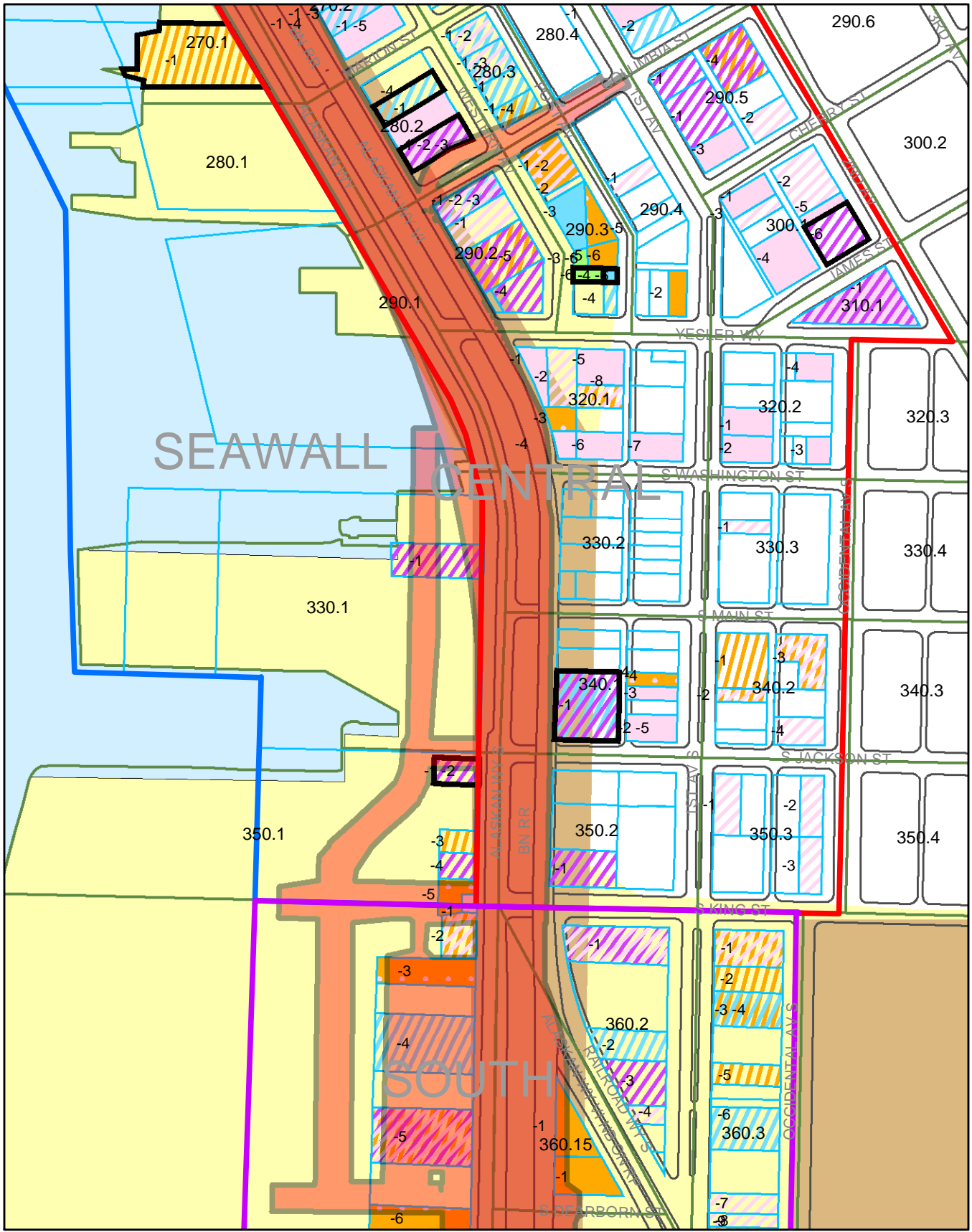


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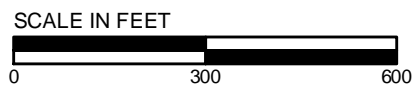
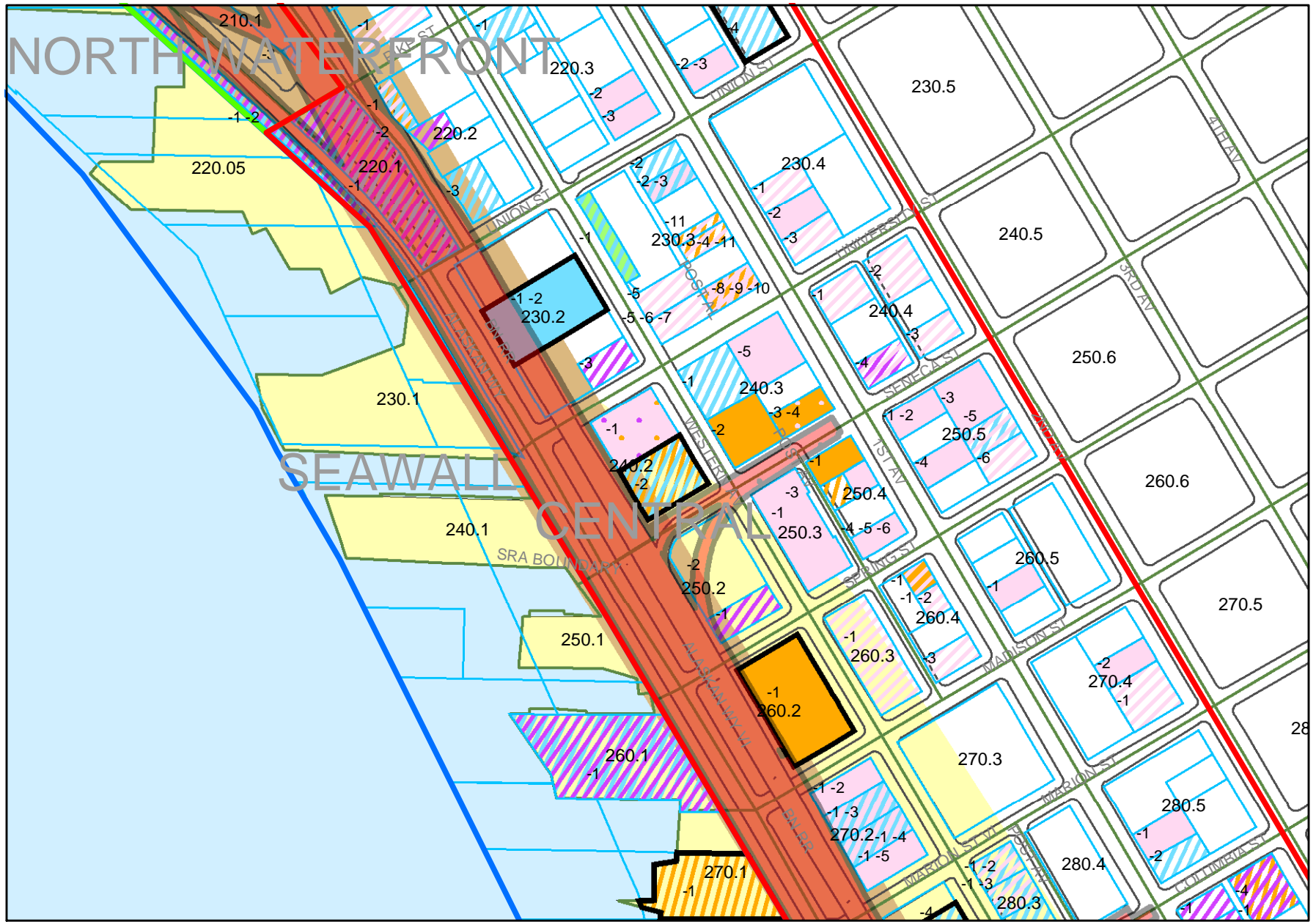


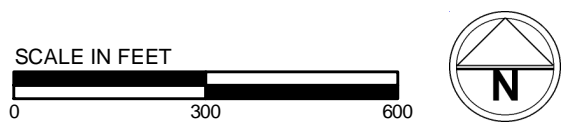
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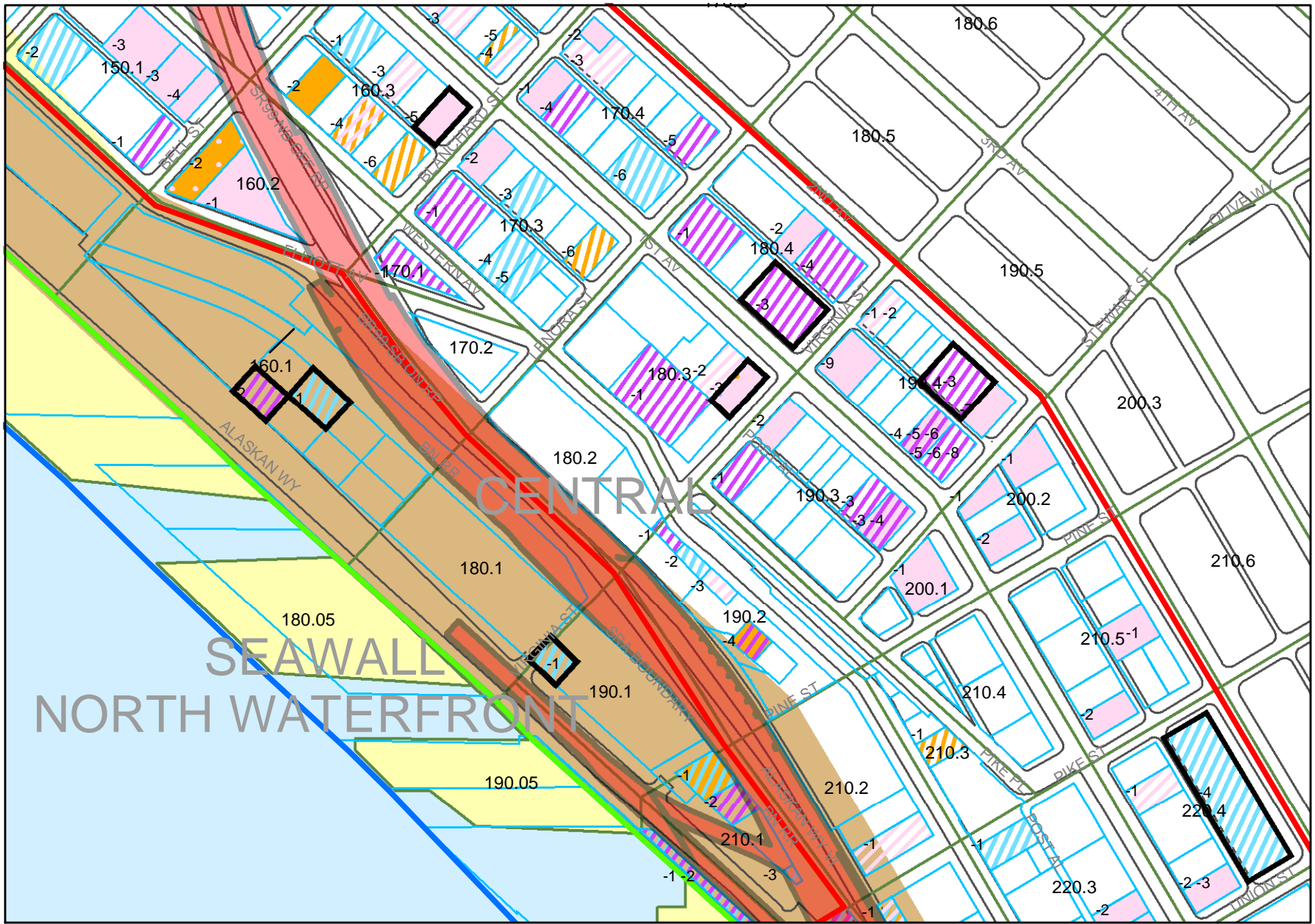


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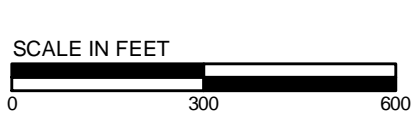


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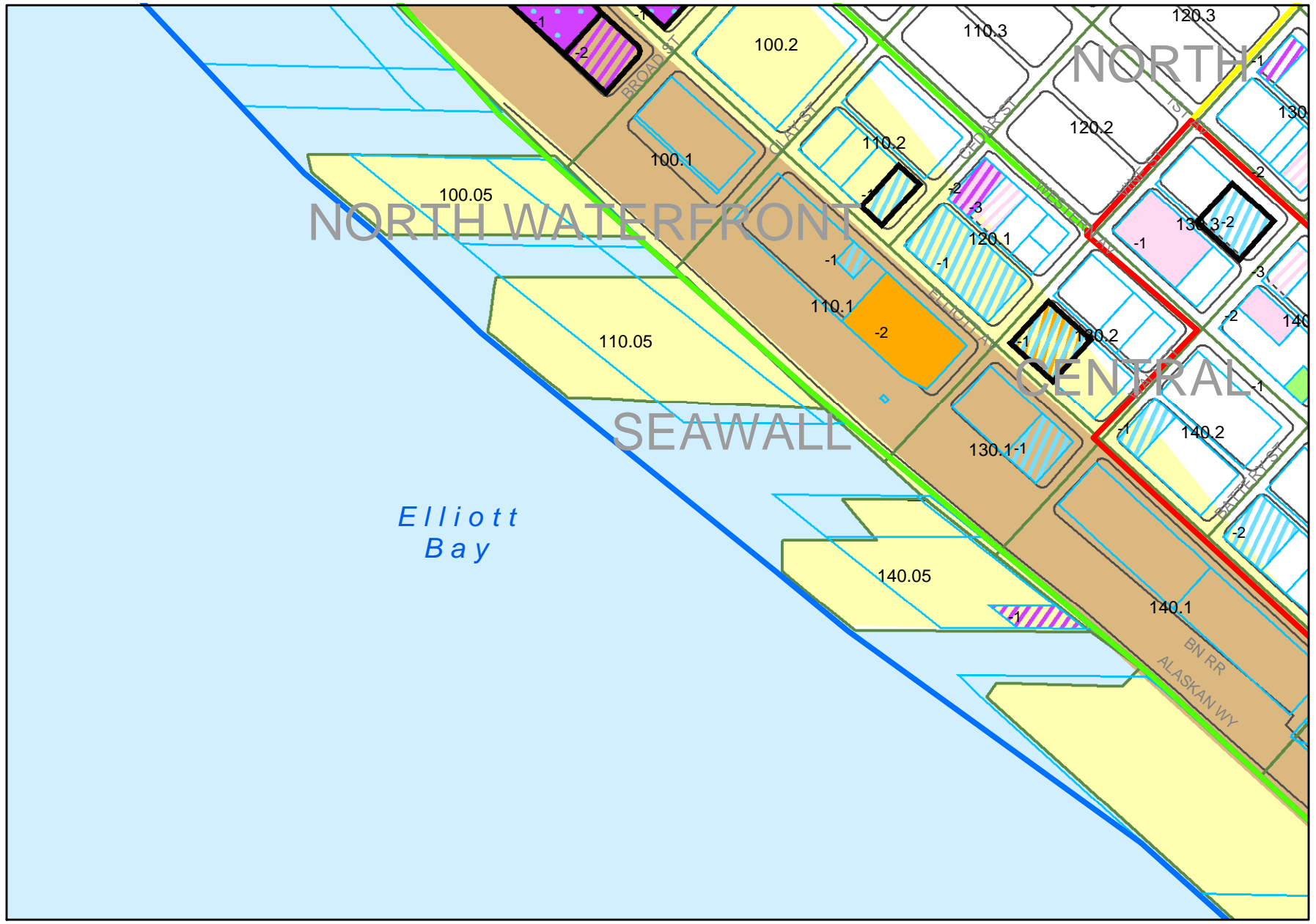


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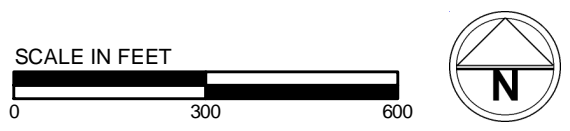


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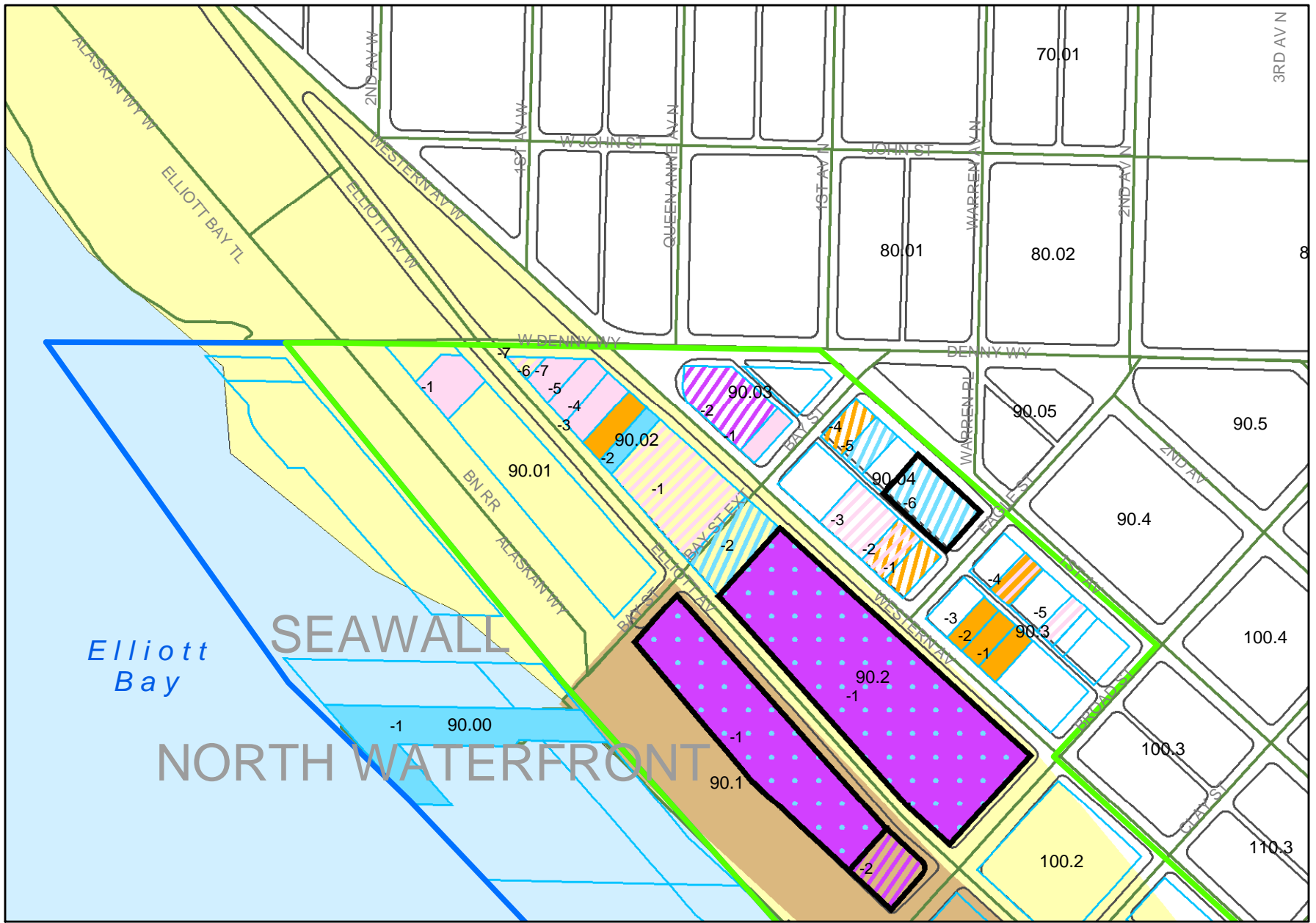


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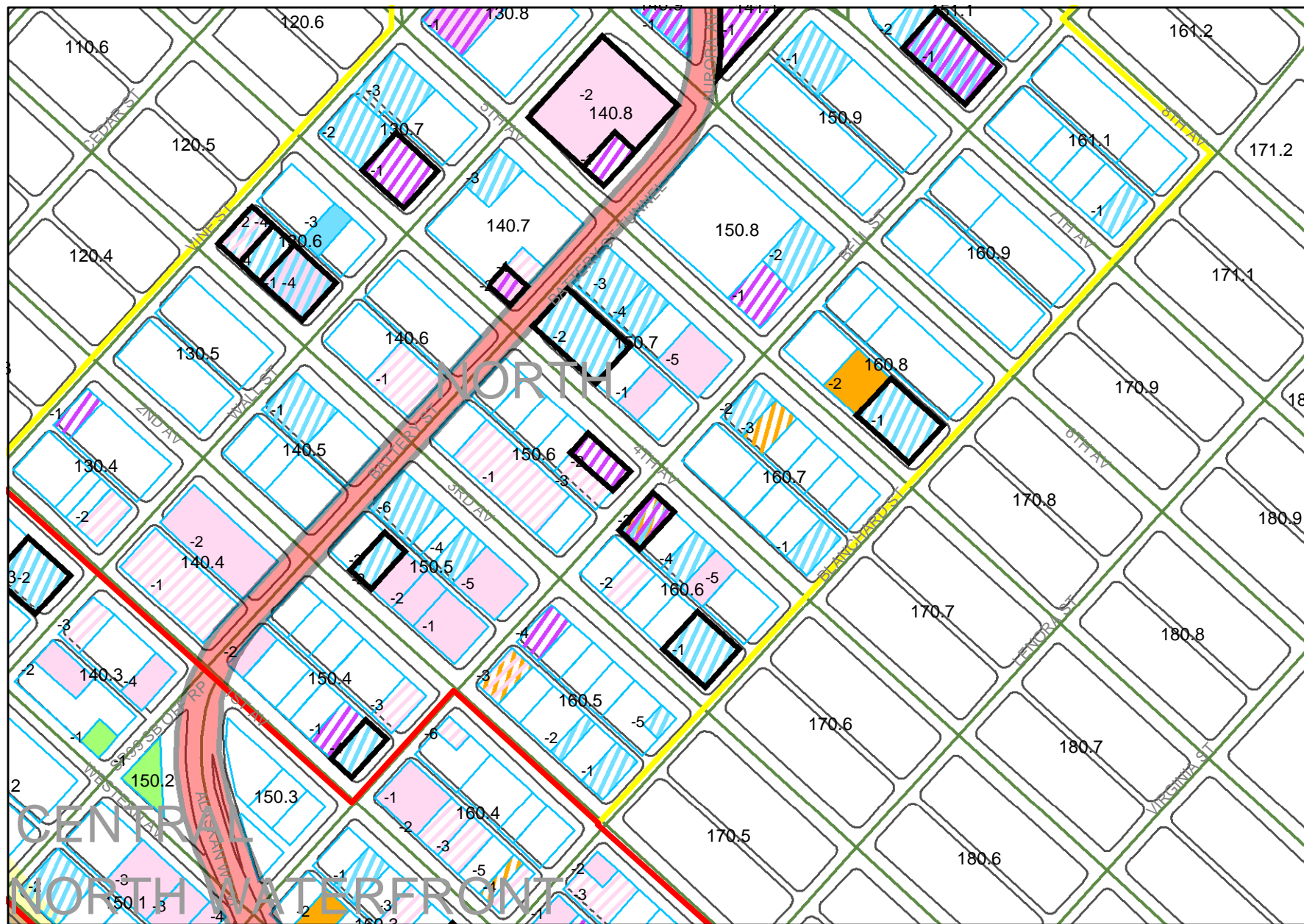


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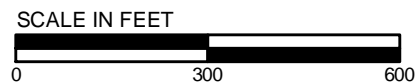


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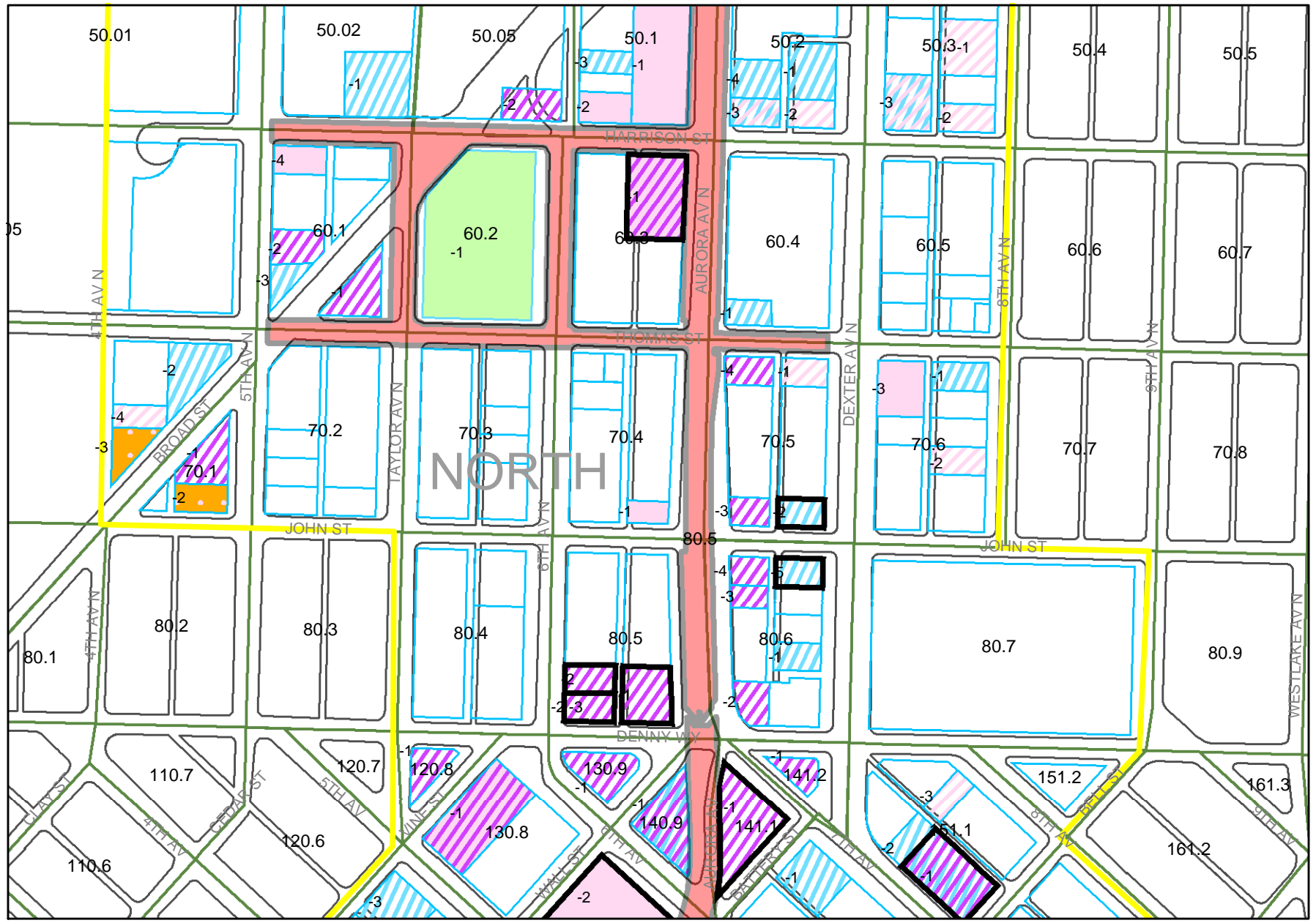


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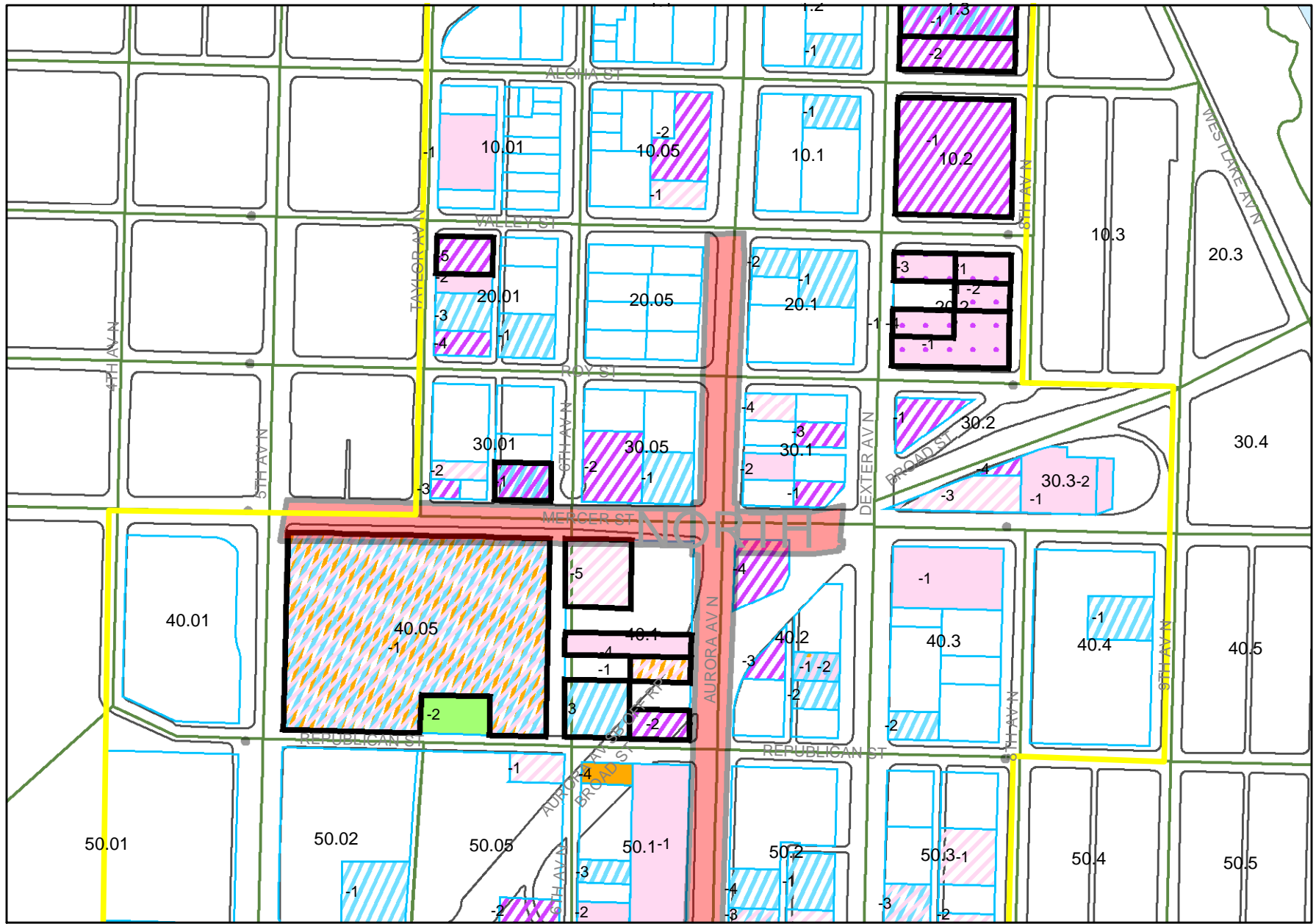


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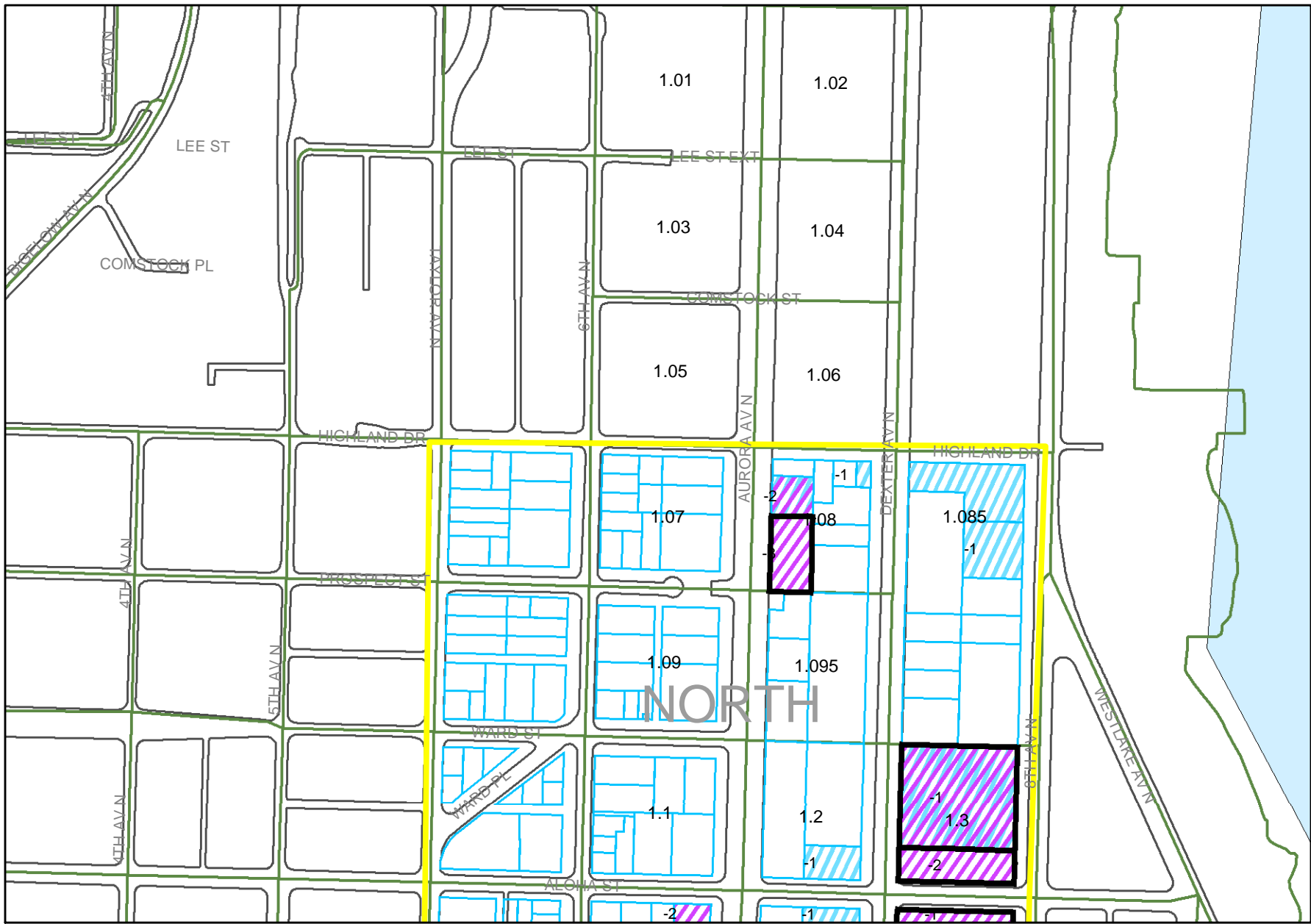


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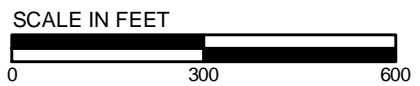


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- Mid- to heavy-range petroleum hydrocarbons (referred to in the text as oil) – These contaminants include diesel, bunker fuel, and lube oils. Historical uses were widespread and associated with a variety of land uses. Lube oils were used extensively by the railroads. Diesel was used to heat businesses and homes. For the most part, these contaminants are relatively low in toxicity, are not particularly mobile, and tend to float on the water table rather than dissolve or disperse throughout the water column. As a result, any given leak or release of diesel or oil is not likely to have resulted in widespread contamination. The exception would be a Bunker C release that was heated (by steam) when it was released. This fuel will flow until it cools to ground temperature and could result in more widespread contamination (both soil and groundwater) than would be typically encountered with heavy oil.
- Gasoline – Gasoline contamination generally results from leaks and spills associated with former gasoline stations and vehicle maintenance facilities. Gasoline is relatively mobile in the environment and is more toxic at lower concentrations than heavier grades of hydrocarbons. Depending on the age of the release, it can also include BTEX. These volatiles can pose a substantial risk to humans and the environment and are highly soluble and mobile in groundwater.
- Metals – Heavy metals, including arsenic, cadmium, chromium, lead, zinc, and copper, are associated with metal works, foundries, plating operations, and wood treatment. Metal contaminated sites have the greatest impact on the soils and groundwater directly underlying the site; however, metals may also move off site with groundwater. Downgradient soils are not likely to be highly contaminated as a result of groundwater migration.
- Solvents – Trichloroethylene (TCE) and tetrachloroethylene (PCE) were used historically as solvents in dry cleaning and for degreasing at a variety of businesses. Dry cleaners used large volumes of these solvents, especially those that operated for long periods. Businesses other than dry cleaning operations tended to use small volumes of solvents. Solvents are highly toxic at low concentrations and are highly mobile in soil and groundwater. Most solvents are denser than water and therefore tend to move downward through the subsurface and water column. Unlike most contaminants, solvents can migrate relatively readily through fine-grained soils.

- PCBs – The most likely sources of PCBs are spills or leaks of dielectric fluids from PCB-containing equipment such as transformers or switches. PCBs tend to adhere to organic matter and soil and do not readily migrate from soil to groundwater.
- Fill and Timber – Fill materials, ranging from 5 to 35 feet thick, were placed in the tidelands in the 1910s to 1920s around pile-supported railroad lines that extended from S. Spokane Street to Bay Street and around a parallel, wood-planked timber trestle roadway. Many (and perhaps the large majority) of the piles in this area were reportedly treated with creosote. Because of the toxic constituents of creosote, these treated timbers pose a hazard to human health and the environment, both from the timbers themselves and from contamination that has leached from the wood to the adjoining soil and groundwater. The timbers appear to be closely spaced and will complicate the excavation process, as well as handling and disposal of the fill materials. In addition to the creosote and timbers, the fill materials likely contain a variety of other contaminants scattered throughout the project area. Petroleum hydrocarbons appear to be common contaminants in the fill materials. There is also the potential for fill materials contaminated with metals, construction debris, and other constituents to be present.

4.1 Historic Land Use

Historic land use activities in the project area were reviewed in order to identify sites that have a high potential for hazardous material contamination. The historical land use information was obtained through a review of data from public agencies and library resources.

4.1.1 South – S. Spokane Street to S. King Street

The area between S. Spokane and S. King Streets was tideland when the region was first settled in the early 1850s. Beginning in 1895 and continuing through the early 1900s, extensive dredging and filling in the southern portions of Elliott Bay radically altered the shoreline in this area. Upon the completion of the East Waterway in 1905, piers and wharves were constructed to facilitate cargo transfer and to provide marine-related services. Although this area has been substantially redeveloped, the supports for the piers and wharves may not have been removed for structures located directly west of the proposed alignments along E. Marginal Way (formerly known as Whatcom Avenue) and Alaskan Way (formerly known as Railroad Avenue). In the early 1900s, Whatcom Avenue was a pile-supported, wood-planked road. Typical industrial activities along the waterfront during that period

included storage warehouses and transit sheds, boat building yards, dry docks, and iron and machine works. Standard Oil Company of California operated a large tank farm from the early 1900s until the 1980s. The Port of Seattle acquired this site in the 1980s for freight transfer (Terminal 30). Another large tank farm (GATX) located north of S. Holgate Street operated from 1928 until 1993. Terminal 25, located south of Terminal 30 and consisting of warehouses and cold storage structures, was also acquired by the Port of Seattle in the 1960s/1970s.

The waterfront has a long history of use by railroads, with tracks located directly east of E. Marginal Way and parallel the proposed alternatives. The Seattle-Walla Walla Railroad was constructed on pilings over the tideland of Elliott Bay between 1874 and 1878. Other railroad lines and associated buildings were also constructed on piling or planks over the tidelands. In the early 1900s, a roundhouse and a turntable were located in the rail yard between S. Stacy and S. Holgate Streets. The roundhouse and turntable were removed by 1966. Stockyards were located directly east of the rail yard and north of S. Holgate Street in the 1900s. Petroleum is the most common contaminant associated with rail yards, and use of fungicides and insecticides is common in stockyards and rail yards. Prior to 1950, warehouses and repair shops to support Port activities displaced some of the rail lines along the east side of E. Marginal Way.

By the late 1800s, S. King Street terminated at a coal wharf, which also housed machine shops and a roundhouse for railcars. Metal works, metal plating, machine shops, and foundries were located on wharves both north and south of the S. King Street Wharf through the early 1900s. Foundries and iron works were also located east of Colorado Avenue and the rail lines and south of S. Spokane Street. Many of the metal/iron works industries east of the rail lines are still in operation. Solvents and metals are common contaminants associated with these industries. Lumber and saw mills were located along S. Spokane Street in the early 1900s, but were converted to warehouses and metal works by the 1920s.

A dry dock and a shipbuilding yard were also located on the piers. During the 1930s, the former Skinner & Eddy Shipyard (Pier 42) was a collection of shanties for the homeless. In the 1940s, Pier 42 was used as a rail/marine cargo loading facility. By 1960, the Port of Seattle had constructed Terminal 46 for use as a container facility. During phased construction between 1978 and 1980, Piers 37, 39, 42, 43, and the old Terminal 46 were removed. Fill was placed behind an embankment and a new Terminal 46, which also is a container facility, was constructed.

Aerial photographs were reviewed to support other historical information. At the scale that was available, only general use and large features were discernable. At the southern end of the project corridor by Terminal 30 (Block 410.1), the 1936 aerial photos confirm the presence of two tank farms to the west of E. Marginal Way. One was just northwest of S. Holgate Street (11 tanks) and the other is southwest of S. Holgate Street (3 tanks). By 1946, the southern portion of Block 360.1 consisted of piers. Two additional tank farms were added by 1956. Pier redevelopment continued to take place, including filling the area between the Coast Guard Museum and S. Jackson Street. By 1985, the only tank farms remaining were those to the northwest of S. Holgate Street. These tank farms were also present in 1992. In the year 2000, no tank farms remained in this area.

The area has undergone little redevelopment, other than the port acquisitions, since the 1950s. Although many businesses may no longer be in operation, the buildings that housed them remain and have been converted to other uses. Therefore, asbestos-containing material and lead-based paint should be anticipated in buildings that are demolished for the project.

There is a high likelihood that many of the piles/timbers that were used to support the railroad trestles, buildings, and wharves were treated with creosote. Creosote contaminants have likely leached from the wood into the surrounding soil. Low levels of lubricating oil associated with railroad operation may also be encountered in soils directly under the former rail lines.

Because of the industrial nature of this area and the lack of redevelopment immediately east of E. Marginal Way, contaminated soils and groundwater likely are present east of E. Marginal Way. Historically, approximately 61 gas stations/repair shops operated in this area; gas stations and repair shops are likely sources of petroleum contaminants and solvents. In addition, 84 former and current metalwork operations have been identified in the area. Metal and solvent contaminants are commonly associated with properties that were used for metal works operations. If contaminant levels are high, the soluble metals may have migrated with the groundwater, but will not generally result in widespread soil contamination off the site.

As described below, petroleum contamination has been encountered at Terminal 30 and at Pier 34, which are located west of E. Marginal Way and south and north of S. Holgate Street, respectively. The Terminal 30 property was the site of the former Standard Oil of California tank farm, and Pier 34 was the site of the GATX tank farm. Most of the tanks and operations were located on the Duwamish River East Waterway side of the properties and were removed as part of redevelopment by the Port of Seattle. However, based on sampling in the 1980s and 1990s, low levels of petroleum may have

migrated into E. Marginal Way. Samples collected in the 1990s indicated that shallow groundwater and soils at the eastern margin of the property were contaminated with petroleum.

Other sites with documented petroleum contamination identified immediately east of E. Marginal Way include a Port of Seattle machine shop near Horton Street and underground storage tanks associated with Crescent Foods Warehouse at Hanford Street. VOCs are also suspected at the Port of Seattle site. There is a high likelihood that contaminants from these sites have migrated into the right-of-way.

Validated Properties – South

Each validated property described below is located adjacent to the proposed alignment or is a property that would potentially be acquired or modified. Because of their proximity to the alignments, these properties have a higher potential to affect the project than sites located further from the alignments. The potential risk to the project for each of these properties was characterized as low, moderate, or high depending on whether contamination was known to be present, if remediation of suspected contaminants is reasonably predictable, and/or whether earthwork is anticipated in the property vicinity or the site would be acquired for the project.

Low-risk properties include sites where remediation of contamination, if present, would be reasonably predictable.

Moderate-risk properties include sites that are classified as substantially contaminated under FHWA guidelines, but WSDOT is not anticipated to acquire the property and/or contamination is only suspected.

High-risk properties include sites classified as substantially contaminated under FHWA guidelines that WSDOT is anticipated to acquire or on which earthwork would occur.

Each block within the corridor was assigned a number, from north to south. Block boundaries were established based on the original city plat maps; consequently, block boundaries presented in Exhibit 4-1 may differ slightly from current block boundaries. The area south of S. Royal Brougham Way has had the greatest changes in block configurations. The site number consists of one or more parcels depending upon the business. In some instances, individual parcels have been sold and may have subsequently been used for a different type of business. Site numbers would then overlap.

Block 480.75 is bounded by Colorado Avenue S. on the west and First Avenue S. on the east. The northern boundary is a former railroad, and an unnamed access road bounds the southern extent of the block. The following is a summary of available information regarding past uses of the properties on this block located east of and adjacent to the alignment:

Site 480.75-1. The site contains a warehouse (constructed in 1954) with a vehicle service area. Specific information about years of operation is unavailable. The potential for petroleum contamination is reasonably predictable (low risk to the project).

Site 480.75-2. Floor wax manufacturers, 1951-1970. The potential for petroleum contamination is reasonably predictable and the site is considered a low risk to the project.

Site 480.7-1. Historical information indicates that the facility was built in 1926 and operated until at least 1949. The potential for metals contamination exists (substantially contaminated), but the risk to the project is considered to be moderate because no soil excavation is anticipated within potentially contaminated areas.

Site 480.7-2. Historical records indicate that a power generating station/substation was formerly located on this block. It was constructed in 1920 and operated until approximately 1949. The potential for petroleum and/or PCB contamination exists (substantially contaminated), but the risk to the project is evaluated to be moderate because no soil excavation is anticipated within potentially contaminated areas.

Site 480.6-1. currently a foundry, is in the block located adjacent to the west side of the proposed new railroad alignment (Surface Alternative). The site was listed in the RCRIS-SQG, CSCSL, and WA-ICR agency databases. In 1991, as part of a site investigation, it was found that soil beneath the building was contaminated with high concentrations of motor or lubricating oil. Historical practices at the site included machine tooling. Waste lubricating oil evidently ran off the machines into the sump and seeped into the soil beneath the floor.

Approximately 200 cy of contaminated material were removed from beneath the concrete floor of the building and placed on a plastic liner on site. Groundwater was encountered at approximately 4 to 5 feet below ground surface. Oil was detected in the water from the excavation, and the installation of an oil-water separator was proposed (Specialized Environmental Consulting, Inc. 1994). Based on limited sampling, the remaining petroleum contamination appears to be confined to the area beneath the building (Haztox 1990; Specialized Environmental Consulting,

Inc. 1994). No additional information was available documenting the current status of the remedial action.

The site is considered to be substantially contaminated because of metals from historic activities and the documented petroleum release and is considered to be a high risk for the Surface Alternative. It is considered to be low risk for the other Build Alternatives, which are not adjacent to the site.

Site 480.6-2 included a machine shop that was constructed at the site in 1957. The property currently contains the machine shop and an office building. The potential exists for metals and solvents contamination to be present at the site (substantial contamination, high risk for Surface Alternative only; low risk for other Build Alternatives).

Site 480.55-1 conducted steel fabrication and truck repairs (1967). The potential for petroleum and/or metals contamination is reasonably predictable (low risk to the project).

Block 480.5 is bounded by S. Spokane Street on the north, Colorado Avenue S. on the east, and E. Marginal Way on the west and southwest. Multiple metal works facilities have operated on parcels in this block, as have a few repair or oil storage facilities. The following is a list of current or former operations in the portion of the block adjacent to the relocated railroad alignment, along with the applicable map reference numbers and approximate years of operation, if known.

Site 480.5-1, 1917 to 1929.

Site 480.5-2, 1918 to 1985.

Site 480.5-3, 1929 to 1940.

Site 480.5-4, 1941 to 1989.

Site 480.5-5, 1949.

Site 480.5-6, since 1945.

Site 480.5-7, 1967.

Site 480.5-8, 1951 to 1989.

Site 480.5-9, 1951 to 1960.

Site 480.5-10, 1949.

Site 480.5-11, 1949.

Site 480.5-12, 1929, 1949, 1967.

None of the sites have known contamination. Based on historic land use, however, the potential exists for metals, solvents, gasoline, and/or petroleum products to be present. Six of the properties are ranked as substantially contaminated (**480.5-1, -2, -4, -6, -8, and -9**). Potential contaminants at these sites include metals (all six sites), solvents (**Sites 480.5-2, -4, and -9**), and gasoline (**Site 480.5-9**). The six sites are considered to pose a moderate risk to the project because they are located in what appears to be the crossgradient direction from the project site, and no soil excavation is anticipated within potentially contaminated areas. The risk of contamination at the other properties is considered to be reasonably predictable, and the risk to the project posed by these properties is considered to be low.

Site 470.35-2 and **Site 470.35-3** are located adjacent to the east side of the surface alignment. Historical information indicates that a water facility (**470.35-2**) operated from at least 1941 to 1993, whereas no specific years of operation were available for the brass foundry (**470.35-3**). Ecology's records indicate a LUST report was received regarding a 1,000-gallon gasoline UST. Information in the file indicates that remedial action included overexcavating and on-site treatment of contaminated soils. The potential for gasoline, petroleum, and metals contamination at **Site 470.35-2** and for metals and solvent contamination at **Site 470.35-3** is considered to be reasonably predictable, and the risk to the project is considered to be low.

Other properties on **Block 470.35**. The following is a summary of information regarding past uses of the properties on the east side of the block:

Site 470.35-1. Records indicate that a castings foundry has been at the site from at least 1985 to the present; a wire rope and equipment company from 1938 to 1951; an engineering company in 1960; and a wire company in 1965. Archive records also indicate that there was a fenced transformer on site.

Site 470.35-4. Boiler shop, 1950.

Site 470.35-5. Factory built in 1941.

Site 470.35-6. 1969. Four USTs were removed in January 1991. Free product on the groundwater was removed by using oil-absorbent pads; soil was overexcavated and removed from the site. Ecology reported status as "cleanup completed."

Site 470.35-7, 1950.

Site 470.35-8. Warehouse with shop built in 1969.

The potential for metals contamination at **Sites 470.35-4, -5, and -7**; petroleum at **Sites 470.35-5, -6, and -8**; and solvents at **Sites 470.35-5 and -7** is reasonably predictable and considered a low risk to the project. There is a potential for significant contamination at **Site 470.35-1** by metals and/or PCBs (moderate risk to the project).

Block 470.3. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment:

Site 470.3-1, 1969.

Site 470.3-2, 1938 to 1969.

Site 470.3-3, 1938 to 1989.

Based on historic land use, there is potential for metals contamination at all three sites (reasonably predictable, low risk to the project at **Site 470.3-1**; substantial contamination, moderate risk to the project at **Sites 470.3-2 and -3**). In addition to metals contamination, there is also potential for solvents and petroleum contamination at **Site 470.3-3**.

Site 470.25-1. Tax assessor records indicate that there is a vacant lot (maintenance yard) and a one-story warehouse on this property. Historical records indicate the warehouse (used for pipe storage) dates back to 1918. Potential contaminants may include metals (reasonably predictable; low risk to the project).

Site 470.25-2 is on the WA-ICR and CSCSL list. According to a 1991 groundwater monitoring report (Hart Crowser 1991), vinyl chloride and 1,2 dichloroethene were detected in groundwater in 1990 and 1991 at concentrations above the Model Toxics Control Act (MTCA) Method A cleanup levels for groundwater. Little information was present in the Ecology file describing why the wells were installed or if any remedial action other than monitoring was planned. Groundwater was present at a depth of approximately 8 feet below ground surface. Because of solvent contamination, this site is considered to be substantially contaminated and a high risk for the Surface Alternative and a low risk for the other Build Alternatives, which are not adjacent to the site.

Block 470.2. This block is bounded by S. Horton Street on the north, Colorado Avenue S. on the east, S. Hind Street on the south, and E. Marginal Way on the west. Multiple foundries have operated on parcels in this block, as has a machine shop and a print shop. The following is a list of current and former operations in the block, the applicable map reference numbers, and approximate years of operation:

Site 470.2-1, 1938 to 1969. A crane company had a machine shop.

Site 470.2-2, 1938 to 1940.

Site 470.2-3, 1938 to 1989. The maintenance facility had metal and machine shops and a print shop.

Site 470.2-4, 1938 to 1944. An auto shop and fueling island are currently located on this parcel.

This block has known petroleum contamination that was discovered during an investigation near two waste oil USTs. VOCs are suspected, but not confirmed, based on odor and photoionization detector (PID) readings. There is a potential for substantial contamination of soil and groundwater by metals, solvents, and/or petroleum products. The properties on this block are considered to be a high risk for the Surface Alternative and a low risk for the other Build Alternatives, which are not adjacent to the block.

Block 470.1. This block is bounded by S. Spokane Street on the south and E. Marginal Way on the east. Former land uses have included a foundry, wholesale paint company, electrical supply manufacturer, and a wire manufacturing company. The property is located adjacent to the west side of the Surface Alternative. The following is a list of current or former operations in the block, the applicable map reference numbers, and approximate years of operation, if known:

Site 470.1-1, 1940, foundry.

Site 470.1-2, 1940, wholesale paints.

Site 470.1-3, 1968, gasoline fueling/storage and auto repair.

Site 470.1-4, 1916 to 1991.

Site 470.1-5, 1938 to 1940, wire products and tying machinery.

Site 470.1-6. Operations have included a saw mill with oil house (1916 to 1950) and a machine shop (1969).

Site 470.1-7. The site has had a fuel bunker (built 1915) and a machine shop (built 1921).

None of these sites have known contamination. Based on historic land use, however, the potential exists for metals, solvents, gas, petroleum, and/or PCBs to be present. There is potential for substantial contamination by metals at the former foundry (**Site 470.1-1**; moderate risk to the project). At the other sites, potential for contamination is considered to be reasonably predictable (low risk to the project). No soil excavation is anticipated within potentially contaminated areas.

Block 460.3. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment (adjacent):

Site 460.3-1. Facilities at this site have included a warehouse built in 1926 and garages built in 1927 and 1955. Listed business operations have included bolt and nut manufacturing and second-hand machinery storage and junkyard from at least 1969 to 1990. There is potential for petroleum, solvents, PCBs, and/or metals contamination from past operations. The site is considered to be potentially substantially contaminated and poses a moderate risk to the project.

Site 460.3-2. Historically, operations included machine manufacturing and a second-hand machinery junkyard, first noted on the 1916 Sanborn map. Older buildings at the site constructed in the 1920s have been replaced with two structures built in 1974. The type of business operations, however, appears to have included machining (to at least 1990). There is potential for petroleum, solvents, PCBs, and/or metals contamination from past operations (substantially contaminated, moderate risk to the project).

Site 460.2-1. A former lumber storage building dating to 1917 was remodeled in 1955 to an aluminum stripping and machine shop that operated until at least 1969. Presently Seattle Pottery occupies the property. It is possible that metals, solvents, and lube oil contamination may be encountered during excavation. However, the types and quantities of contamination are considered to be reasonably predictable, so the site is considered low risk to the proposed project.

Site 460.2-2. Ecology's records indicate that two USTs were removed in 1989 and that diesel contamination of soil and groundwater exceeds MTCA cleanup levels. Planned remedial action included groundwater monitoring. It is not known what results were obtained from that monitoring. It is possible that petroleum contamination may be encountered during excavation. However, the types and quantities of contamination are considered to be reasonably predictable, so the site is considered low risk to the proposed project.

Site 460.1-1 has operated at this property since at least 1916. A file at Ecology indicates that one UST was removed in 1990. Petroleum-contaminated soil was removed, but groundwater contamination (solvents) remains above MTCA cleanup levels. Monitoring wells have been abandoned. The site is considered to be a moderate risk to the project because partial remediation of known contamination has been

conducted. The site is considered to be substantially contaminated; however, no soil excavation is anticipated within contaminated areas.

Block 450.2. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment (adjacent):

Site 450.2-1. Business operations have included junk and used pipe storage, used machinery, and wire and rope warehousing, with years of operation from at least 1940 to 1990. The site is included on Ecology's registered UST list as having one exempt UST. There is potential for petroleum, PCBs, and/or metals contamination from past operations. The site is considered potentially substantially contaminated and it poses a moderate risk to the project.

Site 450.2-2. Operations have included machinery assembling, with years of operation from 1950-1969. There is potential for metals contamination from past operations. The site is considered to be potentially substantially contaminated and it poses a moderate risk to the project.

Site 450.2-3. Operations have included woodworking, iron works, and steel and castings storage, with years of operation from 1950 to 1990. The site is included on Ecology's registered UST list for two removed USTs. There is potential for metals contamination from past operations. The site is considered to be potentially substantially contaminated and it poses a moderate risk to the project.

Site 450.05-1. Facilities at this location were constructed between 1916 (or earlier) and 1944. A permit for a new buried oil tank to replace an old tank was issued in 1944. Various listed operations include a boiler, factory, coal shed, shop, machine shop and foundry, and barracks. A 1969 Sanborn map indicated that the facilities were still present at the site as of that date. There is potential for the site to have substantial contamination from past operations, particularly by metal and to some extent by petroleum products, solvents, and PAHs. The site is considered to pose a moderate risk to the project because no soil excavation is anticipated within potentially contaminated areas.

Site 450.05-2. This manufacturing company was indicated in the 1960 Polk Directory. There is a reasonably predictable potential for metals contamination to be present. The site is considered to be a low risk to the project because no soil excavation is anticipated within potentially contaminated areas.

Site 450.05-3. A gasoline station was indicated to be present at this location (1938 and 1940 directories). There is a potential for gasoline contamination to be present. The site is considered to be reasonably predictable and a low risk to the project because no soil excavation is anticipated within potentially contaminated areas.

Site 450.05-4. The property formerly had five aboveground petroleum storage tanks that were constructed in 1927. The property is presently a marine and commercial fishing terminal. There is a potential for the property to contain substantial contamination by petroleum products (moderate risk to the project); however, no soil excavation is anticipated within potentially contaminated areas.

Block 430.1. This block is bounded by S. Stacy Street on the north and E. Marginal Way on the east. It is currently marine Terminal 30. Former land uses have included chemical manufacturing, foundries, gasoline stations, boiler and machine works, chemical storage and transport, and a transit shed. The property is located adjacent to the west side of the Surface Alternative. The following is a list of current or former operations in the block, the applicable map reference numbers, approximate years of operation, if known, and an indication of the types of operation:

Site 430.1-1, 1951 to 1960, chemical manufacturing.

Site 430.1-2, 1916 to 1950, foundry and forge.

Site 430.1-3, 1943 to 1956, gasoline station.

Site 430.1-4, 1916.

Site 430.1-5, 1916 to 1950, chemical containers.

Site 430.1-6), 1918 to 1951, gasoline station.

Site 430.1-7, 1969, transit shed.

Site 430.1-8, 1916.

Site 430.1-9, 1916.

None of the sites have known contamination. Based on historic land use throughout this block, the potential exists for metals, solvents, gasoline, and other petroleum products to be present. Four properties are ranked as substantially contaminated: **Sites 430.1-1, -2, -4, and -5.** These properties pose a moderate risk to the project, and the remainder would be low risk to the project. No soil excavation is anticipated within potentially contaminated areas.

Sites 450.1, 440.1, 430.2, 420.1, 410.3, 410.2, 400.3, 400.2, 390.2. Active and historical railroad operations and facilities are located on both sides of Alaskan Way along the south alignment. The areas beneath and around the tracks are not paved, and the potential exists for spills, drips, and various railroad operations to have affected the property. Specific information regarding individual properties, if known, is summarized below.

Site 450.1-1. The EDR (2001) report indicates the presence of a LUST site. EDR mapped the site in the block south of S. Spokane Street, but information in Ecology's files indicates the location to be north of Hanford Street. BNSF reported a LUST in 1998 that affected the soil. Olympus Environmental removed the 2,000-gallon diesel tank in 1998 and backfilled the excavation with soil that had a petroleum odor (Olympus Environmental 1998). No overexcavation was planned because of the proximity of the tank to a car shop and utilities. Diesel fuel (heating oil) from the relatively small UST is evaluated to be a reasonably predictable contaminant, presenting low risk to the project.

Site 440.1. This railroad had a shop building, constructed in 1957, which had a pit inside. The site also had one 8,000-gallon tank. The potential for petroleum contamination is reasonably predictable (low risk to the project).

The railroad also had a carpenter and paint shop at **Site 430.2-2** and an oil house at **Site 430.2-1**. Former facilities also included fuel storage and a shop in **Block 420.1**; warehouses and a workshop in **Block 410.3**; at least three fuel tanks, a blacksmith shop, a machine shop, a power house, an oil shed, and multiple garages in **Block 410.2**; and coal yards at **Sites 400.3-1** and **-3**, oil tanks at **Site 400.3-2**, and paint storage at **Site 400.3-4**. The assessor's records indicate that there is currently a shed at the site. **Site 390.2-1** formerly contained railroad car repair sheds. None of these properties were included on agency lists where known contamination exists. However, petroleum contamination has frequently been encountered in previous excavations and borings within the railroad area along the Seattle waterfront. The railroad operations may have resulted in subsurface contamination from petroleum products, solvents, and metals. The potential contamination is considered to be reasonably predictable, and the property is classified as low risk to the project.

The following three blocks contain properties along their western areas that are adjacent to or may impact the Rebuild, Tunnel, Surface, or Bypass Tunnel Alternatives.

Sites 420.1-1, -2, -3. Historical information regarding this railroad indicates that a roundhouse, an oil tank, and a pump house were located on this block. A 14,000-gallon diesel fuel storage tank was constructed in 1960, and a shop was built in 1970. The potential for petroleum products to be present from the railroad operations is considered to be reasonably predictable, and risk to the project low.

Site 410.3-1. Railroad operations at this site date back to at least 1925. Historical information indicates that structures have included warehouses, a workshop, and a freight terminal. One of the products handled was wire rope. The potential for metals and petroleum products contamination is considered to be reasonably predictable, and the risk to the project low.

Site 400.3-1. Operations from at least 1946 to 1956 included a coal yard at this site. The site is considered to be reasonably predictable and low risk to the project.

Site 400.3-2. Railroad operations date back to at least 1916, and oil tanks were located at this site. The potential for petroleum products and/or PAH contamination at the sites is considered to be reasonably predictable, and the risk to the project low.

Other land uses on **Block 400.3** have included the following sites:

Site 400.3-3, 1917.

Site 400.3-4, 1916.

Site 400.3-5, 1965.

Site 400.3-6, 1951 to 1960.

The potential for petroleum contamination (**Sites 400.3-3, -5**), solvents (**Site 400.3-4**), and metals (**Site 400.3-6**) is reasonably predictable (low risk to the project).

Site 410.1-1. This 11-acre site is located adjacent to the west side of the project corridor for the Tunnel and Surface Alternatives. It is part of Terminal 30 (formerly known as Pier 32). A bulk oil facility operated here from 1913, or earlier, until 1984. A plume of free product was discovered in the early 1980s. A product recovery system was installed and operated until 1992. Most of the petroleum contamination occurred in the middle to western portions of the property; contaminants also included metals and cyanide. The consultant's report suggests that metals and cyanide may be from an off-site source (GeoEngineers and ERDA Environmental Services 1997). The entire site is now paved, with a monitoring program in place. Diesel and kerosene-range petroleum hydrocarbons were detected in the right-of-way of E. Marginal

Way (290 milligrams per kilogram [mg/kg] total petroleum hydrocarbons [TPH] in the soil, 5 milligrams per liter [mg/L] gasoline and diesel in groundwater). The state issued a Record of Decision in 1995. A former retail service station was also located at this site, built in 1950 (**Site 410.1-2**).

Records indicate that it had three USTs.

The former Standard Oil site is considered to be a moderate risk to the project. Mitigating factors include the fact that remediation of known contamination has been conducted, and no soil excavation is anticipated within contaminated areas.

Site 400.1-7. A large tank farm and petroleum refinery was formerly located at this site. The bulk fuel tanks have been removed, and petroleum-contaminated soil was excavated. An air-sparging system was operated from 1996 to 1998 to remediate soil and groundwater. Groundwater monitoring will continue semiannually through at least 2003. Concentrations of contaminants, including metals, gasoline, diesel, PAHs, and benzene, toluene, ethylbenzene, and xylenes (BTEX) are below trigger levels that are protective of aquatic life (MTCA Method C). Most of the contamination is located in the center of the property and closer to the waterfront. The site is now paved.

The site is considered to be a moderate risk to the project (substantially contaminated, gasoline and/or petroleum). Mitigating factors include the fact that remediation of known contamination has been conducted at the site and no soil excavation is anticipated within contaminated areas.

Site 400.1-6. Archive records indicate that the facility was constructed in 1950 and operated through 1993. Operations included blending of ink products, and the facility had three large tanks. The building is still present but is vacant. Soil contaminants detected at the site include PAHs, metals, and petroleum hydrocarbons. Chlorinated solvents and petroleum were detected in groundwater at the site during sampling conducted for monitoring at Terminal 30, unrelated to this site.

Because of potential solvent contamination, this site is considered substantially contaminated and poses a moderate risk, particularly if dewatering is necessary during construction. Preliminary site drawings indicate that a new storm drain will be installed in the right-of-way adjacent to the site and will have an invert elevation approximately 7 feet below the existing ground elevation.

Sites 400.1-1, -2, -3, -4, and -5. The property was a waste transfer station in the 1970s. Earlier businesses at the location included a furniture factory, an aluminum business, a foundry supply business, and machine shops. Three USTs were removed from the site in 1990. Gasoline was detected in the soil at

a concentration of 840 mg/kg at 10 feet (bottom of excavation) and 3,500 mg/kg at the south wall. BTEX was also detected. No remediation is planned for this site.

The site is considered to be a low risk to the project (reasonably predictable contaminants [metals, solvents, gasoline, and petroleum]), and no soil excavation is anticipated within contaminated areas.

Block 390.5. The following is a summary of available information regarding past uses of the properties on this block:

Site 390.5-1. Archive records indicate that products included chemicals, adhesives, colors, and foundry and steel mill supplies; built 1926.

Site 390.5-2. Records indicate that this site had oil and gasoline storage (1916). A distributing company carried oil treating compounds (1960).

Site 390.5-3, 1916.

Site 390.5-4, warehouse built in 1928.

Site 390.5-5, 1938 to 1943.

Site 390.5-6, textile bag manufacturers, 1950 to 1990.

The potential for solvents and/or petroleum contamination at **Sites 390.5-1** and **-2**, for solvents at **Site 390.5-3**, and for metals at **Site 390.5-4** is reasonably predictable based on a usage history of less than 20 years (low risk to the project). The potential for contamination is greater (substantially contaminated) at **Site 390.5-5** because of the auto wrecking usage (petroleum), and at **Site 390.5-6** because of the usage history of greater than 20 years (solvents and/or petroleum). Therefore, there is moderate risk to the project from these two sites.

Site 390.3-1. Former shop constructed in 1926 operated until at least 1975. Current assessor information indicates that the current property owner has three buildings. Ecology's records indicate that three USTs were removed. TPH as oil, diesel, and gas with BTEX, and PAHs were present in soil and groundwater. Soil was land farmed. Groundwater monitoring from 1999 indicated that all constituents are below MTCA cleanup levels. Potential for petroleum contamination is considered to be reasonably predictable, and the risk to the project is considered to be low.

Site 390.3-2. A garage was constructed in 1937. Current assessor information indicates that the property is now part of **Site 390.3-1**. Potential for petroleum contamination is considered to be reasonably predictable, and risk to the project is considered to be low.

Site 390.3-3. A power plant and substation were at the site, dating back to at least 1916. Currently, the property contains two warehouse/utility buildings constructed in 1969 and 1990. The EDR (2001) report indicates that PCBs were spilled onto the soil. No information regarding cleanup or site status is available. The site is considered substantially contaminated (PCBs), but moderate risk to the project because excavation at the property is not anticipated.

Terminal 46

The majority of the Terminal 46 property is within the south area, with a small area extending north of S. King Street (central area). The following summary of past land uses and potential contaminants is presented by block and site.

Site 390.1-1. Historical records indicate that a steel and equipment company formerly operated machine and blacksmith shops at the site (1916). Recent records indicate that three USTs were removed from the site in 1997. Some petroleum-contaminated soil was removed, but contaminated soils remain beneath the building, utility lines, and the paved parking lot. The extent of petroleum contamination in soil and groundwater beneath the building has not been addressed. TPH in the soil was detected at a concentration of 25,900 mg/kg adjacent to the loading dock. Soil contamination exceeds MTCA residential cleanup levels in the area north of a former gasoline UST located near a fiber optics line located near S. Alaskan Way. The site is included on the state's CSCSL.

The Aerial Alternative includes proposed ground improvements that appear to be adjacent to this property. Petroleum-contaminated soil, as well as solvents or metals contamination, may be encountered within excavations at this site. The types and quantities of contamination are considered to be reasonably predictable, so the site is considered low risk for the proposed project.

The following is a summary of available information for the remainder of **Block 390.1**:

Site 390.1-2. A filling station was constructed in 1924. It had four USTs, each with 550-gallon capacity. It is not known if the USTs have been removed.

Site 390.1-3, repair shop, 1950.

Site 390.1-4, warehouse, built in 1934.

Site 390.1-5. Archive records indicate that several machine shops and a blacksmith were located at or near this property in the early 1900s. In 1995, soils contaminated with lead were discovered at the site, with the

highest concentrations located near the waterfront. Information from Ecology's files indicates that the owner planned to conduct an independent interim action to remove contaminated soil during a project to construct a new shipping and receiving facility. No additional information regarding the current site status was available.

Site 390.1-6, 1916.

The potential for gasoline contamination at **Site 390.1-2** and for metals contamination at **Sites 390.1-3, -4, -5, and -6** is considered to be reasonably predictable based on a usage history of less than 20 years. Remediation of known contamination at **Site 390.1-5** may have been conducted. The referenced properties pose a low risk to the project.

Site 380.1-1. Historical records indicate that a gasoline/service station was present from 1922 to 1944. A description of more recent activities includes machine and maintenance shops, paint shop, and boat repair (1950 to 1969). Potential contaminants include solvents (substantial contamination) and metals, gas, and other petroleum products (reasonably predictable). The site poses a high risk to the project.

Site 380.1-2. The 1916 Sanborn map indicates a junk (rag picking) facility, plus warehouses and several machine shops in this block. The most likely forms of contamination from the past uses include petroleum products, solvents, and metals. The potential contamination is considered to be reasonably predictable, and the risk to the project is low.

Site 380.1-4. Historical records indicate that a garage/service station was formerly located at this site, constructed in 1914. A portion of the property was also a coal briquette plant in 1916 (**Site 380.1-3**). More recently, the site has had warehouses, offices, and maintenance facilities. Ecology's records indicate that two USTs (gasoline and diesel) were removed in 1993, and a waste oil UST was closed in place in 1994. Gasoline contamination was encountered, and waste oil contamination remains beneath the office trailer. Benzene in groundwater was detected at a concentration greater than the MTCA cleanup level. Groundwater flow is toward the northwest.

Excavation for the Aerial Alternative could encounter subsurface gasoline or other petroleum contamination associated with this site. Potential contamination is considered to be reasonably predictable, and the risk to the project is considered to be low.

Site 380.1-5. Former tenants in two buildings at the pier included an oil company. The buildings were constructed in the 1920s and were torn down in 1943 and 1961. There is some potential for petroleum contamination to be

present from past site uses. The potential for contamination is reasonably predictable, and the risk to the project is considered to be low.

Sites 360.1-1 and 360.1-3. Operations included plating works, boiler works, brass foundries, a tin shop, a blacksmith, machine shops, sheet metal works, gas and oil storage, and foundries. A retail gasoline station apparently was also located at **Site 360.1-3** (noted on 1950 Sanborn map). **Site 360.1-2** (Seattle Copper Works/machine shop) was located on the same block. The types of potential contaminants associated with these sites include metals, gas, and other petroleum products (substantially contaminated). These three sites, all located in close proximity to each other, pose a high risk to the project.

Site 360.1-4 formerly had a petroleum tank. The potential for encountering petroleum contamination is reasonably predictable (low risk to the project).

Historic land uses at **Site 360.1-5** include a former machine shop/gas and oil/repair shop from at least 1916 through 1969. The potential for encountering gasoline or petroleum contamination is reasonably predictable (low risk to the project).

Site 360.1-6, -7. The railroad had a roundhouse, machine shops, and blacksmith shops at this location as indicated on 1916 and 1950 Sanborn maps. Later (1969 Sanborn), the Port of Seattle also operated a repair shop. There is a potential for substantial contamination from metals. The sites are considered to be a high-risk property for the Build Alternatives.

Site 360.1-8. Historical records indicate that the gasoline and service station was present from at least 1938 to 1960. The site is considered to be a low risk to the project because potential contamination by gasoline is reasonably predictable.

Sites 360.1-9, -10, -11, -12. Historical records indicate that beginning in the early 1900s, Seattle Construction & Dry Dock Company operated machine shops, a blacksmith, an auto repair shop, forge shops, a copper shop, and a foundry at this location. Additional companies built facilities in the 1940s that had machine and repair shops and an oil house. The most likely types of contaminants from these past land uses include petroleum products and metals. The site is considered to have substantial contamination and poses a high risk to the project.

Site 350.1-1. Historical records indicate that gas and oil were stored at this location (1916 Sanborn map) and that a repair workshop was constructed in 1967. The potential for petroleum (gasoline and oil) contamination is considered to be reasonably predictable, and the property low risk to the project.

Site 350.1-2. Historical records indicate that a Union Oil Company gasoline station was present at this location from at least the 1930s to the 1950s. A warehouse was constructed in 1963–64. The EDR (2001) report indicates that a final UST cleanup report was issued in October 1992. The report indicates that three diesel USTs were removed, two leaded gasoline and two waste oil USTs were closed in place, and that one unleaded gasoline UST continues in operation. A subsurface investigation indicated that petroleum contamination was detected but at concentrations below cleanup levels. No remedial actions were implemented. The investigation report also indicates that groundwater flow direction at this site is toward the north or northeast. The potential for petroleum (gasoline and oil) contamination is considered to be reasonably predictable, and the property low risk to the project.

Site 350.1-3. The 1950 Sanborn map indicated the presence of a welding shop at this location. The potential for metals contamination is considered to be reasonably predictable based on a usage history of less than 20 years, and the property low risk to the project.

Site 350.1-4. A former gasoline station was indicated on the 1916 Sanborn map at this location. The potential for petroleum contamination (gasoline and oil) is considered to be reasonably predictable, and the property low risk to the project.

Site 350.1-5. Former businesses at this location included a plating and machine shop and sheet metal works from at least 1916 to 1950. The potential for significant metals and solvents contamination exists (substantially contaminated), and excavations in the immediate vicinity could encounter subsurface contamination. The property is a high risk to the project. This property concludes the Terminal 46 discussion.

Block 380.4. The following is a summary of available information regarding past uses of the properties on this block:

Site 380.4-1, repairs and gas station, 1939 to 1969.

Site 380.4-2, machine shop, 1916. Another former user was a drug company.

Site 380.4-3, paint warehouse, 1969.

Site 380.4-4, oil and gas company, 1938 to 1940.

There is potential contamination by gasoline (**Site 380.4-1**), solvents and metals (**Site 380.4-2**), solvents (**Site 380.4-3**), and petroleum (**Site 380.4-4**) from past site uses. The potential for contaminants, including solvents and metals, is reasonably predictable based on a usage history of less than 20 years, and the sites pose low risk to the project.

Site 380.3-3. A truck sales and service company operated in the 1950s and 1960s and had gas tanks. There is no known contamination at the site. The property is located east of the main project corridor and adjacent to the east side of a proposed ramp for the Aerial Alternative. The potential for gasoline contamination is considered to be reasonably predictable, and the risk to the project is considered to be low.

Site 380.3-2. See discussion under **Site 380.2-3** below.

Site 380.3-1. A company on this site was indicated in Polk Directories from 1938 to 1944 as handling cleaning products. No other information was readily available. The property is located east of the main project corridor. Depending on the types of materials the former company handled, there is some potential for solvents to be present in the subsurface. The site is ranked as presenting a low risk to the project because potential contaminants are considered to be reasonably predictable based on a usage history of less than 20 years.

Site 380.2. The property along the west side of the block is occupied by multiple railroad tracks. The railroad operations, along with expected fill materials and timber pilings, may have resulted in subsurface contamination from petroleum products and PAHs. The potential contamination is considered to be reasonably predictable, and the property is considered to be low risk to the project.

Site 380.2-4. Archive information indicates that the Seattle Can Company had a warehouse at the property, constructed in 1902. There is a potential for metals to be present in the subsurface environment from the past use, and petroleum product contamination from a former UST. Potential contamination is considered to be reasonably predictable, and the property is classified as low risk to the project.

Site 380.2-3. The assessor's records indicate that the property is currently vacant. Archive information indicates that a junk company was constructed in 1903 and was torn down in 1951. Many types of contaminants may be present in the subsurface from past operations, including petroleum products, metals, and PCBs. The potential exists for the property to be substantially contaminated, and the property should be considered high risk for the Aerial Alternative and moderate risk for the other Build Alternatives.

The archive records indicate that the junk company also had a facility at this property (**Site 380.3-2**) constructed in 1954. This property is located approximately 250 to 400 feet east of the proposed project alignment. The property has potential for subsurface contamination as previously indicated, but is considered to be moderate risk for the proposed project.

Site 380.2-2. The archive record indicates that an iron works/foundry was constructed in 1902 and was demolished in 1949. There is potential for metals and/or solvents contamination to be present at the site from past operations. Based on its proximity to the project and because suspected contamination may be substantial, the site should be considered a high risk for the Aerial alternative and a moderate risk for the other build alternatives.

Site 380.2-1. The assessor's records indicate that the property contains a cargo terminal and a vacant lot. Archive records indicate that the building at the site was an office constructed in the early 1900s and that operations continued into at least the 1940s. The property has some potential for subsurface contamination from petroleum products (reasonably predictable). The potential for petroleum contamination is reasonably predictable (low risk to the project).

Block 370.2. The following is a summary of available information regarding past uses of the properties on this block:

Site 370.2-1, gas station, 1938 to 1950. The potential for gasoline contamination is reasonably predictable (low risk to the project).

Site 370.2-2, 1916 to 1950. There is potential for substantial contamination by metals (moderate risk to the project).

Site 370.2-3, machinists, 1938 to 1943. The potential for metals or solvents contamination is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 370.2-4, 1890 to 1943. There is potential for substantial contamination by metals or solvents (moderate risk to the project).

Site 370.2-5, 1960. The potential for solvent contamination is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 370.2-6. Archive records indicate that a machine shop was located in the warehouse constructed in 1920. The EDR (2001) report indicates that there was a petroleum release from a heating fuel tank in 1993. An interim cleanup report was received, but no additional information was available at Ecology. The potential for metals (based on a usage history of less than 20 years) and/or petroleum contamination is reasonably predictable (low risk to the project).

Site 370.2-7, 1965. The potential for metals (based on a usage history of less than 20 years) and/or petroleum contamination is reasonably predictable (low risk to the project).

Site 370.2-8, 1965–1970. The potential for metals (based on a usage history of less than 20 years) and/or petroleum contamination is reasonably predictable (low risk to the project).

Site 370.2-9, 1927. There is potential for substantial contamination by metals (moderate risk to the project).

Site 370.2-10. Machine shop, 1916. The potential for metals or solvents contamination is reasonably predictable and the site is considered to be a low risk to the project.

Site 370.2-11. Store built in 1903. There is potential for substantial contamination by PCBs (moderate risk to the project).

Site 370.2-12. Retail/office/warehouse building constructed in 1910. There is potential for substantial contamination by metals (moderate risk to the project).

Site 370.2-13. The potential for metals contamination is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 370.2-14, oil company (1940–1943/1951), battery and chemical company (1960). Operations have included paint manufacturers and paint spraying, metallurgy, and oil dealers at different times during the period from 1940 to 1969. The potential for solvents, metals, and/or PCB contamination is reasonably predictable based on a usage history of less than 20 years for individual operations (low risk to the project).

Site 370.2-15. The potential for solvents and/or metals contamination is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 370.2-16. The potential for metals contamination is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 370.2-17, 1950. The archive records indicate that the shop was on the same lot as **Site 370.2-15**. The potential for metals and/or solvents contamination is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 370.2-18, 1916. Because of use of the site as a junkyard, there is potential for substantial contamination by metals, petroleum, or PCBs (moderate risk to the project).

Site 370.2-19, gas station, 1942 to 1989. The potential for gasoline contamination is reasonably predictable (low risk to the project).

Block 370.1. There are three buildings on the terminal property: a one-story transit/freight warehouse (1912), a one-story transit warehouse/loading dock (1935), and a two-story office building (1912). Past land uses and tenants have included a gasoline station (**Site 370.1-1**), a lighting company (**Site 370.1-2**), and freight company (**Site 370.1-2**). Isolated areas of petroleum contamination have been encountered in the eastern portion of the block, presumably resulting from removed or abandoned USTs. Ecology has identified the site as the UPRR. Records reviewed at Ecology indicate that one gasoline UST was removed and two other USTs were closed in place in the 1990s. Approximately 300 tons of petroleum-contaminated soil was removed from the site. Groundwater has not been affected based on limited sampling. The potential for gasoline and other petroleum contamination is considered to be reasonably predictable, and the risk to the project is considered to be low.

Block 360.2. Currently, a seven-story office building, an athletic club, and several retail stores occupy this block. Historical records indicate that former occupants included a paint manufacturer (**Site 360.2-1**); a fuel company (**Site 360.2-2**); a tires, gas, and oil company (**Site 360.2-3**), and sign painters (**Site 360.2-4**). The properties are not listed as having known contamination, but past land uses suggest a potential for contamination from petroleum products (gasoline and oil) and solvents. Potential contamination at the site is considered to be reasonably predictable based on a usage history of less than 20 years, and is expected to pose a low risk to the project.

Site 360.15-1. Historical records indicate that a sheet metal works business was at this site in 1916 and was replaced by a freight depot in 1931. A parking lot and a three-story industrial use building, circa 1921, currently occupy the area. The potential for metals contamination of the subsurface exists for this property located adjacent to the east side of the alignment. A boring in the right-of-way adjacent to the site and to the project alignment had black oil at a depth of 3 feet and creosote and wood at 8 feet. The property is considered high risk to the project (substantially contaminated).

Other Properties of Concern

Several properties and buildings located in **Block 470.25**, other than those discussed in the previous section, are properties of concern. They include warehouses and railroad-owned land. No specific hazardous materials risks were identified with these properties, other than the previously discussed potential for contamination associated with railroad operations and asbestos and lead-based paint in the buildings.

Several properties and buildings located in **Block 460.2**, other than those discussed in the previous section, are properties of concern. They include an

office building, warehouse, equipment shed, and railroad right-of-way. No specific hazardous materials risks were identified with these properties, other than the previously discussed potential for contamination associated with railroad operations and asbestos and lead-based paint in the buildings.

4.1.2 Central – S. King Street to Battery Street Tunnel

Front Street, now known as First Avenue, was located adjacent to the original shoreline of Elliott Bay. By 1885, the City created a 120-foot railroad right-of-way 60 feet offshore, extending from S. King Street to Smith Cove. Within 10 years, the three transcontinental railroads owned most of the waterfront piers, and each operated a separate support facility. Railroad Avenue was a series of planked-over trestles ribbed with parallel railroad tracks. The original Seattle waterfront from S. King Street to Union Street was destroyed in the great Seattle fire of 1889, which consumed 30 city blocks. When rebuilt, piles were used to support piers, and the railroad trestles and timber walkways provided access from the piers to land. Many of the piles were likely treated with creosote, a petroleum hydrocarbon. The area between the end of the piers and land was gradually filled with soil, wood waste, ship ballast, and various other types of refuse.

The present shoreline between S. Washington Street and Madison Street was established between 1901 and 1917 using a Pile-Supported Gravity Seawall. Railroad Avenue was backfilled with material from the regrading of S. Jackson Street. This portion of Railroad Avenue was surfaced with brick pavers. The remainder of the City's seawall improvements was not finished until 1934. As part of the construction of the seawall north of Madison Street, Railroad Avenue was filled and converted from a wood-planked roadway to a paved thoroughfare. The construction of the Alaskan Way Viaduct was completed in 1953, at which time several railroad tracks in this area were removed. Trolley tracks currently lie between the Alaskan Way surface street and the Alaskan Way Viaduct.

The proposed alignments in this area are located between the Alaskan Way Seawall and the Alaskan Way Viaduct. The area was initially developed using wood-planked trestles for Railroad Avenue (now Alaskan Way) and the railroad lines. The nearest land-based businesses were located between the eastern edge of the railroad tracks and Western Avenue. These buildings were most likely supported on piles. Creosote may have leached from treated piles into the surrounding soil.

Transit sheds for a variety of goods, including coal, grain, fish, and dry goods, were located on the piers. Current uses of the piers include a ferry dock,

fireboat dock, commercial/retail businesses, the aquarium, and a waterfront park.

Aerial photographs of the southern end of downtown Seattle near the waterfront illustrate pier redevelopment from 1966 to 1985. Most of the construction took place between 1979 and 1985, when two piers at the base of Pike Street were removed and a small portion of a single pier was filled, and two piers at Yesler Way and Main Street were removed. Fill placement was observed from south of Weller Street to S. Atlantic Street.

Forty-one former dry cleaners and 55 gas stations/repair shops were identified from historical records in this segment of the corridor. Twenty former metalwork operations were also identified.

The commercial district around Pioneer Square was initially developed in 1885. Within 1 year of the 1889 fire, the area was rebuilt. Many of these buildings were constructed of brick and housed retail/commercial businesses, offices, and hotels. Scattered throughout this section of the city were numerous dry cleaners, laundries, print shops, and automobile gas stations. Although several dry cleaners remain, many of the gas stations are closed. Retail, office, and small commercial businesses dominate this section of the city. The historic Pioneer Square area has undergone little redevelopment. Consequently, asbestos-containing material and lead-based paint should be anticipated in buildings that are demolished for the project. Along Western Avenue, limited redevelopment has occurred. In addition, some sites have been converted to parking lots. A steam plant has been operating at Western Avenue and University Street since the 1900s.

Four City of Seattle combined sewer outfalls (CSOs) are located along the waterfront at S. Washington Street, Madison Street, University Street, and Vine Street, and four King County CSOs are located at S. Lander Street, S. Royal Brougham Way, S. King Street, and Denny Way. There are five City of Seattle storm drains located at S. Spokane Street, S. Hind Street, S. Washington Street, Seneca Street, and Pine Street. There also is a permitted discharge of backwash water from the steam company's Western Avenue steam plant's water treatment system to Elliott Bay (Aura Nova Consultants, Inc. Contractor Team 1995). The City of Seattle also has a storm drain that discharges to Lake Union. Elevated concentrations of highly mobile contaminants, particularly gasoline and solvents, may be present in the permeable backfill of the sewer.

In the early 1900s, the area north of Pike Street and west of First Avenue was primarily residential, with scattered hotels and retail businesses. Retail/commercial businesses that likely used hazardous materials included lithographers, print shops, and possibly dry cleaning operations. The

southern portion of Denny Hill was regraded between 1903 and 1908, allowing for the expansion of commercial activities. By the 1930s, automobile gas stations/repair shops also occupied this area.

The area currently has a mixture of commercial/retail and residential uses. Most of the gas stations and dry cleaners are no longer operating; however, many of the sites that were once used for these facilities have been converted to surface parking. Redevelopment has occurred throughout this area. New condominiums, some with retail space on the ground floor, have been constructed throughout the Belltown district.

As described below, gasoline and diesel-range hydrocarbons were detected in soil by the parking garage located on S. Jackson Street near the Alaskan Way surface street. Petroleum-contaminated soil may remain at the site near building footings. Petroleum-contaminated soil was also detected at sites adjacent to the Alaskan Way surface street, east of the trolley track at Columbia Street. Bunker C, a heavy oil used by the steam company at the steam plant at University Street and Western Avenue, has contaminated soil and groundwater. This oil has migrated off-site and has been encountered in borings near the Alaskan Way Viaduct footings. The lateral extent of this plume is not known, although it may have migrated under the trolley tracks.

Hydrogen sulfide (H₂S) may be present in the subsurface either as the result of a contaminant release or as a natural byproduct of breakdown of organic matter under oxygen-reducing conditions. H₂S was encountered in an excavation for a sewer project at the intersection of Alaskan Way and University Street. At that location, H₂S dissolved in groundwater exceeded Metro's discharge criteria, necessitating treatment prior to discharge. At this concentration, H₂S also poses a potential hazard to site workers because it is a toxic gas; at low concentrations, it presents a nuisance odor. Although H₂S could result from decay of wood and sawdust anywhere along the waterfront, to date it has been only encountered at University Street and not farther south along the sewer project corridor. This location is directly south of the Bunker C fuel release from the power company's site. As Bunker C fuel can contain high levels of sulfur compounds, this appears to be the most likely source of the H₂S. Alternatively, the H₂S encountered could be associated with a release from a sewer.

Validated Properties – Central

Each validated property described below is located adjacent to the alignment or is a property that would be acquired or modified. Because of their proximity to the alignments, these properties have a higher potential to affect the project than sites located further from the alignments. The potential risk

to the project for each of these properties was characterized as low, moderate, or high depending on whether contamination was known to be present, if remediation of suspected contaminants is reasonably predictable, and/or whether earthwork is anticipated in the property vicinity or the site would be acquired for the project.

Low-risk properties include sites where remediation of contamination, if present, would be reasonably predictable.

Moderate-risk properties include sites that are classified as substantially contaminated under FHWA guidelines, but WSDOT is not anticipated to acquire the property and/or contamination is only suspected.

High-risk properties include sites classified as substantially contaminated under FHWA guidelines that WSDOT is anticipated to acquire, or on which earthwork would occur.

Site 350.2-1. A gasoline station was at this location from at least the 1930s to 1950s or later. A three-story parking garage structure was built at the site in 1984. Geotechnical soil borings indicated the presence of coal and charcoal to depths up to 23 feet below the ground surface. The Aerial Alternative includes proposed ground improvements that appear to be adjacent to or extend into this property. It is possible that petroleum-contaminated soil may be encountered during excavation. However, the types and quantities of contamination are considered to be reasonably predictable, so the site is considered low risk for the proposed project.

Site 340.1-1. The parking garage with auto body shop and auto repair was built in 1909. Over the years, there was also a retail gasoline station (1969 Sanborn) on the property. Ecology's file indicates that two abandoned USTs were found near the footings of buildings. Soil samples indicate that gasoline and diesel TPH remain at the site at concentrations greater than MTCA Method A cleanup levels. Groundwater was not sampled and tested. The potential for gasoline and other petroleum product contamination is reasonably predictable, and the risk to the project is considered to be low.

East side of Block 340.1. Other properties located approximately 200 feet upgradient of the project alignment that pose some risk of contamination include the following:

Site 340.1-2. Historical records indicate that a four-story store and warehouse was constructed on this property in 1900. Tenants included a printing company (1950s and 1960s) and previously an asbestos supply company. Potential solvent contamination is possible from printing operations; therefore, the site is considered to have the potential for being substantially contaminated.

Site 340.1-3. Historical records indicate that a four-story hotel and manufacturing facility was constructed in 1900. Polk Directories indicate that a printing company operated here from the 1940s until at least the 1960s. Potential solvent contamination is possible from such operations; therefore, the site is considered to have the potential for being substantially contaminated.

Site 340.1-4. A three-story hotel and retail building was constructed in 1898 at this location. Polk Directories indicate that a textile manufacturing company with a machine shop operated here from the 1930s into the 1960s. There is potential for substantial contamination by metals and solvents from the former land use.

WSDOT is not anticipated to acquire any of these properties, and no earthwork is anticipated in the site vicinity. Therefore, the risk to the project is considered to be moderate for encountering soil and/or groundwater contamination.

Site 330.1-1. The seawall will be rebuilt along the western and northern perimeters of Pier 50. Construction will be adjacent to Pier 48. The site (**Site 330.1-1**) was formerly a gasoline station that operated for at least a brief period (1938 and 1940 Polk Directories). Gasoline odor was noted in a boring in the Alaskan Way right-of-way east of Pier 50. The risk of encountering gasoline contamination (reasonably predictable) from the former gasoline station is considered to be low.

Site 320.1-1. The hotel building on the property was constructed in 1911. One of the historical uses of the building includes a cleaner and dye works operation for at least 13 years (1938 to 1951). This property represents a high risk to the alternatives that would require acquisition due to the potential for solvent contamination (substantially contaminated), and moderate risk for the other alternatives.

Remainder of Block 320.1. Other properties on this block are located upgradient of and adjacent to the project alignment and pose some risk of contamination. They include the following (map reference numbers, approximate years of operation, if known, and an indication of the types of operation):

Site 320.1-2, 1960, lithographer.

Site 320.1-3, 1902 to 1969, metal stamping and machine shop.

Site 320.1-4, 1908 to 1980, manufacturing chemists/printers.

Site 320.1-5, 1951 to 1965, cleaners.

Site 320.1-6, 1938 to 1980, printers.

Site 320.1 7, 1938 to 1969, printers.

Site 320.1-8, 1916 to 1918, machine and pattern shop.

These include four printers and one cleaner where the most likely type of contaminant is solvents and two metals machine shops where metals and solvents contamination is possible. **Sites 320.1-3 to -7** represent potential for substantial contamination and pose a moderate risk to the project because of their proximity and upgradient location relative to the project corridor. The potential for contamination at **Sites 320.1-2** and **-8** is reasonably predictable based on a usage history of less than 20 years, and the two sites pose a low risk to the project.

Block 290.5. The following is a summary of available information regarding past uses of the properties on this block:

Site 290.5-1, 1958, parking garage with auto repair, including fuel storage.

Site 290.5-2, 1938.

Site 290.5-3, 1940 to 1985.

Site 290.5-4. Two USTs for storage of leaded gasoline, closure in process according to Ecology's registered UST list.

Potential contamination from gasoline (**Sites 290.5-1** and **-4**) or solvents (**Site 290.5-2**) is considered to be reasonably predictable based on a usage history of less than 20 years, and the risk to the project is considered to be low. There is risk of substantial contamination at **Site 290.5-3** based on a usage history of more than 20 years, and the risk to the project is considered to be moderate.

Block 290.4. The following is a summary of available information regarding past uses of the properties on this block:

Site 290.4-1, 1960.

Site 290.4-2, 1940.

The potential for solvent contamination at **Site 290.4-1** is reasonably predictable based on a usage history of less than 20 years (low risk to the project). However, there is potential for substantial contamination by metals at **Site 290.4-2** because of operation of a smelter (moderate risk to the project).

Block 290.3. The following is a summary of available information regarding past uses of the properties on this block:

Site 290.3-1. Early operations included printing (1914 to 1940), and later a machine shop (1969).

Site 290.3-2. Manufacturing chemists, 1938.

Site 290.3-3, power plant, 1940 to 1969.

Site 290.3-4, 1940 to 1951.

Site 290.3-5. A welding shop operated from approximately 1938 to 1969. Tax assessor records indicate that an industrial steam plant, built in 1901, is at the site.

Site 290.3-6. Ecology's records indicate that a 55,000-gallon Bunker C UST was at the site for emergency use. There is TPH in the soil and groundwater at the site. Migration of Bunker C off the site was not evaluated, but is possible.

The potential for solvent contamination at **Site 290.3-2** and for petroleum contamination at **Site 290.3-4** is reasonably predictable based on a usage history of less than 20 years (low risk to the project). There is a greater potential for contamination (substantial) by solvents and metals at **Site 290.3-1**; by PCBs at **Site 290.3-3**; by solvents, metals, and PCBs at **Site 290.3-5**; and by PCBs and petroleum at **Site 290.3-6**. These four sites pose a moderate risk to the project.

Sites 290.2-1, -2, and -3. Properties located upgradient of the project alignment that pose some risk of contamination include the following (map reference numbers, approximate years of operation, if known, and an indication of the types of operation):

Site 290.2-1, printing, 1960 to 1969 (building constructed in 1910).

Site 290.2-2, ink manufacturers, 1969.

Site 290.2-3, 1938 to 1944, engineering company (marine gasoline and diesel).

Solvents are the most likely contaminants at the print company and ink manufacturer sites, and gasoline at the former engineering company. Based on what appear to have been relatively short periods of operation, the potential for contaminants is expected to be reasonably predictable, and the risk to the project low.

Site 290.2-4. A gasoline station and auto repair shop operated at this location from at least 1938 to 1965. The most likely contaminants that may be encountered due to past operations are gasoline and other petroleum products. The potential is considered to be reasonably predictable, and the risk to the project low.

Site 290.2-5. A warehouse storage building was constructed 1910; two USTs for leaded gasoline storage have been removed. There is a reasonably

predictable potential for gasoline and metals (lead) contamination (low risk to the project).

Block 280.5. The following is a summary of available information regarding past uses of the properties on this block:

Site 280.5-1, 1938, clothes cleaners (building was present from 1890 to 1955). There is risk of substantial contamination by solvents (moderate risk to the project).

Site 280.5-2, 1960 to 1965, auto repair. Potential contamination by petroleum projects is considered to be reasonably predictable (low risk to the project).

Block 280.3. The following is a summary of available information regarding past uses of the properties on this block:

Site 280.3-1, auto repair, 1951.

Site 280.3-2, clothes pressers, 1938 to 1944.

Site 280.3-3, printers, 1951 to 1965.

Site 280.3-4, sheet metal works, 1938 to 1944.

Historical information indicates that the auto repair operation may have spanned all of Block 280.3. The potential for petroleum contamination at **Site 280.3-1**, solvent contamination at **Sites 280.3-2** and **-3**, and for metals contamination at **Site 280.3-4** is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Block 280.2. This block is located adjacent to the east side of the project corridor. In addition, the Aerial Alternative includes a ramp in the right-of-way at the southern end of the block (adjacent to **Sites 280.2-1**, **-2**, and **-3**). Historical land uses for individual properties in this block are described in the following paragraphs:

Site 280.2-1. Archive records indicate that a four-story building constructed in 1906 was formerly at this location. Records also indicate that printing businesses operated here until at least 1970. The potential exists for solvent contamination to exist from the previous land use (substantially contaminated).

Site 280.2-2. A gasoline station operated at this location from at least 1936 to 1969. Ecology's records indicate that five USTs were removed (possibly from the former gas station) in 1993, and approximately 20 cy of petroleum-contaminated soil were removed and disposed off-site. Some petroleum-contaminated soil from a waste oil tank remains near the

footing of the parking garage. The petroleum and/or gasoline contamination is expected to be reasonably predictable.

Site 280.2-3. A gasoline station operated at this location from at least 1942 to 1990. Archive records indicate that prior to 1942, half of a building that had been used by a printing company was torn down. The potential exists for gasoline contamination to exist from the previous land use (reasonably predictable).

Site 280.2-4. Records in Ecology's file indicate that two USTs were discovered in 1992 and that both appear to have been heating oil tanks. One tank was removed, but the second tank is on adjoining property (to the north) and was not removed. Petroleum-contaminated soil was removed and disposed off-site. A small pocket of petroleum-contaminated soil remains near the adjacent UST. Site reported as "cleaned up" by the consultant. Because of the known presence of petroleum-contaminated soil, the property is considered to be substantially contaminated.

Two of the above-referenced properties have the potential for substantial contamination (solvents and petroleum). The risk to the project is considered to be moderate for encountering soil and/or groundwater contamination. The risk of encountering contaminated groundwater is applicable to any of the alternatives that require construction dewatering.

Site 280.1. Ecology's records indicate that compounds exceeding the Washington State Minimum Cleanup Level in sediments at this location include copper, mercury, heavy polycyclic aromatic hydrocarbons (HPAHs), and light polycyclic aromatic hydrocarbons (LPAHs). A cap was placed south of the dock, and the site is being monitored. Over-water work for redevelopment of the ferry terminal is excluded from the scope of this project. Therefore, the risk to the project from potentially contaminated sediments is evaluated to be low.

Block 290.1. Similar sediment conditions as described for **Block 280.1** are present in the vicinity of **Block 290.1**.

Block 270.2 is located adjacent to the east side of the alignment for all alternatives. Historical land uses for individual properties in this block are described in the following paragraphs:

Site 270.2-1, printing companies, chemical company. A five-story warehouse with space for retail was built in 1910 and covered the entire block. The businesses listed above operated from at least 1951 to 1990. The potential exists for substantial contamination by solvents from the past uses.

Site 270.2-2. The cleaner was listed in Polk Directories from 1951 to 1965. The potential exists for substantial contamination by solvents.

Site 270.2-3. This site was listed in Polk Directories from 1938 to 1943. The potential exists for reasonably predictable contamination by petroleum.

Site 270.2-4. This site was listed in Polk Directories in 1938 and 1940. The potential exists for reasonably predictable contamination by petroleum.

Site 270.2-5. The cleaner on this site was listed in Polk Directories in 1938 and 1940. The potential exists for substantial contamination by solvents.

Three of the above-referenced properties have the potential for substantial contamination (solvents). The first one listed covered essentially the entire block, so contamination could be blockwide. Other businesses operated at later dates on the same area and pose a low risk to the project. Because **Site 270.2-1** covered the entire block, there is considered to be moderate risk of encountering contaminated groundwater for any alternatives that require construction dewatering.

Site 260.2-1. A two-story warehouse, built in 1909, was demolished in 1962, and the block was converted to a paved parking lot. Ecology's records indicate that TPH and metals (arsenic, chromium, lead, and mercury) are present in site soil and groundwater. Although total metals exceed MTCA Method A cleanup levels, dissolved metals do not. Ecology gave the site no further action (NFA) status in April 2000. Based on the previous environmental testing and NFA status granted by Ecology, the potential for metals contamination is considered to be reasonably predictable (low risk to the project).

Site 260.1-1. Ecology's list of registered USTs indicates that two USTs for storage of leaded gasoline and heating fuel were closed in place. The potential for gasoline or other petroleum product contamination is reasonably predictable (low risk to the project).

Block 250.5. The following is a summary of available information regarding past uses of the properties on this block:

Site 250.5-1, 1956, dry cleaners.

Site 250.5-2, 1960 to 1975, printers.

Site 250.5-3, 1938 to 1956, printers.

Site 250.5-4, 1908, 1951, cleaners.

Site 250.5-5, 1911, print shop; 1969, auto repair shop.

Site 250.5-6, 1938 to 1951, printers.

All of the above-referenced operations create the potential for solvents contamination. In addition, there is potential for petroleum contamination to also be present at **Site 250.5-5**. Because of the length of time in operation, **Sites 250.5-2, -3, and -4** may be substantially contaminated (moderate risk to the project). Potential contamination at the remainder of the sites in this block (**Sites 250.5-1, -5, and -6**) is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Block 250.4. The following is a summary of available information regarding past uses of the properties on this block:

Site 250.4-1, sheet metal works, 1943 to 1965.

Site 250.4-2, cleaners, 1938 to 1990.

Site 250.4-3, sheet metal works, 1938 to 1940.

Site 250.4-4, paint company, 1940 to 1944.

Site 250.4-5, printers, 1940 to 1975.

Site 250.4-6, printers, 1943 to 1980.

The cleaners, paint company, and printing companies at **Sites 250.4-2, -4, -5, and -6** may have solvent contamination (substantially contaminated, moderate risk to the project). In addition, there is potential for metals contamination from the sheet metal works at **Sites 250.4-1 and -3**. The contamination at **Site 250.4-1** may be substantial (moderate risk to the project), and reasonably predictable at **Site 250.4-3** (low risk to the project), both based on the duration of operations.

Site 250.3-1. The company that operated from at least 1938 to 1965 at the site that now contains a parking garage. There is potential for substantial contamination by solvents at this site (moderate risk to the project).

Site 250.2-1. A gasoline station operated here from at least 1962 through 1974. Potential contamination by gasoline is evaluated to be reasonably predictable (low risk to the project).

Block 240.4. The following is a summary of available information regarding past uses of the properties on this block:

Site 240.4-1, 1938 to 1985, laundry; 1951, printer.

Site 240.4-2, 1969, printers.

Site 240.4-3, 1938 to 1940, printers.

Site 240.4-4, 1938, printing company; 1943 to 1965, hand laundry or service station; six USTs removed.

All of the above referenced operations create the potential for solvents contamination. There is also potential for gasoline contamination to be present at **Site 240.4-4**. Because of the length of time in operation, **Site 240.4-1** may be substantially contaminated (moderate risk to the project). Potential contamination at the remainder of the sites in this block is reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Block 240.3. The following is a summary of available information regarding past uses of the properties on this block:

Site 240.3-1, auto repair shop, 1938.

Site 240.3-2, fertilizer manufacturers, 1960 to 1980.

Site 240.3-3, laundry and dry cleaner with acid tank in basement of hotel, 1910 to 1940.

Site 240.3-4, electroplating, 1940 to 1975.

Site 240.3-5, leather works, 1938 to 1969.

There is a reasonably predictable potential for petroleum contamination at **Site 240.3-1** (low risk to the project). However, because of the lengthy time of operations at the other sites, the potential for contamination is significant (solvents at **Sites 240.3-3, -4, and -5**, and metals at **Sites 240.3-2, -3, and -4**). Therefore, **Sites 240.3-2, -3, -4, and -5** present a moderate risk to the project.

Site 240.2-1. A five-story warehouse was constructed in 1918. Business operations have included a machine shop from at least 1949 to 1969. Two USTs for storage of leaded gasoline were closed in place. There is potential for the site to be substantially contaminated with metals, solvents, and/or gasoline. It is located upgradient of the project corridor, and is considered to pose a moderate risk to the project.

Site 240.2-2. Former businesses in the 1910 vintage building have included cold storage and metal works (in 1940). The EDR (2001) report indicates that metals and petroleum were detected in soil at the property from an unknown source. A consultant issued a final cleanup report. Potential for metals contamination is evaluated to be reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Sites 230.2-1, -2. Current tax assessor records indicate that the steam plant facility on this property has a two-story industrial light manufacturing building (constructed in 1900) and one-story storage warehouse (built in 1918). Archive records also indicate the presence of a one-story boiler house built in 1955 with an “oil tank retention wall” for an aboveground storage tank and a two-story coal pulverizing plant built in 1918. Ecology’s records indicate that Bunker C oil contamination from this facility is known to extend to the viaduct footings to a depth of approximately 17 to 19 feet below ground surface. The likelihood of encountering petroleum -contaminated soil and groundwater, particularly for the Rebuild and Tunnel Alternatives, is considered to be high (substantially contaminated).

Site 230.2-3. A gasoline and service station was formerly located at this property from at least 1950 to 1970. Potential for gasoline contamination is expected to be reasonably predictable (low risk to the project).

Site 220.2-1. Archive information indicates that a machine shop was built at this site in 1918. Operations included auto repair, electric blacksmithing, acetylene welding, and machine work. Current assessor records indicate the property as a building built in 1925. The potential for metals, solvents, and/or petroleum contamination is evaluated to be reasonably predictable based on a usage history of less than 20 years. The site is expected to pose a low to moderate risk to the project.

Site 220.2-2. Historic information indicates that a gas station was built in 1932 and torn down in 1965. The potential for gasoline contamination is considered to be reasonably predictable (low risk to the project).

Site 220.2-3. Little historical information regarding the property is available other than a notation on the 1969 Sanborn map indicating a truck service shop. The potential for petroleum contamination is expected to be reasonably predictable (low risk to the project).

Block 220.1. Little historical information is available regarding this block. The following is a summary of available information regarding past uses of the property:

Site 220.1-1. Gasoline station and auto parking was noted in the 1938 Polk Directory.

Site 220.1-2. This business, described as handling auto freight, was included in the 1940 Polk Directory.

There is a reasonably predictable potential for gasoline and/or petroleum contamination to be encountered during construction adjacent to **Block 220.1** (low risk to the project).

Site 210.2-1. The current assessor's records indicate that the building is a six-story retail and office building constructed in 1915. A printer was a tenant from at least 1965 to 1975. There is a reasonably predictable potential for solvents to be encountered, based on a usage history of less than 20 years, during construction adjacent to **Block 210.2** (low risk to the project).

Block 190.2. The following is a summary of available information regarding past uses of the properties on this block:

Site 190.2-1, 1919 to 1940, gasoline station.

Site 190.2-2, 1969, auto repair.

Site 190.2-3, 1951 to 1960, printers.

Site 190.2-4, 1925, gas station and metal plating; torn down for viaduct construction.

There is potential for gas or petroleum contamination at **Sites 190.2-1** and **-2**. The sites are considered to be reasonably predictable and a low risk to the project. The potential for solvents at **Site 190.2-3** is also considered to be reasonably predictable based on a usage history of less than 20 years (low risk to the project). However, the presence of a former plating operation at **Site 190.2-4** may have resulted in substantial contamination (moderate risk to the project).

Block 180.2. A gasoline and service station operated in the southeast corner of the block from 1938 to at least 1960. The site is now part of Pike Place Market, although a portion of it is vacant land. A turpentine or kerosene odor was noted at a depth of 21 to 26 feet in a historic geotechnical boring drilled at the site. There is a reasonably predictable potential for gasoline or other petroleum product contamination to be present at this site (low risk to the project).

Block 170.1. A gasoline station operated from at least 1938 to 1949. The potential for gasoline contamination is reasonably predictable (low risk to the project).

Block 160.3. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment (adjacent):

Site 160.3-1, 1909, wood products company.

Site 160.3-2, 1904 to 1969, blacksmith, auto rebuild, and welding.

Site 160.3-3, 1938 to 1940, dye shop.

Site 160.3-4, 1975 to 1980, machine shop.

Site 160.3-5, 1960, electroplating in basement. Ecology records indicate that TPH, TCE, and lead were detected in soil, and TCE was detected in groundwater at 30 feet below ground surface. TPH is likely from a heating oil UST. TCE could be from plating or adjacent dry cleaner or auto repair businesses. No cleanup was documented.

Site 160.3-6, 1970 to 1975, auto body shop.

There is a reasonably predictable potential for metals at **Sites 160.3-4** and **-6**, petroleum at **Site 160.3-1**, and solvents at **Sites 160.3-3** and **-4** based on a usage history of less than 20 years (low risk to the project). There is potential for substantial contamination by metals at **Site 160.3-2** (based on a usage history of more than 20 years) and by solvents at **Site 160.3-5** based on findings from previous environmental sampling and on-site history (moderate risk to the project).

Block 160.2. The following is a summary of available information regarding past uses of the properties on this block located west of the alignment:

Site 160.2-1, 1950 to 1970, paint store.

Site 160.2-2, 1914 to 1957, machine shop.

There is a potential for substantial contamination by solvents and metals in this block (moderate risk to the project).

Site 150.2. A former substation was built on the property in 1958. The site is currently a parking lot. The potential exists for PCBs to be present in soils. The site is considered to be substantially contaminated and a high risk to the project.

Block 150.1. The following is a summary of available information regarding past uses of the properties on this block located west of the alignment:

Site 150.1-1, 1947 to 1949, gasoline and service station.

Site 150.1-2, 1955, auto repair garage, fueling (UST), truck wash.

Site 150.1-3, 1908 to 1943, wood products manufacturing.

Site 150.1-4, laundry, 1915 to 1943.

The potential for gasoline or petroleum contamination is reasonably predictable at **Sites 150.1-1** and **-2** (low risk to the project). Contamination by solvents could be substantial at adjacent **Sites 150.1-3** and **-4** (moderate risk to the project).

Block 140.3. The following is a summary of available information regarding past uses of the properties on this block located northwest of the alignment:

Site 140.3-1. Possible transformer station was built in 1957 and torn down in about 1962.

Site 140.3-2, 1938 to 1969, manufacturers.

Site 140.3-3, 1956 to 1960, ink and chemical company.

Site 140.3-4, 1938 to 1990, laundry and drugstore.

There is a potential for substantial contamination by solvents (**Sites 140.3-2** and **-4**) and PCBs (**Site 140.3-1**) to be present (moderate risk to the project). The potential for solvents at **Site 140.3-3** is reasonably predictable based on a usage history of less than 20 years (low risk).

Other Properties of Concern – Central

Block 270.1. Creosote was encountered in an exploratory boring (at depths from 42 to 59 feet) in the parking lot located south of the fire station. No historic information was available regarding the site that would enable an evaluation for other potential contamination.

Block 280.4. No historic information was available regarding the site that would allow for an evaluation of potential contamination.

4.1.3 North Waterfront – Pike to Myrtle Edwards Park

The shoreline was regraded in the vicinity of Pine Street around 1878, and a timbered retaining wall was constructed to keep back high tides of Elliott Bay. The wood-planked Railroad Avenue and rail lines constructed on piles in the late 1800s extended north of Pike Street to Garfield Street, on the west side of Queen Anne Hill. In the early 1900s, the waterfront was characterized by industrial activities, including warehouses and machine shops to support both marine and railroad operations. The area surrounding rail lines south of Bay Street was filled as part of the seawall construction in 1934. The sources of the fill placed under Railroad Avenue and the pile-supported railroad trestles are unknown. The fill that was placed around the piles extends from 20 to 40 feet below the ground surface. It consists of soil, cinders, wood waste, bricks, coal, ship ballast, and various types of refuse. Fill from construction of I-5 and gravel from a nearby island were used to create Myrtle Edwards and Elliott Bay Parks on the northern waterfront in the early 1960s.

Aerial photographs of the area north of Broad Street and west of Eighth Avenue N. confirm the presence of an oil company tank farm at the north corner of Elliott Avenue and Broad Street (Blocks 90.1 and 90.2) from 1936 to 1979 (gone by 1985). Photographs of this area confirm commercial and residential development over time as well as completion of Key Arena (by 1961) and the Seattle Center and monorail (by 1966). The areas surrounding

Seattle Center are mostly residential and commercial (not industrial); aerial photos confirm this consistent use and development over time.

Most of the timbers and piles used to support the wharves and railroads were treated with creosote, and the contaminants from creosote likely have leached from the wood into the surrounding soil. A creosote-treated timber was encountered in one boring. In addition, it is likely that contaminants are present in parts of the fill. Refuse frequently has elevated concentrations of metals and low levels of petroleum.

Low levels of petroleum contamination in groundwater are likely present along the waterfront because there are numerous potential petroleum sources of contamination, and the soils in this area are permeable. Although most businesses were historically located more than a block east of the alignment, soil and groundwater conditions would allow contaminants to migrate with groundwater toward Elliott Bay (and the alignments). Historic businesses of particular concern along the waterfront in this segment include seven gas stations/repair shops and six metalwork operations.

As described below, there are several documented sources of contamination along this section of the waterfront. These include the oil company site located between Broad and Bay Streets. Although this former tank farm has been largely remediated, product (diesel) remains in soil adjacent to retaining walls and along the edges of the property, and low levels of diesel-range hydrocarbons remain in site soils. Shallow groundwater at the site is also contaminated with diesel and associated contaminants.

Gasoline and related compounds have been documented in soil and groundwater at the former gasoline station located at the corner of Elliott Avenue and Broad Street. The site is undergoing remediation.

Sediment quality along the waterfront is discussed under the seawall (Section 4.1.5).

Validated Properties – North Waterfront

Each validated property described below is located adjacent to the alignment or is a property that would be acquired or modified. Because of their proximity to the alignments, these properties have a higher potential to affect the project than sites located further from the alignments. The potential risk to the project for each of these properties was characterized as low, moderate, or high depending on whether contamination was known to be present, if remediation of suspected contaminants is reasonably predictable, and/or whether earthwork is anticipated in the property vicinity or the site would be acquired for the project.

Low-risk properties include sites where remediation of contamination, if present, would be reasonably predictable.

Moderate-risk properties include sites that are classified as substantially contaminated under FHWA guidelines, but WSDOT is not anticipated to acquire the property and/or contamination is only suspected.

High-risk properties include sites classified as substantially contaminated under FHWA guidelines that WSDOT is anticipated to acquire, or on which earthwork would occur.

Site 210.1-1. A one-story shop building used by an iron works was constructed in 1947 and had a grease pit. The business conducted metal finishing and plating. The two-story commercial building at the site is also vintage 1947. Potential contaminants include petroleum products (reasonably predictable) and metals (substantially contaminated). The property is considered high risk to the project.

Site 210.1-2. A former service station on this site operated from at least 1935 through 1970. The property is currently a parking lot. There is potential for gasoline contamination (reasonably predictable). The property is considered a low risk to the project.

Site 210.1-3. A former auto repair shop was located on this property in 1949. The potential for petroleum contamination is considered to be reasonably predictable. The property is considered low risk to the project.

Site 190.1-1 (east side of the block). Little historical information is available regarding past operations. Diesel-contaminated soil was excavated in 1992 to below MTCA Method A cleanup levels. There is a reasonably predictable potential for petroleum contamination to be present (low risk to the project).

Block 160.1. The following is a summary of available information regarding past uses of the properties on this block located west of the alignment (adjacent):

Site.1-1. Metals and PAHs were detected during a 1992 site assessment in soil samples, predominantly along the railroad tracks. Concentrations are slightly greater than MTCA Method A soil cleanup levels. Diesel concentrations are slightly above 200 mg/kg; concentrations of PAHs in groundwater are less than Marine Discharge Criteria.

Site 160.1-2. Ecology records indicate a release of gasoline and BTEX occurred from a UST. Contaminants were detected above MTCA Method A cleanup levels in soil and at low concentrations in groundwater. Diesel and oil TPH were detected above 200 mg/kg, which is most likely associated with railroad tracks or uncontrolled fill.

In addition to the above information regarding releases, petroleum and gasoline odors have been noted in samples from borings at other locations within this block. The potential for gasoline, petroleum, and PAH contamination is reasonably predictable (low risk to the project).

Site 140.2-1, one-story auto repair garage built at the site in 1925. The potential for petroleum contamination is reasonably predictable (low risk to the project).

Site 140.05-1. The former gasoline and service station was present from at least 1943 to 1956. An inn was constructed in 1961. The potential for gasoline contamination is reasonably predictable, and the risk to the project is considered to be low.

Site 130.1-1. The four-story factory at the site was constructed in 1910. The potential for petroleum contamination is reasonably predictable, and the risk to the project is considered to be low.

Block 110.1. The following is a summary of available information regarding past uses of the properties on this block:

Site 110.1-1, coal bunker, 1905.

Site 110.1-2. Two 4-story factories were constructed in 1916 and 1925. Years of operation were at least from 1938 to 1975.

There is a reasonably predictable potential for petroleum and/or PAH contamination at the coal bunker site (low risk to the project) and for substantial contamination by metals at the former factory site (moderate risk to the project).

Site 90.2-1. A bulk fuel storage facility occupied the entire block and operated from at least 1938 to 1985. The facility had multiple aboveground storage tanks and numerous buildings. Information from Ecology's records indicates that petroleum concentrations in soil are below MTCA Method A cleanup criteria. However, approximately 110 cy of petroleum-contaminated soil are present at depths of approximately 16 to 26 feet below ground surface along the northwestern boundary with Elliott Avenue, adjacent to the shoring wall. Soils exceeding MTCA Method B appear to be present 10 to 20 feet below ground surface within the northwestern portion of Elliott Avenue. Gasoline-contaminated soil was encountered south of the oil company's tunnel in Elliott Avenue. Contaminant concentrations in groundwater are typically less than MTCA Method A cleanup levels, except for groundwater located along the northwestern boundary. There is dissolved petroleum present in the groundwater in this area. Contaminants may have migrated into the right-of-way. Ultimately, this site is planned to become part of the Seattle Art

Museum's sculpture park. This site could be part of the Broad Street Underpass, which is a separate project. The site is adjacent to Broad Street and would be adjacent to the Broad Street temporary trestle overpass from Broad Street to Alaskan Way if it is constructed. The site may be substantially contaminated by gasoline and other petroleum products and poses a moderate risk to the project.

Site 90.2-2. Historical records indicate that an asphalt paving facility was at this site from 1905 to at least 1939. There is a reasonably predictable potential for petroleum contamination (low risk to the project).

Block 90.1. The following is a summary of available information regarding past uses of properties on this block:

Site 90.1-1. The plant at this site included truck and railroad car filling stations, plus other facilities, and operated from at least 1943 to 1975. Ecology's records indicate that the upper 15 to 20 feet of soil were excavated. TPH concentrations in remaining soils are generally above 200 mg/kg, but below 1,300 mg/kg. The site was covered with 2 feet of clean soil. Elevated concentrations of TPH likely are still present behind the shoring wall along the northern property boundary. Gasoline-contaminated soils are present along the northern boundary. Free-phase kerosene to oil-range hydrocarbons are present along the southern boundary of the yard. Sheen on groundwater and free-phase product were encountered south of the yard.

Site 90.1-2. The gasoline and service station operated from 1928 to at least 1969. Ecology's records indicate that gasoline- and BTEX-contaminated soil is present that exceeds MTCA Method A cleanup levels. Groundwater is contaminated at levels below surface water criteria. The site is undergoing remediation by air sparging. The contaminant plume is primarily located in northeastern corner of the site.

In addition to the above information regarding releases, strong petroleum odors have been noted in samples from borings in the upper 17.5 feet at various locations within **Block 90.1**, and creosote odors have been noted in the deeper soils. There is potential for substantial contamination by gasoline and petroleum in this block (moderate risk to the project).

Site 90.00 (docks). No specific information regarding years of operation are readily available. However, based on the length of time that other oil company facilities operated in this area, there is potential for substantial contamination by petroleum (moderate risk to the project).

4.1.4 North – Battery Street Tunnel to Ward Street

In the early 1900s, the area in the vicinity of Denny Way was primarily residential, with scattered businesses that provided services to the local population, including laundries and restaurants. As the downtown commercial area expanded northward, residences were constructed in the adjacent hills. By 1917, Seattle City Transit owned the block between Fifth and Sixth Avenue N. and Mercer Avenue and Republican Street. With the leveling of the north side of Denny Hill in 1929, which extended up to Harrison Street, and the widening of the Aurora Speedway in 1933, commercial and light industrial businesses developed rapidly.

Numerous automobile gas/repair stations and dealerships were established during the 1930s through the 1950s. Many of the gas stations are now out of business, and the buildings were converted to other uses. Most of the properties were converted to parking lots. Few properties in the area east of the BST north portal have been redeveloped.

Between First Avenue and Denny Way, commercial/retail businesses and residential buildings are prevalent. North of Denny Way the area is characterized by light industrial/commercial businesses. Light industrial activities in the area include printers and lithographers, sheet metal shops, and sign painting. Approximately 14 dry cleaners and 81 gas stations/repair shops were identified from historical records in this area. In addition, eight metalwork operations have been identified. Many of these businesses are no longer in operation, and many of the properties have not been redeveloped. Consequently, there is a high potential that any contaminants released on these properties have not been remediated. In addition, asbestos-containing material and lead-based paint should be anticipated in buildings that are demolished for the project. Dry cleaning businesses and gas stations are still present in the area.

As described below, based on Ecology files, petroleum, TCE, and lead-contaminated soil have been detected at the hotel site, located at the northwest corner of First Avenue and Blanchard Street. TCE has also been detected in the perched groundwater at a depth of 30 feet below this site. No cleanup was documented. TCE is a solvent used in dry cleaning and metal degreasing; it is also used in inks, paints, and adhesives.

Petroleum-contaminated soil remains beneath the auto service company site located near Second Avenue and Battery Street. Groundwater at the site apparently was not affected. Soil at **Site 150.6-2** (located on Fourth Avenue near Bell Street) is contaminated with gasoline and related compounds. Depth to groundwater in the area is approximately 115 feet based on a nearby monitoring well.

Dry cleaning solvents (TCE and/or PCE) have been documented in soil and groundwater at the former dry cleaning facility site now occupied by a hotel located on Aurora Avenue between Harrison Street and Thomas Street. The maximum concentrations in soil suggest that site soils would be considered a dangerous waste if excavated. Groundwater, at a depth of approximately 50 feet below the ground surface, is also contaminated at levels above drinking water criteria. A former dry cleaning business also operated on the block directly north of the hotel. The dry cleaner operated from 1945 through at least 1960. A dry cleaning supply and laundry dyes business, an auto-repair shop, and a battery factory also operated historically at the site. The property is currently a parking lot.

Among those businesses that used hazardous substances, those with large-scale operations that operated for many years have a greater potential to have released relatively large quantities of contaminants over time. As a result, there is a higher potential for contaminants to have migrated off the site into the adjacent roadways downgradient from such sites. The Seattle Transit Center (Bus Barn) block located between Mercer and Republican Streets and Fifth and Sixth Avenues is such a site. It was in operation from the 1930s to 1985 and had numerous tanks for petroleum and repair facilities. Petroleum contamination was also encountered on the block directly east during construction of the Sonics training facility. Although redevelopment/remediation has occurred at these sites, contaminants may have migrated into the adjacent roadways. Based on the type of operations, petroleum could have contaminated shallow groundwater and soils.

Validated Properties – North

Each validated property described below is located adjacent to the alignment or is a property that would be acquired or modified. Because of their proximity to the alignments, these properties have a higher potential to affect the project than sites located further from the alignments. The potential risk to the project for each of these properties was characterized as low, moderate, or high depending on whether contamination was known to be present, if remediation of suspected contaminants is reasonably predictable, and/or whether earthwork is anticipated in the property vicinity or the site would be acquired for the project.

Low-risk properties include sites where remediation of contamination, if present, would be reasonably predictable.

Moderate-risk properties include sites that are classified as substantially contaminated under FHWA guidelines, but WSDOT is not anticipated to acquire the property and/or contamination is only suspected.

High-risk properties include sites classified as substantially contaminated under FHWA guidelines that WSDOT is anticipated to acquire, or on which earthwork would occur.

Site 150.9-1. A repair shop operated at this site from 1936 to at least 1989. The potential for petroleum contamination is reasonably predictable (low risk to the project).

Site 150.8-1. A former gas station operated in the late 1930s and early 1940s. The lot is currently used as a parking lot for a car dealership. The gas station is considered a low risk to the project because petroleum, if present, is reasonably predictable. There would be some modification of the site for the Aerial, Tunnel, Surface, or Bypass Tunnel Alternatives.

Site 150.8-2. One used/waste oil UST has been removed from the property. The potential for petroleum contamination is reasonably predictable (low risk to the project).

Block 150.7. Petroleum-contaminated soil was encountered at Seattle Fire Station No. 2 (**Site 150.7-2**). Two USTs were removed; however, diesel-range TPH remains above MTCA Method A in soil. Groundwater was not encountered. No additional information was available in the Ecology file. An oil burner business with gas pumps operated on this block (**Site 150.7-3**). An auto repair shop operated on this block (**Site 150.7-4**). The petroleum business and the fire station are located adjacent to Battery Street. These sites are considered a low risk to the project because petroleum, if present in the adjacent right-of-way, is reasonably predictable. The former dry cleaning sites, although classified as substantially contaminated because of the former use of dry cleaning solvents, are considered a moderate risk to the project because these sites are further from the alignment.

Block 150.6. The following is a summary of available information regarding past uses of the properties on this block located southeast of the alignment (adjacent):

Site 150.6-1, 1924 to beyond 1935, newspaper printing.

Site 150.6-2, 1936 to 1969, former gas station; currently an engraving warehouse. USTs apparently were removed from the former gasoline station site. Soil borings advanced to investigate conditions following UST removal indicate that gasoline and BTEX are present above MTCA Method A cleanup levels. A heating oil tank is present below the floor of the building.

Site 150.6-3, 1943 to 1985, printing.

There is a reasonably predictable potential for gasoline and/or solvents to be present at **Sites 150.6-1** and **-2** (low risk to the project). Because of the length of time that a printing business operated at **Site 150.6-3**, there is a potential for substantial contamination by solvents (moderate risk to the project).

Block 150.5. The following is a summary of available information regarding past uses of the properties on this block:

Site 150.5-1, 1921 to 1970, auto body repair and painting.

Site 150.5-2, 1928 to 1969, film processing.

Site 150.5-3, 1907 to 1989, auto repair, including body shop, and used cars. Ecology's records indicate that a UST was removed, and approximately 50 to 70 tons of soil were removed and disposed off-site. There was no apparent groundwater impact, but some contaminated soil remains on site. The former UST was adjacent to Second Avenue.

Site 150.5-4, 1926 to 1947, auto repair shop.

Site 150.5-5, 1926 to 1962, film processing.

Site 150.5-6, heating fuel UST.

There is a reasonably predictable potential for petroleum contamination at **Sites 150.5-3**, **-4**, and **-6** (low risk to the project), but a potential for substantial contamination by solvents at **Sites 150.5-1**, **-2**, and **-5** (moderate risk to the project).

Block 150.4. The following is a summary of available information regarding past uses of the properties on this block located southeast of the alignment:

Site 150.4-1, 1938, gas station; currently parking lot.

Site 150.4-2, 1949 to 1980, printer.

Site 150.4-3, 1956, three-story warehouse with printing shop; currently retail/rooming house.

Site 150.4-4. Heating oil UST was removed, along with 3 cy of petroleum-contaminated soil. Petroleum was not detected in confirmation samples.

There is a reasonably predictable potential for gasoline and/or petroleum contamination at **Sites 150.4-1** and **-4**, or solvents at **Site 150.4-3** (low risk to the project). Because of the length of time that a printing or film processing business operated at **Site 150.4-2**, there is potential for substantial contamination by solvents. Preliminary project information indicates that the property would be modified for all of the Build Alternatives. Therefore, **Site 150.4-2** is considered to pose a high risk to the project.

Site 141.2-1. A gasoline and service station operated from 1934 to at least 1940. The potential for gasoline contamination is reasonably predictable (low risk to the project).

Block 141.1. Formerly a gas station. Three USTs used to store gasoline and diesel were removed. Affected soil was removed, and a vapor extraction system was installed. The highest concentration of TPH was 120 mg/kg; groundwater was not encountered. Migration off the site is not likely. The site is considered a low risk to the project because petroleum, if present, is reasonably predictable.

Block 140.9. Formerly a gas station that also repaired autos from the 1940s through the 1960s. The site is currently a parking lot. The site is considered a low risk to the project because petroleum, if present, is reasonably predictable.

Block 140.8. A former gas station operated at this site (**Site 140.8-1**), and a newspaper facility encompasses the rest of the block (**Site 140.8-2**). The newspaper site was listed as a CERCLIS NFA site after an anonymous complaint was received regarding discharge of spent fixer and other photographic chemicals down the sewer drain. As of 1994, chemicals are transported to a photo processor for disposal. The newspaper site is listed as a moderate risk to the project because of the potential for substantial contamination by solvents and its proximity to the project. The gas station is considered a low risk to the project because petroleum, if present, is reasonably predictable.

Block 140.7. This entire block was redeveloped for apartments. Four USTs were removed as part of the redevelopment. They excavated soil to below MTCA cleanup levels. They received NFA status on April 2, 2001. Former businesses included a print shop, gas station, and auto repair. The site is considered a low risk to the project because petroleum, if present in the adjacent right-of-way, is reasonably predictable.

Site 140.6-1. A rooming house, constructed at this site in 1890, was torn down in 1946. A retail and office building was then constructed (1947). Historical records indicate that a chemical company operated from at least 1975 to 1985 in the building that is still present. The potential for solvent contamination is considered to be reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 140.5-1 has two registered USTs. Ecology's database indicates that closure of the USTs is in process, and that one was a used/waste oil tank. The potential for petroleum contamination is reasonably predictable (low risk to the project).

Block 140.4. The following is a summary of available information regarding past uses of the properties on this block located northwest of the alignment (adjacent):

Site 140.4-1, 1938 to 1980, cleaners and printers.

Site 140.4-2, 1949 to 1985, color processing laboratory.

Solvents could potentially be present from past site uses in this block. The sites are considered to be substantially contaminated and pose a moderate risk to the project.

Site 130.9-1, a gasoline station operated from 1934 to at least 1975. The potential for gasoline contamination is reasonably predictable (low risk to the project).

Block 80.6. Numerous former gas stations and auto repair businesses operated on this block, including an auto rebuild shop (**Site 80.6-1**), a former gas station (**Site 80.6-2**), another former gas station (**Site 80.6-3**), an auto electric business (**Site 80.6-4**), and a commercial property (**Site 80.6-5**). Petroleum-contaminated soil was encountered at the commercial property. A heating oil tank was removed and soil was overexcavated to the extent possible. Contamination could extend beneath W. John Street, but it was not remediated because of road stability. Both former gas station sites are currently parking lots. The sites are considered a low risk to the project because petroleum, if present, is reasonably predictable. It is possible that gasoline-contaminated soil could be encountered in the Aurora Avenue N. right-of-way.

Block 80.5. John Street and Aurora Avenue N. bound the parcel. No historic or known sources of contamination have been identified for this parcel, which is currently vacant land; however, petroleum-contaminated soil was identified on the parcels directly south and southwest. The site to the south (**Site 80.5-1**) was a gas station from 1934 to 1953. There was also a gas station and auto repair shop on **Sites 80.5-2** and **-3** from 1938 to 1989. Based on Ecology files, the USTs have been removed from the former gas station sites, and contaminated soil has been either removed or treated on site.

The sites are considered a low risk to the project because petroleum, if present, is reasonably predictable, and it appears that the adjacent contaminated sites have been remediated.

Block 70.6. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment:

Site 70.6-1. Occupants in the building constructed in 1931 have included a petroleum company until at least 1940, an asbestos goods shop until 1956, and an auto repair shop (1989).

Site 70.6-2. Constructed in 1954 as a service shop, a later occupant of the building was a printer, from at least 1980 to 1989.

Site 70.6-3. Garage built in 1933, operated as an automobile and brake service shop until at least 1940. A paint store operated at this location from at least 1943 to 1985.

There is a reasonably predictable potential for petroleum contamination to be present at **Site 70.6-1** (low risk to the project). In addition, there is potential for solvents contamination at the two other referenced sites (**Site 70.6-2**, reasonably predictable, low risk to the project; **Site 70.6-3**, substantial contamination, moderate risk to the project).

Block 70.5. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment:

Site 70.5-1, former manufacturing chemist, 1969; generator company, 1975.

Site 70.5-2. Petroleum-contaminated soil was encountered during UST removal; petroleum-contaminated soil was overexcavated. The cleanup appears to be complete (Ecology).

Site 70.5-3, 1938 to 1944, gas station.

Site 70.5-4, 1938 to 1950, gas station.

The potential for gasoline or other petroleum contamination at **Sites 70.5-2, -3, and -4** is considered to be reasonably predictable (low risk to the project). The former manufacturing chemist at **Site 70.5-1** is located on Dexter Avenue N. and is not directly adjacent to Aurora Avenue N. The potential for solvent contamination at that site is considered to be reasonably predictable based on a usage history of less than 20 years (low risk to the project).

Site 70.4-1. The cleaners and laundry operated from the 1930s to at least the 1950s. A dry cleaning UST was noted on the Sanborn map. The site is currently a five-story motel that was constructed in 1959. Dry cleaning fluids, if released, could have migrated into the adjacent right-of-way. The site is considered substantially contaminated and a moderate risk to the project because of the former use of dry cleaning solvents and its proximity to Aurora Avenue N.

Site 70.1-1. A garage operated from 1930 to 1959, when the old building was torn down and the gas station was built. The gasoline station operated from at least 1960 to 1975. There is potential for substantial gasoline and/or petroleum contamination (moderate risk to the project).

Site 70.1-2, 1945 to 1980. There is potential for substantial metals and/or solvents contamination (moderate risk to the project).

Block 70.05. The following is a summary of available information regarding past uses of the properties on this block:

70.05-1, fuel dealer, 1938.

70.05-2, sheet metal works and painting; 1940 to 1950.

70.05-3, electroplating, 1950.

70.05-4, printers, 1956.

Sites 70.05-1, -2, and -4 are considered a low risk to the project because solvent, petroleum, and/or metals contamination, if present, is considered reasonably predictable based on a usage history of less than 20 years. However, there is potential for substantial contamination by metals at **Site 70.05-3** because of the former plating operation (moderate risk to the project).

Site 60.4-1. Auto repair was conducted on the property in the 1930s. The site has not been redeveloped. The property is considered a low risk to the project because petroleum contamination, if present, is considered reasonably predictable.

Site 60.3-1. Dry cleaning solvents (TCE and PCE) have been documented in soil and groundwater at the former dry cleaning facility site now occupied by a hotel, located on Aurora Avenue N., between Harrison Street and Thomas Street. A dry cleaning business operated at the site from 1946 through at least 1951. A gas station also operated at the site during the same period. The site was redeveloped as a three-story motel in 1961.

The following summarized the finding of the Phase II investigation conducted in April 2000:

Subsurface soils consist primarily of clays and silty clays, interbedded with layers of sand and silty sand. Six borings were drilled at the site. SB-1 was located approximately 25 feet west of Aurora Avenue N. and 85 feet south of Harrison Street, near the apparent source.

A hot spot exists at a depth of 12.5 feet below ground surface at location SB-1, where PCE was detected in the soil at a concentration of 13,000 parts per million (ppm). The concentration at a depth of 17.5 feet decreased to 1.2 ppm.

Boring SB-3, located 20 feet east of SB-1 near Aurora Avenue N., and SB-4, located 22 feet north of SB-1, were drilled to 20 feet below ground surface. PCE and TCE were detected in both soil borings at concentrations above MTCA Method A criteria. PCE was detected at 1.5 ppm (SB-3) and 1.3 ppm (SB-4) and TCE was detected at 0.17 ppm (SB-3) and 0.11 ppm (SB-4). The MTCA Method A cleanup level is 0.05 ppm for PCE and 0.03 ppm for TCE.

Two deep borings, SB-1 and SB-6, were drilled to depths of approximately 60 feet and 65 feet below ground surface, respectively. PCE and vinyl chloride were detected in soil samples from these borings. In SB-6, located 72 feet north of SB-4, PCE was detected at 0.47 ppm at a depth of 15 feet below the ground surface and vinyl chloride was detected at 0.15 ppm at a depth of 25 feet below the ground surface. SB-6 is approximately 30 feet south of Harrison Street.

Groundwater was encountered at a depth of 51 feet below ground surface in SB-1, located near the hot spot adjacent to the former building. Groundwater was not encountered in SB-6, located approximately 90 feet north of SB-1. Gasoline (1.5 ppm), PCE (4,100 part per billion [ppb]), TCE (2,600 ppb), and cis-1,2- DCE (1,400 ppb) were detected in the groundwater sample. The MTCA Method A criteria is 5 ppb for both TCE and PCE. The action level for gasoline is 1.0 ppm (Waterstone Environmental Inc. 2000).

Although lower concentrations of solvents were encountered in other soil borings, the borings only extended to depths of 20 to 25 feet below ground surface. The eastern, western, and southern boundaries of the perched groundwater were not established.

Depending upon the concentration of dry cleaning solvents, soil contaminated with these solvents may be classified as dangerous waste. Soil contaminated with low concentrations of solvents will require special procedures for disposal at an approved landfill. However, at the concentrations detected in borings adjacent to Harrison Street, with Ecology approval, the soil may be excluded from disposal as a dangerous waste.

The site is adjacent to the alignment for the Aerial, Tunnel, Bypass Tunnel, and Surface Alternatives. The site is considered a moderate risk to the project because PCE may have migrated into Harrison Street, contaminating soils in the right-of-way.

Site 60.2-1 encompasses the entire block bounded by Thomas and Harrison Streets, Taylor Avenue N., and Sixth Avenue N. Facilities at the site include a control building, shop, pump room, and crane tower, all constructed in 1950. There is a potential for PCBs to be present from this land use (substantial contamination, moderate risk to the project).

Block 60.1. The following is a summary of available information regarding past uses of the properties on this block located west of the alignment (adjacent):

Site 60.1-1. Gasoline and service station, with years of operation from 1958 to 1969. There is a potential for gasoline contamination. The site is considered to be reasonably predictable and a low risk to the project.

Site 60.1-2. Gasoline and service station, with years of operation from 1946 to 1969. There is a potential for gasoline contamination. The site is considered to be reasonably predictable and a low risk to the project.

Site 60.1-3. Office building and shop for heating oil distributor, which operated in 1963. There is a potential for petroleum contamination. The site is considered to be reasonably predictable and a low risk to the project.

Site 60.1-4. Cleaners and dyers, with years of operation from 1929 to 1970. There is a potential for solvents to be present. The site is considered to be substantially contaminated and poses a moderate risk to the project.

Block 50.2. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment (adjacent):

Site 50.2-1, gas station, 1938 to 1943.

Site 50.2-2. Warehouse constructed in 1948; film processing in 1980; currently a print shop.

Site 50.2-3. One of the tenants in a 1924 warehouse was a sign painter (1969). An earlier tenant was an oil company, operating a maintenance shop (1950).

Site 50.2-4. Three USTs: one closed in place and two contain heating fuel (exempt).

There is a potential for petroleum products (**Sites 50.2-1, -3, and -4**) and/or solvents (**Sites 50.2-2 and -3**) to be present from past site uses in this block. The potential for such contamination is reasonably predictable based on a usage history of less than 20 years and the site is considered a low risk to the project.

Site 50.1-1. A former dry cleaner has been identified on Harrison Street, facing Aurora Avenue N. The dry cleaner operated from 1945 through at least 1960. It is currently a parking lot. The site history is similar to that of the hotel. A dry cleaning supplies and laundry dyes business, an auto repair

shop, and a battery factory also operated historically at the site. All of these parcels are currently a parking lot. The City of Seattle currently owns the site.

Because of the former use of dry-cleaning solvents, the site is considered substantially contaminated and poses a moderate risk to the project. No site investigation has been performed, and contaminants, if present, may have migrated into the adjacent rights-of-way.

Remainder of **Block 50.1**. Other properties on this block are located adjacent to the project alignment and pose some risk of contamination. They include the following (map reference numbers, approximate years of operation, if known, and an indication of the types of operation):

Site 50.1-2, 1924 to 1950, dry cleaning supplies, laundry, furniture, upholstery, and spray painting.

Site 50.1-3, 1950 to 1969, auto repair.

Site 50.1-4, 1938 to 1956, battery manufacturer.

There is a reasonably predictable potential for petroleum contamination at **Site 50.1-3** (low risk to the project). There is potential for substantial contamination by solvents at **Site 50.1-2** and for metals at **Site 50.1-4** (moderate risk to the project).

Block 50.05. An auto body works and a repair shop with a paint booth were located in the northeast corner of the block (**Site 50.05-1**). These businesses operated between 1947 and 1962. A gas station historically operated in the southeast corner of the block (**Site 50.05-2**). According to current tax assessor records, the garage is still present; however, most of the block was redeveloped in 1994 for as a professional basketball training facility. The sites on this block are considered a low risk to the project because gasoline and/or solvent contamination, if present, is considered reasonably predictable based on a usage history of less than 20 years.

Site 50.02-1. One of the former uses of a building at the site included auto repairing with oil storage in the basement (1950). The potential for petroleum contamination is reasonably predictable, and the risk to the project is low.

Site 40.4-1. Current buildings at the site include an office building (1963) and a parking and repair garage (1964). The facility has or had tanks, including two 6,000-gallon, five 150-gallon, and one 300-gallon. A natural gas company has been at this location since at least 1951. The potential for petroleum contamination is reasonably predictable, and the risk to the project is low.

Block 40.3. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment (adjacent):

Site 40.3-1. A three-story bank building (built in 1956) with print shop in basement.

Site 40.3-2. Garage constructed in 1957.

The potential for petroleum contamination at the former garage site is reasonably predictable (low risk to the project). There is potential for solvents contamination at **Site 40.3-1** (substantially contaminated). Therefore, it poses a moderate risk for all Build Alternatives.

Block 40.2. The following is a summary of available information regarding past uses of the properties on this block located east of the alignment (adjacent):

Site 40.2-1. Occupants in the building constructed in 1928 include a battery company in 1938, automobile service in 1975, and a plating company from 1975 to the present.

Site 40.2-2. Garage building/warehouse constructed in 1930; businesses have included primarily automobile service, plus printing between 1950 and 1956.

Site 40.2-3. Gasoline station built in 1934 and operated until at least 1951.

Site 40.2-4. Gasoline station built in 1930 and operated until at least 1956.

There is a reasonably predictable potential for gasoline and/or petroleum contamination at the above-listed sites. The sites pose a low risk to the project. In addition, there is potential for substantial contamination by metals and solvents at **Site 40.2-1**. The site poses a moderate risk to the project.

Block 40.1. The entire block has been redeveloped as part of the Sonics Training Facility. Petroleum-contaminated soil was encountered during construction of the facility. Affected soil was excavated and transported to the adjacent Bus Barn site. No assessment or cleanup was conducted. No further information was provided in the Ecology file. Numerous historical businesses operated on the block, including:

Site 40.1-1, 1950, machine shop.

Site 40.1-2. Gasoline station built in 1933 and operated until at least 1951.

Site 40.1-3, 1938 to 1950, auto repair shop.

Site 40.1-4, 1938 to 1960, paint removal company.

Site 40.1-5, 1950, sports facility.

Site 40.1-2 is in the Broad Street right-of-way. **Sites 40.1-1, -2, -3,** and **-5** are considered low to possibly moderate risk to the project because metals, gasoline, petroleum, and/or solvents contamination is reasonably predictable.

Petroleum contamination has been remediated to some degree, but because there was no cleanup report, the risk may be somewhat elevated (moderate). **Site 40.1-4** poses a high risk to the project because of the potential for substantial contamination by solvents.

Block 40.05 would be modified for all of the Build Alternatives for use as a staging area. The following is a summary regarding former site uses:

Site 40.05-1. The entire block was a maintenance, fueling, and storage facility for streetcars, trolleys, and buses from the early 1900s. The facility included a machine shop. Nine USTs were removed in 1990 and three additional USTs were removed in 1996. Approximately 3,000 to 4,000 cy of petroleum-contaminated soil were treated on-site using land farming. It is unclear if land farming was successful and if the soil was reused on site. There is some indication in the Ecology file that additional petroleum-contaminated soil may remain beneath the site. 10,000+ cy of heavy TPH-contaminated soil remains on site (above MTCA A) according to *City of Seattle Site Investigation and Soils Remediation Report, Former Metro Bus Barn Site*, prepared for Seattle Center by SCS Engineers (1991).

Site 40.05-2. A former substation transformer house was located at this site. The building has been removed. PCBs may be present in site soils.

Most of the block, which is part of the former bus repair property is considered a low risk to the project because the potential for solvents, metals, and petroleum contamination is considered reasonably predictable, and petroleum contamination has been substantially remediated. The former substation is considered substantially contaminated because of the potential presence of PCBs in site soils and a high risk to the project.

Block 30.3. The property contains a masonry factory building constructed in 1924 and a vacant lot. Business operations have included commercial sign painting, commercial printing, and a cabinet and sign shop from at least 1975 to 1990. A gas station also operated on this block from 1930 to 1956 (**Site 30.3-4**). The potential for gasoline contamination is reasonably predictable at this site (low risk to the project). The potential for solvent contamination at the other sites from the painting, printing, and cabinetmaking operations is substantial (moderate risk to the project).

Block 30.2. An auto electric and gas station and auto repair operated from 1938 to 1960. The Seattle Department of Transportation currently owns the block. Most of the block is vacant land, with the exception of a building built in 1919 that is leased to a sign company. This property is considered a low risk to the project because petroleum contamination, if present, is considered reasonably predictable.

Block 30.1. Gasoline stations were located along Dexter (**Sites 30.1-1, 30.1-3**). The former laundry/varnish manufacturing (**Site 30.1-2**) was located on Mercer Avenue. The block was initially developed between 1919 and 1930. The gas stations were demolished in the 1940s. A flooring company also operated in 1938 (**Site 30.1-4**). The block has not been redeveloped. The gas station properties are considered a low risk to the project because petroleum contamination, if present, is considered reasonably predictable. The laundry/varnish manufacturing and flooring company sites are considered moderate risk to the project because of potential solvent use (substantially contaminated).

Block 30.05. Two sites of concern have been identified on the block bounded by Roy and Mercer Streets and Aurora Avenue N. and Sixth Avenue N. An oil burner sales and service business operated in 1950 (**Site 30.05-1**). The buildings at the site were constructed between 1941 and 1953. A gas tank was identified in archive files for the lot located adjacent to Sixth Avenue N. (**Site 30.05-2**). A four-story hotel was constructed on that lot in 1999. Both sites are considered a low risk to the project because petroleum contamination, if present, is considered reasonably predictable.

Block 30.01. The following is a summary of available information regarding past uses of the properties on this block located west of the alignment and north of proposed improvements on Mercer Street:

Site 30.01-1. Past operations have included sheet metal works and, later, gasoline engine rebuilding (1950 to 1989). Ecology's records indicate that a decommissioned UST was encountered at the site in 1998.

Concentration of gasoline in the soil was 5,000 mg/kg. There was no indication that petroleum-contaminated soil or the UST were removed.

Site 30.01-2, 1950, a former cabinet shop.

Site 30.01-3, 1928; a gasoline station operated until at least 1951.

There is a reasonably predictable potential for gasoline contamination at **Sites 30.01-1** and **-3**, and for solvents at **Site 30.01-2** based on a usage history of less than 20 years (low risk to the project).

Block 20.2. In 1992, a release was reported to Ecology; there is no recent data. Dry cleaning solvents (PCE, TCE, and vinyl chloride) were detected in groundwater. The highest concentration of PCE was detected at 0.8 mg/L and vinyl chloride was detected at 0.1 mg/L. Gasoline and BTEX were also detected. The depth to groundwater ranges between 7 and 17 feet and the groundwater gradient is toward the east (Eighth Avenue). A monitoring well installed west of the site (upgradient) showed low concentrations of gasoline, diesel, and toluene (Dalton, Olmsted & Fuglevand 1992). There is a low

potential for migration of the contaminants off the site to the west (Aurora Avenue); however, migration of contaminants off the site has been confirmed to the east. The site is considered a moderate risk to the project because of its proximity to this parcel, and its location upgradient of Aurora Avenue N.

Block 20.1. Engine repair businesses operated on the block (**Sites 20.1-1 and 20.1-2**). An auto repair shop is currently operating at **Site 20.1-1**. Buildings on the block date from 1928 to 1937. The most common contaminant associated with auto and engine repair shops is petroleum products. The sites on this block are considered a low risk to the project because petroleum contamination, if present, is considered to be reasonably predictable.

Site 10.1-1. A service garage was built in 1948 that included an auto body shop (1950 to 1956). The potential for petroleum contamination is reasonably predictable (low risk to the project).

Block 10.05. A former sign painting company operated in 1950 (**Site 10.05-1**). A former gas station was operated at the site from 1950 to at least 1969 (**Site 10.05-2**). USTs were identified in Sanborn maps. The site is currently occupied by an auto body repair and painting shop that operates from a building constructed in 1977. There is no record indicating if the USTs were decommissioned or are still in-place. The potential for solvent contamination at the former sign painting company is reasonably predictable based on a usage history of less than 20 years (low risk to the project). The former gas station site is also considered a low risk to the project because petroleum contamination, if present, is considered reasonably predictable.

Site 1.2-1 has one closed-in-place UST (former contents not indicated). The potential for contamination (most likely petroleum) is considered to be reasonably predictable (low risk to the project).

4.1.5 Seawall – S. King Street to Myrtle Edwards Park

As described in the Central and North Waterfront sections, Front Street, now known as First Street, was located adjacent to the original shoreline of Elliott Bay. By 1885, the City created a 120-foot railroad right-of-way 60 feet offshore, extending from King Street to Smith Cove. Within 10 years, the three transcontinental railroads owned most of the waterfront piers, and each operated a separate support facility. Railroad Avenue was a series of planked-over trestles ribbed with parallel railroad tracks. The original Seattle waterfront from S. King Street to Union Street was destroyed in the great Seattle fire of 1889, which consumed 30 city blocks. When rebuilt, piles were used to support piers and the railroad trestles and timber walkways provided access from the piers to land. Many of the piles were likely treated with creosote, a petroleum hydrocarbon. The area between the end of the piers and

land was gradually filled with earth, wood waste, ship ballast, and various other types of refuse.

The present shoreline between S. Washington Street and Madison Street was established between 1901 and 1917 using a Pile-Supported Gravity Seawall. The remainder of the City's seawall improvements was not finished until 1934. As part of the construction of the seawall north of Madison Street, Railroad Avenue was filled and converted from a wood-planked roadway to a paved thoroughfare.

In the early 1900s, the waterfront was characterized by industrial activities, including warehouses and machine shops to support both marine and railroad operations. Transit sheds for a variety of goods, including coal, grain, fish, and dry goods, were located on the piers. Current uses of the piers include a ferry dock, fireboat dock, commercial/retail businesses, the aquarium, and a waterfront park. Fill from construction of I-5 and gravel from a nearby island were used to create the Myrtle Edwards and Elliott Bay parks on the northern waterfront in the early 1960s.

Upland areas adjacent to the seawall are discussed in the Central and North Waterfront sections (Sections 4.1.2 and 4.1.3, respectively). Approximately 34 dry cleaners and 49 gas stations/repair shops were identified in the area. In addition, 23 metalwork operations have also been identified.

Ongoing potential contaminant sources for sediments in the Seattle waterfront include uncontrolled CSOs, storm drains, contaminated groundwater, industrial discharges, unidentified direct discharges, and accidental spills. Storm drains and remaining uncontrolled CSOs are probably the most significant ongoing contaminant sources because they collect and discharge stormwater runoff, thereby transporting contaminants from many of the nonpoint sources in the area. Source control efforts of EPA, Ecology, King County, and the City of Seattle have eliminated most known direct industrial discharges to Elliott Bay and the Duwamish River by routing them to municipal wastewater treatment plants (Polayes-Wien and Turvey 1994).

Studies conducted over the past two decades have identified several chemicals of concern in sediments within the waterfront area (Romberg et al. 1984; EPA 1988; Metro 1988; Tetra Tech, Inc. 1988; Metro 1989; Metro 1993; Hart Crowser 1994; Metro 1994; Norton and Michelson 1995; Aura Nova Consultants, Inc. 1995). For surface sediments, chemicals identified as exceeding applicable Ecology Sediment Cleanup Screening Levels include mercury, silver, lead, zinc, HPAHs, and LPAHs. These studies also noted benzyl alcohol, butyl benzene phthalate, phenol, and benzoic acid in surface sediments. HPAHs and LPAHs are associated with petroleum, coal, and burned wood.

A less extensive database is available for subsurface sediments (Hart Crowser 1994; Norton and Michelson 1995). Chemicals in subsurface sediments identified as exceeding applicable Cleanup Screening Levels include mercury, lead, zinc, copper, HPAHs, LPAHs, and PCBs. The Cleanup Screening Levels exceedances occurred down to sediment depths of 6 to 10 feet. Overall, mercury may be the most widespread chemical of concern in both subsurface and surface sediments within the Seattle waterfront area.

Validated Properties – Seawall

Blocks 230.1, 240.1, 250.1, 260.1, and 270.1. Sediments are known to be contaminated in a widespread area along the waterfront. Compounds exceeding the sediment cleanup screening levels in subsurface sediments include mercury, lead, zinc, copper, HPAHs and LPAHs, and PCBs. Other compounds were also detected above screening levels in surface sediments. Mercury appears to be the most widespread contaminant. Sediments to a depth of 6 to 10 feet below the mudline have contaminant concentrations above screening levels. The proposed project includes over-water work, so the risk of encountering contaminated sediments is considered to be high.

4.2 Physical Environment

The physical environment within the corridor varies significantly from south to north and from the waterfront to the east. The following section presents a description of the physical environment and how it relates to the movement of contaminants in each area.

The subsurface conditions and physical properties of the contaminant, including its density relative to water and how soluble the contaminant is in water, influence the movement of a contaminated material. Contaminants may migrate as a pure liquid or as a dissolved constituent within groundwater. Consequently, understanding groundwater movement is the primary means of assessing potential contaminant migration pathways.

Groundwater flows most readily through coarse-grained soils such as sand and gravel. Groundwater does not flow readily through fine-grained soils such as silt and clay, or through till, which is a mixture of silt, clay, sand, and gravel that is deposited and consolidated by glaciers.

Liquid contaminants on or near the ground surface may move downward through coarse-grained soils. This movement is typically enhanced by infiltration of precipitation or other surface water, which can either physically transport the contaminant or carry it downward in solution. Similarly, a solid contaminant can be mobilized downward into the soil column when it is dissolved in water. A contaminant that moves downward to the shallow

groundwater will then behave differently, depending on its solubility in water and whether it is lighter or heavier than water density:

1. Contaminants that are soluble in groundwater will tend to dissolve and move in the direction of groundwater flow within coarse-grained soils.
2. If the contaminant does not readily dissolve in water and is lighter than water (such as oil and gasoline), the contaminant could float on the surface of the groundwater.
3. If the contaminant does not readily dissolve in water and is heavier than water (such as creosote and some dry-cleaning solvents), the contaminant could sink through the water column, moving downward until it reaches the fine-grained soil that separates shallow groundwater and deep groundwater.

4.2.1 South – S. Spokane Street to S. King Street

Soils in this area are predominately fine-grained, with thin layers of coarse-grained soils scattered throughout the area. Shallow groundwater is first encountered approximately 6 to 8 feet below ground surface. Deep groundwater is encountered in a thin layer of coarse-grained soil that is approximately 200 feet below ground surface in the southern half of the area, and approximately 50 to 150 feet below ground surface in the northern half of the area. The shallow and deep groundwater zones are separated by fine-grained soils, which do not allow the shallow and deep groundwater to readily interact. Below the deep groundwater zone are fine-grained soils and till. The direction of groundwater flow is predominately toward Elliott Bay.

4.2.2 Central – S. King Street to Battery Street Tunnel

Both fine-grained and coarse-grained soils are found in this area. Shallow groundwater is first encountered approximately 8 to 12 feet below ground surface along the waterfront. To the east toward the BST, the ground surface slopes upward; therefore, groundwater is first encountered at a greater depth. Deep groundwater is encountered in areas of coarse-grained soils down to a depth of greater than 250 feet. In some places, shallow and deep groundwater are separated by a thin layer of fine-grained soils. However, in other places, the layer of fine-grained soil is absent, allowing the shallow and deep groundwater to interact. The direction of groundwater flow is predominately toward Elliott Bay.

East of the waterfront, heading up the hill, till and fine-grained soils are encountered at the ground surface. These soils will minimize the amount of precipitation infiltrating into the ground surface; consequently, contaminants will generally not move downward through the ground.

4.2.3 North Waterfront – Pike Street to Myrtle Edwards Park

Both fine-grained and coarse-grained soils are found in this area. Shallow groundwater is first encountered approximately 8 to 12 feet below ground surface along the waterfront. To the east toward the BST, the ground surface slopes upward; therefore, groundwater is first encountered at a greater depth. Deep groundwater is encountered in areas of coarse-grained soils, to a depth of greater than 250 feet. In some places, a thin layer of fine-grained soils separates shallow and deep groundwater. However, in other places, the layer of fine-grained soil is absent, allowing the shallow and deep groundwater to interact. The direction of groundwater flow is predominately toward Elliott Bay.

4.2.4 North – Battery Street Tunnel to Ward Street

Fine-grained, coarse-grained, and till soils are found in this area. Till or fine-grained soils are often found at ground surface or at shallow depths below ground surface. The exception is near the top of the hill, where coarse-grained soils are encountered near ground surface. Shallow groundwater is encountered infrequently, and when encountered, is found as small zones perched on top of fine-grained soils.

The depth to groundwater is a function of ground surface elevation and the presence of perched water-bearing zones. At the north end of the Battery Street Tunnel, the regional water table is generally between 100 and 135 feet below ground surface. To the north, the regional water table is shallower as the ground surface dips downward toward Lake Union. Deeper groundwater zones are found up to 250 feet below ground surface. These different zones of deep groundwater are separated in some places by layers of fine-grained soil, while in some areas where the fine-grained soil is absent, the deep zones of groundwater interact. In the western half of the area, the direction of groundwater flow is predominately toward Elliott Bay. In the north half of the area, groundwater may flow toward Lake Union.

4.2.5 Seawall – S. King Street to Myrtle Edwards Park

Fine-grained and coarse-grained sediment and till soils are found in this area. Fill consisting of a wide variety of materials was placed along the entire waterfront and ranges in thickness from a few feet to 40 feet. Up to 120 feet of fill was placed under the piers. Fine-grained organic rich sediments are found at the mudline. Till or till-like material is encountered for 10 to 60 feet below the mudline beginning at Pike Street and extending south. North of Pike Street, the fill and beach deposits are underlain by sand and gravel.

In general, it is anticipated that groundwater discharge to Elliott Bay is dispersed along the length of the waterfront. The specific discharge along any section of the waterfront is a function of the hydraulic properties of the soil and the seawall. Shallow groundwater could flow through, under, or around the existing seawall. Groundwater studies completed for the project indicate that the Type A and Type B Seawall generally have a low permeability based on the results of the tidal surveys and on observations during excavation of test pits as part of the seawall evaluation. Therefore, most of the shallow groundwater flows around and under the areas where the Type A and Type B Seawall is present. The Pile-Supported Gravity Wall and reinforced sidewalk portions of the seawall are assumed to be highly permeable with groundwater flowing through the seawall based on the design and on the significant fluctuations in groundwater in response to tides observed in monitoring well EB-10A. In areas where groundwater flows beneath the seawall in the deeper, glacially overridden soils, discharge to Elliott Bay is a function of the hydraulic properties of the soil and the position of the saltwater interface.

4.3 Field Data

In addition to land use and the physical environment, limited environmental testing data is available from field explorations performed to support preliminary engineering design for the project. A total of 37 soil borings and groundwater monitoring wells and 10 in-water borings were distributed within the study area, with a higher density of explorations along the waterfront (Exhibit 3-1). Groundwater monitoring wells were installed to evaluate groundwater conditions in both shallow and deep water-bearing units. Two 5-day pumping tests were completed in deep coarse-grained soils to evaluate the groundwater system. Soil, groundwater, and sediment samples were tested for a broad range of potential contaminants. Findings are discussed below in the relevant areas.

4.3.1 South – S. Spokane Street to S. King Street

Contaminated soil was encountered in only one of the five borings (B-15) drilled along the south portion of the segment for the preliminary engineering study for this project (see Exhibit 3-1). Low levels of semivolatile compounds, fluoranthene, and pyrene were detected. These compounds are typically associated with burned fuel and/or coal. Metals concentrations were detected at background concentrations. Acetone (120 micrograms per liter [$\mu\text{g/L}$]) and 2-butanone (22 $\mu\text{g/L}$) were detected in a groundwater monitoring well screened at a depth of 160 feet below the ground surface. 2-butanone is a soluble constituent of gasoline. Acetone is a common solvent used for cleaning and for cleaning laboratory glassware, and may be a laboratory

contaminant. A low concentration of p-isopropyltoluene (7 µg/L), a compound found in gasoline, was detected in a shallow groundwater monitoring well installed at the north end of Terminal 30. Diesel contamination (400 µg/L) was detected in the shallow groundwater monitoring well installed east of Terminal 46.

4.3.2 Central – S. King Street to Battery Street Tunnel

The results from the limited soil and groundwater sampling performed for conceptual engineering support the historical information. Five well pairs were drilled along the waterfront in this area. Based on the boring data, fill soils and shallow groundwater appears to be contaminated with low levels of petroleum. Lube oil was identified in many of the borings in the upper 20 feet of soil. Low levels of weathered gasoline were also detected in soil from one boring. Creosote odor was encountered in many of the borings, suggesting the borings were drilled close to treated timbers. Although elevated concentrations of lead were detected in a few soil samples, the concentrations were below the dangerous waste criterion. The widespread low level of petroleum- and creosote-related contamination detected in soil is most likely the result of the numerous local sources of contamination (i.e., treated timbers and numerous small releases/drips from the railroad).

Well screens were placed to monitor both shallow and deep groundwater for the engineering study. Low levels of gasoline and diesel (less than 0.5 ppm) were identified in one of the shallow groundwater samples, and constituents associated with petroleum and creosote were identified in two of the five shallow wells. Benzene (5 µg/L) and naphthalene 24 (µg/L), VOCs associated with gasoline, were detected in one groundwater sample from a 50-foot-deep well. VOCs were not detected in the shallow groundwater sample from this location, indicating that the contaminant most likely moved at depth from an upgradient source. A low concentration of 2-butanone, a VOC, was detected in one groundwater sample and is likely an artifact of sampling or a laboratory contaminant.

4.3.3 North Waterfront – Pike Street to Myrtle Edwards Park

Four boring/monitoring well pairs were installed along the waterfront. Low levels of gasoline- and diesel-range hydrocarbons or lube oil were detected in soil samples from all of the borings, spaced at intervals of approximately 800 to 1,000 feet. Gasoline- and diesel-range hydrocarbons were detected in three of the four shallow groundwater samples. Low levels of petroleum- and creosote-related compounds were also detected in soil and groundwater samples from three of the four borings/wells.

4.3.4 North – Battery Street Tunnel to Ward Street

Five borings were drilled in this area between Pike Street and Denny Way. Limited soil sampling was performed. No contaminants were detected in the borings that were sampled. Acetone (600 µg/L) and 2-butanone (390 µg/L), VOCs, were detected in a groundwater sample collected from a deep groundwater sample and may be an artifact of sampling or a laboratory contaminant.

4.3.5 Seawall – S. King Street to Myrtle Edwards Park

Surface sediment samples were collected from stations distributed between Piers 48 to 70 as part of the engineering study during March and April 2002. Data from chemical analysis of these sediments were compared to sediment quality chemical criteria (Department of Ecology, Sediment Management Standards [SMS] August 2001). Chemicals repeatedly identified as exceeding criteria levels included copper, lead, mercury, silver, zinc, individual HPAH compounds, individual LPAH compounds, and PCBs. Other compounds repeatedly exceeding criteria included 1,3-dichlorobenzene, 2,4-dimethylphenol, 2-methylphenol, benzoic acid, benzyl alcohol, bis(2-ethylhexyl)phthalate, dibenzofuran, hexachlorobenzene, hexachlorobutadiene, n-nitrosodiphenylamine, pentachlorophenol, and sulfides. However, in many cases, these compounds were reported as non-detected and it was the detection limit that exceeded the corresponding criteria limit.

Overall, mercury and sulfide are the contaminants that most frequently exceeded SMS criteria. Mercury and sulfide also exceed the Sediment Quality Screening (SQS) level at 8 of 10 and 9 of 10 borings, respectively. Lead and fluoranthene (a PAH) were the next most pervasive chemicals with SMS exceedances at 5 of 10 borings for both chemicals. Boring SB-10, located at Pier 48, had the most chemicals whose levels exceeded the SQS criteria, a total of 21. Sediment from boring SB-1 at south Myrtle Edwards Park had the least number of criteria exceedances, with only two chemicals measuring higher than the SQS, one of which was due to a detection limit that was higher than the SQS criterion.

While historical chemical data for surface sediments along the Seattle waterfront does not include all the chemicals analyzed in this study, those for which there was data available appear to be consistent with the data collected most recently. In both the current and historical data, mercury appears to exceed the SQS at the most sample locations. Similarly, elevated levels of silver, lead, zinc, and several organic chemicals were detected along the Seattle waterfront in both historical and current analyses.

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Chapter 5 OPERATION IMPACTS

The proposed Alaskan Way Viaduct Corridor extends northward along the downtown Seattle waterfront from approximately S. Spokane Street. The corridor turns northeast at Battery Street and extends to approximately Ward Street along the existing SR 99 alignment. The seawall replacement project extends from approximately S. Washington Street to approximately Myrtle Edwards Park along the waterfront. The following alternatives are being considered for the project:

- No Build Alternative
- Rebuild Alternative
- Aerial Alternative
- Tunnel Alternative
- Bypass Tunnel Alternative
- Surface Alternative

Some elements of each of these alternatives are common to other alternatives (except for the No Build Alternative). For example, regardless of which alternative is selected, the project will include repair/replacement of the existing Alaskan Way Seawall.

For the purpose of this discussion, the corridor has been divided into five study areas that have similar elements for that area of the corridor. These study areas, from south to north, are as follows:

- South – S. Spokane Street to S. King Street.
- Central – S. King Street to the Battery Street Tunnel.
- North Waterfront – Pike Street to Myrtle Edwards Park.
- North – Battery Street Tunnel to Ward Street.
- Seawall – S. King Street to Myrtle Edwards Park.

The operation impacts associated with each of the study areas are described in the following subsections.

5.1 No Build Alternative – Alaskan Way Viaduct and Seawall Replacement Project

5.1.1 Scenario 1 – Continued Operation of the Viaduct and/or Seawall with Continued Maintenance

Under Scenario 1, the viaduct and seawall will continue to operate, and maintenance will occur as needed. At some point in the future, the facilities

would be replaced. Scenario 1 does not include earthwork or property acquisition or building modifications.

The Alaskan Way Viaduct will continue as a major transportation route for the City of Seattle. Under the No Build Alternative, operational impacts associated with the continued use will include impacts primarily associated with runoff of contaminants entrained in stormwater. Contaminants likely to be in stormwater include fuel and lubricants, compounds from tires and brakes, and automobile engine coolants such as ethylene glycol. Other operation impacts would include potential catastrophic spills of hazardous material or wastes resulting from vehicle accidents.

In addition, the existing coarse backfill surrounding underground utilities along the viaduct may continue to act as preferential pathways for contaminant migration. Where the backfill is saturated, contaminants in solution or as free product can move more easily and can travel farther along utility corridors than through most adjoining soils. As a result, there is a greater potential for contaminants to impact properties at some distance from the source of contamination.

The existing Type A and Type B Seawalls act as a barrier to groundwater flow, forcing groundwater to flow around the end of the seawall before it discharges to Elliott Bay. Contaminants, if present in the groundwater, would follow these pathways and could impact a larger area of the waterfront than if the groundwater traveled directly downgradient to Elliott Bay.

5.1.2 Scenario 2 – Sudden Unplanned Loss of the Viaduct and/or Seawall but without Major Collapse or Injury

Under this scenario, there will be a sudden unplanned loss of the facilities, but without major collapse or injury. It is assumed that the damaged area of the viaduct and/or seawall will be repaired, with eventual replacement of the facilities.

Operation impacts associated with runoff of contaminants entrained in stormwater will be eliminated because the viaduct will no longer be used as a transportation route. Traffic will be diverted to alternative roads so there will be an increased likelihood that storm water from these roads would be adversely affected.

The existing coarse backfill surrounding underground utilities along the viaduct may continue to act as preferential pathways for contaminant migration even though the facility will not be functional. Where the backfill is saturated, contaminants in solution or as free product can move more easily and can travel farther along utility corridors than through most adjoining

soils. As a result, there is a greater potential for contaminants to impact properties at some distance from the source of contamination.

Total failure of either the Type A or Type B Seawall north of Madison Street would likely occur in some locations, making replacement and/or reconstruction likely. Contaminated soil currently retained by the seawall could move to Elliott Bay. Contaminants identified in the soil, particularly petroleum, PAHs, and/or metals, may be detrimental to marine life. In addition, contaminated sediments in Elliott Bay could be disturbed under local failure of the seawall, adversely impacting water quality. Please see Appendix S, Water Resources Discipline Report for a discussion of impacts from resuspended sediment.

The existing Type A and Type B Seawalls act as a barrier to groundwater flow, forcing groundwater to flow around the end of the seawall before it discharges to Elliott Bay. Contaminants, if present in the groundwater, would follow these pathways and could impact a larger area of the waterfront than if the groundwater traveled directly downgradient to Elliott Bay.

5.1.3 Scenario 3 – Catastrophic Failure and Collapse of the Viaduct and/or Seawall

Under this scenario, there will be a catastrophic failure or collapse of the viaduct and/or seawall. Operation impacts associated with runoff of contaminants entrained in stormwater will be eliminated because the viaduct will no longer be used as a transportation route. Traffic will be diverted to alternative roads so there will be an increased likelihood that stormwater from these roads would be adversely affected.

The existing coarse backfill surrounding underground utilities along the viaduct may continue to act as preferential pathways for contaminant migration even though the facility will not be functional. Where the backfill is saturated, contaminants in solution or as free product can move more easily and can travel farther along utility corridors than through most adjoining soils. As a result, there is a greater potential for contaminants to impact properties at some distance from the source of contamination.

If the viaduct collapsed, the resultant ground movement could result in the rupturing of underground storage tanks. The product would then leak into the adjacent ground and could migrate toward Elliott Bay or along preferential pathways such as the coarse backfill surrounding underground utilities.

If the viaduct were to collapse, buildings and structures could be affected and contaminants could be released into the environment. Liquid chemicals that are contained on site could be released into site soils. Fugitive dust from the

collapse of the buildings could contain lead or asbestos and could be released into the air.

If the existing Type A and Type B Seawalls (which act as a barrier to groundwater flow) collapsed, contaminants, if present in the groundwater, would travel directly downgradient to Elliott Bay, impacting a smaller area than would be affected if the seawall remained in place.

Contaminated soil currently retained by the seawall could move to Elliott Bay. Contaminants identified in the soil, particularly petroleum and PAHs, may be detrimental to marine life. In addition, contaminated sediments in Elliott Bay will be disturbed under a catastrophic failure of the seawall, adversely impacting water quality. Please see Appendix S, Water Resources Discipline Report for a discussion of impacts from resuspended sediment.

5.2 Rebuild Alternative

Operation impacts of all of the alternatives include impacts primarily associated with runoff of contaminants entrained in stormwater. Contaminants likely to be in stormwater include fuel and lubricants, compounds from tires and brakes, and automobile engine coolants such as ethylene glycol. Other operation impacts include potential catastrophic spills of hazardous material or wastes resulting from vehicle accidents.

Hazard identification codes must be displayed on all vehicles transporting pressurized, flammable, oxidizing, toxic, radioactive, and/or corrosive materials. A hazardous material spill and/or fire from a vehicle accident could result in hazardous conditions within the corridor. These impacts could be greater in the Tunnel and Bypass Tunnel Alternatives:

- The atmosphere could become toxic with either chemical fumes or smoke.
- The spill or fire could result in physical hazards to people within the tunnel and/or tunnel structure.
- The spill or fire could limit egress for occupants of vehicles in the tunnel.
- Emergency response vehicles could have limited access.

The coarse backfill surrounding subsurface utility corridors may act as preferential pathways for contaminant migration. Contaminants can move easily and can travel long distances along utility corridors as dissolved compounds in shallow groundwater or as free product. As a result, contaminants can affect properties at some distance from the original source of contamination.

The seawall will act as a barrier to groundwater flow to a greater extent than under the No Build Alternative because a larger area will have ground improvement that results in lowering the permeability. Groundwater will flow around the end of the seawall before discharging to Elliott Bay. Contaminants, if present in the groundwater, would follow that pathway and could result in widespread soil and groundwater contamination along that pathway.

A potential benefit of the Rebuild Alternative is the removal of contaminated soil that may be present along the alignment. Removal of contaminated soil would reduce future groundwater contamination in the area, if present, and could reduce potential exposure to workers that may have future excavation projects in the area.

5.3 Aerial Alternative

Operation impacts and benefits of the Aerial Alternative are similar to those for the Rebuild Alternative. Please refer to the Rebuild Alternative for a discussion of operational impacts and benefits.

5.4 Tunnel Alternative

Operation impacts and benefits for the Tunnel Alternative have many similarities to those for the Rebuild Alternative. However, stormwater runoff will be substantially less than for the Rebuild, Aerial, or Surface Alternatives. The stormwater removed from the tunnel will pass through an oil/water separator prior to discharge. Please see Appendix S, Water Resources Discipline Report for a discussion of stormwater treatment. Please refer to the Rebuild Alternative for additional discussion of operational impacts and benefits.

A potential benefit of the Tunnel Alternative is the large-scale removal of contaminated soil that may be present along the alignment. Although many of the contaminants identified along the waterfront (creosote, lubricating oil, heavy oil, and metals) are not highly soluble, removal of contaminated soil would reduce future groundwater contamination in the area, if present. In addition, most of the utilities will be installed above the tunnel in areas of clean backfill. Workers servicing the utilities will not be exposed to contaminated soil and air-borne contaminants from the contaminated soil.

5.5 Bypass Tunnel Alternative

Operation impacts and benefits for the Bypass Tunnel Alternative have many similarities to those for the Rebuild Alternative. However, stormwater runoff

will be substantially less than for the Rebuild, Aerial, or Surface Alternatives. What stormwater there is in the tunnel will be removed and pass through an oil/water separator prior to discharge. Please see Appendix S, Water Resources Discipline Report for a discussion of stormwater treatment. Potential impacts from a hazardous material spill and/or fire would be greater because this alternative would include substantially more enclosed space with limited access and egress (the Battery Street Tunnel and the waterfront tunnel). Please refer to the Rebuild Alternative for additional discussion of operational impacts and benefits.

5.6 Surface Alternative

Operation impacts and benefits for the Surface Alternative have many similarities to those for the Rebuild Alternative. Please refer to the Rebuild Alternative for a discussion of operational impacts and benefits.

Chapter 6 CONSTRUCTION IMPACTS

All of the Build Alternatives follow a similar route from approximately S. Spokane Street extending to the north waterfront. The impacts from construction are similar for all the Build Alternatives, as discussed below. Construction impacts could arise if contaminated soil and/or groundwater was encountered during construction activities (e.g., drilled shafts and piles, deep soil mixing or jet grouting, excavation for retaining walls, stormwater detention vaults, and relocating utilities). Construction impacts are likely to occur where these activities are required on sites that have been identified as potentially contaminated, based on the evaluation presented in the discussion of the Affected Environment (Chapter 4). In addition to these sites, the alignment from S. Spokane Street to the north waterfront is underlain by fill that consists of soil and debris from unknown sources. Construction throughout this area could encounter contaminants such as petroleum, metals, and PAHs in the fill soils, as well as creosote-treated timbers and wood debris.

A summary of the volume of soil that will be removed during construction of each of the alternatives is presented in Exhibit 6-1 and described below for each project area from south to north. These volumes were estimated based on design parameters for each alternative and are estimated to be within 30 percent of actual volumes. A summary of the volumes of the materials to be removed that are potentially contaminated is presented in Exhibit 6-2 for each Build Alternative. The quantities are estimates based on the depth of fill, all of which is assumed to be contaminated. All of the existing rail ballast, ties, and obstructions that will be removed are also assumed to be contaminated. Included in these estimates are one half of the pavement, surface structures, and obstructions, which will require special handling because of the presence of brick and asphalt mixed with the concrete.

Construction activities for each of the Build Alternatives will result in several types of impacts related to hazardous materials:

- Large volumes of spoils containing contaminated soil and debris will be removed from the subsurface.
- Contaminated groundwater could be extracted as a by-product of construction techniques to improve ground conditions.
- Slurries formed to aid in construction techniques could become contaminated by contact with contaminated soil or groundwater.
- Air quality could be affected by release of contaminants and dust during construction and handling of contaminated media.

- Groundwater pathways could be modified due to subsurface construction or dewatering, resulting in the spread of existing contaminants.
- Contaminated sediment could be disturbed during replacement of the seawall and in-water work at the Colman Curve.
- Hazardous building materials (primarily asbestos and lead-based paint) could be released to the environment as a result of demolition or modification of buildings and structures.
- Contaminated media (soil or sediment) could be released into the environment from the collapse of the viaduct or seawall during construction or operation activities.

Construction methods that will involve direct soil removal include excavation for retaining walls, changes in grade, utilities and vaults, and cut-and-cover tunnels. Similarly, the use of drilled shafts for construction of piles and diaphragm walls will result in large volumes of spoils that will have to be handled and properly disposed. Soil improvement techniques that will be employed in construction of each of the Build Alternatives will also generate large volumes of spoils and groundwater. Jet grouting operations, which inject cement grout to strengthen the subsurface soils, typically produce spoil volumes equal to about 30 to 50 percent of the volume of soil treated. This spoil material will consist of a blend of eroded soil and cement grout that is flushed to the ground surface during grouting. Deep soil mixing, which involves in situ mechanical mixing of soil and cement, will produce spoil volumes equal to about 25 to 30 percent of the volume of soil treated. The spoils from this method will consist of blended soil and cement with the consistency of thick mud.

6.1 Applicable Federal, State, and Local Regulations

Numerous federal, state, and local regulations and policies govern decisions concerning hazardous materials and hazardous waste potential and liability issues. Federal law and regulations relating to hazardous materials and wastes that affect the project include the following:

- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** — CERCLA and the Superfund Amendments and Reauthorization Act (SARA) define liability for hazardous waste contamination and require liable parties to take responsibility for cleanup. This relates to acquisition of previously contaminated properties for use as part of the project. The purpose of this discipline report is, in part, to address liability issues relating to identification of, and acquisitions of, previously contaminated property.

Exhibit 6-1. Estimate of Cut Quantities

PLAN	LOCATION	EXCAVATION										Total Exc (CY)
		Clear Exist. Rail Ballast, Ties Obstructions (CY)	Clear Exist. Pavement Structures, Obstructions (CY)	Retained Cut (CY)	Cut & Cover Tunnel Exc (CY)	Diaphragm Walls Exc (CY)	Piling & Drilled Shafts Exc (CY)	Deep Soil Mix Spoil (CY)	Jet Grout Spoil (CY)	Site Exc (CY)	Structural Exc (CY)	
REBUILD	SOUTH	57,296	167,352	0	0	0	28,000	30,000	0	0	20,000	302,648
	CENTRAL	13,889	78,555	0	0	0	86,500	0	0	25,800	38,400	243,144
	NORTH WATERFRONT	7,639	23,296	0	0	0	0	0	0	0	0	30,935
	NORTH SEAWALL	0	0	0	0	0	0	0	0	0	0	0
	SEAWALL	0	0	0	0	0	61,400	0	50,000	107,000	0	218,400
	TOTALS:	78,824	269,203	0	0	0	175,900	30,000	50,000	132,800	58,400	795,000
AERIAL	SOUTH	55,556	161,889	0	0	0	42,200	37,600	0	0	44,400	341,644
	CENTRAL	13,900	86,370	0	0	0	76,000	11,400	0	0	0	187,670
	NORTH WATERFRONT	7,600	23,296	0	0	0	0	0	0	0	0	30,896
	NORTH SEAWALL	0	12,400	19,800	0	5,600	0	0	0	0	2,000	39,800
	SEAWALL	0	0	0	0	0	63,000	0	49,600	96,000	0	208,600
	TOTALS:	77,056	283,956	19,800	0	5,600	181,200	49,000	49,600	96,000	46,400	809,000
TUNNEL	SOUTH	57,300	96,244	73,900	102,000	10,000	20,400	30,000	0	0	23,400	413,244
	CENTRAL	13,900	61,259	27,100	1,410,000	106,000	7,100	0	0	9,700	47,000	1,682,059
	NORTH WATERFRONT	8,600	23,296	0	0	0	0	0	0	0	0	31,896
	NORTH SEAWALL	0	12,356	19,800	0	5,600	0	0	0	0	2,000	39,756
	SEAWALL	0	0	0	0	0	37,000	0	25,000	60,600	0	122,600
	TOTALS:	79,800	193,156	120,800	1,512,000	121,600	64,500	30,000	25,000	70,300	72,400	2,290,000
BYPASS TUNNEL	SOUTH	57,300	161,037	44,300	33,300	4,300	19,000	30,000	0	0	47,700	396,937
	CENTRAL	13,900	75,074	17,600	617,000	54,700	20,800	0	0	6,900	44,252	850,226
	NORTH WATERFRONT	8,600	23,296	0	0	0	0	0	0	0	0	31,896
	NORTH SEAWALL	0	12,400	19,800	0	5,600	0	0	0	0	2,300	40,100
	SEAWALL	0	0	0	0	0	37,000	0	29,400	73,500	0	139,900
	TOTALS:	79,800	271,807	81,700	650,300	64,600	76,800	30,000	29,400	80,400	94,252	1,459,000
SURFACE	SOUTH	66,700	154,889	0	0	0	13,700	30,000	0	0	42,500	307,789
	CENTRAL	13,900	79,137	0	0	0	16,000	0	0	22,900	900	132,837
	NORTH WATERFRONT	8,600	23,296	0	0	0	0	0	0	0	0	31,896
	NORTH SEAWALL	0	12,400	19,800	0	5,600	0	0	0	0	2,300	40,100
	SEAWALL	0	0	0	0	0	63,000	0	50,000	115,000	0	228,000
	TOTALS:	89,200	269,722	19,800	0	5,600	92,700	30,000	50,000	137,900	45,700	741,000

Exhibit 6-1. Estimate of Cut Quantities (continued)

PLAN	LOCATION	EXCAVATION										Total Exc (CY)
		Clear Exist. Rail Ballast, Ties Obstructions (CY)	Clear Exist. Pavement Structures, Obstructions (CY)	Retained Cut (CY)	Cut & Cover Tunnel Exc (CY)	Diaphragm Walls Exc (CY)	Piling & Drilled Shafts Exc (CY)	Deep Soil Mix Spoil (CY)	Jet Grout Spoil (CY)	Site Exc (CY)	Structural Exc (CY)	
AERIAL (OPTION)	SOUTH	55,556	161,889	0	0	0	42,200	37,600	0	0	44,400	341,645
	CENTRAL	13,900	86,370	0	0	0	76,000	11,400	0	0	0	187,670
	NORTH WATERFRONT	7,600	23,296	0	0	0	0	0	0	0	0	30,896
	NORTH SEAWALL	0	12,400	290,000	0	0	0	0	0	0	2,000	304,400
	SEAWALL	0	0	0	0	0	63,000	0	49,600	96,000	0	208,600
TOTALS:		77,056	283,955	290,000	0	0	181,200	49,000	49,600	96,000	46,400	1,073,211

NOTES:

1. For the purposes of this estimate, quantities have been calculated for the cut and fill items noted. Actual import and export quantities may be less than those indicated as portions of these materials may be stored on-site and re-used. Quantities do not include on-site grading and backfilling quantities for roadway finish grading, utility trenching and backfilling.
2. Clear Exist. Rail Ballast, Ties & Obstructions: Estimated quantity to clear existing rail yard & waterfront trolley ballast & ties. Assumed depth equal to 2'-6".
3. Clear Exist. Pavement, Structures & Obstructions: Estimated quantity to clear existing roadway pavement, misc. structures. Assumed depth equal to 2'-0". Viaduct footings will be removed to full depth and the volumes for these existing footings are included within the excavation quantities.
4. Retained Cut: Estimated excavation volume to construct roadway retained cuts. (boat sections)
5. Tunnel Excavation: Estimated excavation volume for tunnel excavation from the existing ground surface to bottom of tunnel excavation, excluding diaphragm wall excavation.
6. Diaphragm Walls Exc: Estimated excavation volume from secant pile and / or slurry wall diaphragm walls.
7. Piling & Drilled Shaft Exc: Estimated excavation volumes from drilled shafts and spoils from pipe piling.
8. Deep Soil Mix Spoil: Estimated spoil from Deep Soil Mix used for ground improvement. Quantity calculated is based upon an assumed DSM volume equal to 35 % of the total ground improvement mass with 30% spoils return to the surface. Quantity of soils from SDM spoils is estimated at 20% of spoils volume.
9. Jet Grout Spoil: Estimated spoil from Jet Grout operations use for the Seawall. Quantity calculated is based upon an assumed volume equal to 45 % of the improved soil mass. Soil volume is estimated at 20% of spoil volume.
10. Site Excavation: Estimated quantity of general site excavation, not otherwise classified.
11. Structural Excavation: Estimated excavation quantity of excavation for structures, pile caps, large utility vaults, etc.
12. Retained Fill: Estimated fill volume to construct roadway retained fills (Max Height = 15'-0").
13. RR Ballast & Roadway Base: Estimated quantity for rail ballast, waterfront trolley and new roadway base material. Quantity assumed equal to the clearance volumes of

Exhibit 6-2. Estimated Quantities of Contaminated Material

PLAN	LOCATION	Depth (FT)	Retained Cut (CY)	Cut & Cover Tunnel Exc (CY)	Diaphragm Walls Exc (CY)	Piling & Drilled Shafts Exc (CY)	Deep Soil Mix Spoil (CY)	Jet Grout Spoil (CY)	Site Exc (CY)	Structural Exc (CY)	Total Exc (CY)
REBUILD	SOUTH	15	0	0	0	2,800	7,500	0	0	10,000	161,272
	CENTRAL	20	0	0	0	10,380	0	0	7,888	593	72,027
	NORTH WATERFRONT		0	0	0	0	0	0	0	0	19,287
	NORTH	25	0	0	0	0	0	0	0	0	0
	SEAWALL	25	0	0	0	9,470	0	18,960	35,667	0	64,097
	TOTALS:			0	0	0	22,650	7,500	18,960	43,555	10,593
AERIAL	SOUTH	15	0	0	0	4,750	7,262	0	0	22,200	170,712
	CENTRAL	20	0	0	0	8,450	684	0	0	0	66,219
	NORTH WATERFRONT		0	0	0	0	0	0	0	0	19,248
	NORTH	25	19,800	0	5,600	0	0	0	0	2,000	33,600
	SEAWALL	25	0	0	0	9,465	0	18,910	34,560	0	62,935
	TOTALS:			19,800	0	5,600	22,665	7,946	18,910	34,560	24,200
TUNNEL	SOUTH	15	58,342	34,000	2,500	2,040	4,040	0	0	12,760	219,104
	CENTRAL	20	14,111	282,000	16,960	1,065	0	0	4,656	8,000	371,322
	NORTH WATERFRONT		0	0	0	0	0	0	0	0	20,248
	NORTH	25	19,800	0	5,600	0	0	0	0	2,000	33,578
	SEAWALL	25	0	0	0	5,180	0	2,125	20,200	0	27,505
	TOTALS:			92,253	316,000	25,060	8,285	4,040	2,125	24,856	22,760
BYPASS TU	SOUTH	15	38,140	12,488	1,433	1,900	4,040	0	0	47,700	243,519
	CENTRAL	20	8,800	130,620	9,680	2,780	0	0	3,220	17,701	224,238
	NORTH WATERFRONT		0	0	0	0	0	0	0	0	20,248
	NORTH	25	19,800	0	5,600	0	0	0	0	2,300	33,900
	SEAWALL	25	0	0	0	5,180	0	1,999	24,500	0	31,679
	TOTALS:			66,740	143,108	16,713	9,860	4,040	1,999	27,720	67,701
SURFACE	SOUTH	15	0	0	0	2,020	4,040	0	0	17,500	167,704
	CENTRAL	20	0	0	0	1,920	0	0	7,415	30	62,833
	NORTH WATERFRONT		0	0	0	0	0	0	0	0	20,248
	NORTH	25	19,800	0	5,600	0	0	0	0	2,300	33,900
	SEAWALL	25	0	0	0	9,465	0	18,960	38,333	0	66,758
	TOTALS:			19,800	0	5,600	13,405	4,040	18,960	45,748	19,830

Exhibit 6-2. Estimated Quantities of Contaminated Material (continued)

1. For the purposes of this estimate, quantities have been calculated for the cut and fill items noted. Actual import and export quantities may be less than those indicated as portions of these materials may be stored on-site and re-used. Quantities do not include on-site grading and backfilling quantities for roadway finish grading, utility trenching and backfilling.
2. Clear Exist. Rail Ballast, Ties & Obstructions: Estimated quantity to clear existing rail yard & waterfront trolley ballast & ties. Assumed depth equal to 2'-6".
3. Clear Exist. Pavement, Structures & Obstructions: Estimated quantity to clear existing roadway pavement, misc. structures. Assumed depth equal to 2'-0". Viaduct footings will be removed to full depth and the volumes for these existing footings are included within the excavation quantities.
4. Retained Cut: Estimated excavation volume to construct roadway retained cuts. (boat sections)
5. Tunnel Excavation: Estimated excavation volume for tunnel excavation from the existing ground surface to bottom of tunnel excavation, excluding diaphragm wall excavation.
6. Diaphragm Walls Exc: Estimated excavation volume from secant pile and / or slurry wall diaphragm walls.
7. Piling & Drilled Shaft Exc: Estimated excavation volumes from drilled shafts and spoils from pipe piling.
8. Deep Soil Mix Spoil: Estimated spoil from Deep Soil Mix used for ground improvement. Quantity calculated is based upon an assumed DSM volume equal to 35% of the total ground improvement mass with 30% spoils return to the surface. Quantity of soils from SDM spoils is estimated at 20% of spoils volume.
9. Jet Grout Spoil: Estimated spoil from Jet Grout operations use for the Seawall. Quantity calculated is based upon an assumed volume equal to 45% of the improved soil mass. Soil volume is estimated at 20% of spoil volume.
10. Site Excavation: Estimated quantity of general site excavation, not otherwise classified.
11. Structural Excavation: Estimated excavation quantity of excavation for structures, pile caps, large utility vaults, etc.
12. Retained Fill: Estimated fill volume to construct roadway retained fills (Max Height = 15'-0").
13. RR Ballast & Roadway Base: Estimated quantity for rail ballast, waterfront trolley and new roadway base material. Quantity assumed equal to the clearance volume of rail & roadway pavement.
14. Total Excavation volume has been rounded to the nearest thousand.

- **Resource Conservation and Recovery Act (RCRA)** — provides requirements for the handling, transportation, treatment, storage, and disposal of hazardous materials and wastes. It includes provisions for identifying and classifying hazardous materials and wastes, and through the Hazardous and Solid Waste Amendments (HSWA) creates treatment standards for specific wastes. The HSWA also establish requirements for ownership, operation, maintenance, and closure of USTs. Regulation of RCRA-regulated USTs is administered through the state under Washington Administrative Code (WAC) 173-360. Any removal, treatment, or transportation of contaminated soils as part of the Alaskan Way Viaduct and Seawall Replacement Project will need to be conducted in compliance with RCRA.
- **Toxic Substances Control Act (TSCA)** — allows EPA to regulate existing chemicals when they pose an unreasonable risk to health or to the environment, and to regulate their distribution and use. Under TSCA Section 6, EPA can limit or ban manufacturing and distribution, require labeling, or place other restrictions. Chemicals regulated include asbestos, lead (such as lead-based paint), and PCBs. If these chemicals were encountered, they will have to handled and disposed of in compliance with relevant sections of TSCA.
- **Occupational Safety and Health Act (OSHA)** — establishes requirements for site safety procedures, worker training, and worker safety and health standards for employees engaged in work related to hazardous materials. All work involving the handling of, and potential exposure to, hazardous substances by workers while conducting activities associated with the project must be in compliance with the relevant sections of OSHA.
- **Clean Air Act (CAA)** — provides for comprehensive federal regulation of all sources of air pollution. Any activities associated with the Alaskan Way Viaduct and Seawall Replacement Project that have the potential to introduce hazardous substances to air must be in compliance with the CAA. Discharge to air (including fugitive dust, asbestos, and hazardous chemicals) will be enforced at the state and local municipality level through Puget Sound Clean Air Agency.
- **Clean Water Act (CWA)** — provides for comprehensive federal regulation of all sources of water pollution. Any activities associated with the Alaskan Way Viaduct and Seawall Replacement Project that have the potential to introduce hazardous substances to surface waters, including wetlands, must be in compliance with the CWA. Several permit programs have been established to address these

issues. Permits and approvals required under the CWA for the project that will require addressing hazardous substance issues include a National Pollutant Discharge Elimination System (NPDES) General Stormwater Permit for Construction Activities, which requires the development and implementation of a Stormwater Pollution Prevention Plan.

- **Safe Drinking Water Act (SDWA)** 42 USC Section 300 (f)— provides for comprehensive federal regulation that ensures the quality of drinking water. The EPA sets standards for drinking water quality and oversees the states' water suppliers who implement those standards. Source water protection is addressed under the regulation, and states can use legal authority from other laws to prevent pollution.
- **National Environmental Policy Act (NEPA)** — requires that all actions sponsored, funded, permitted, or approved by federal agencies undergo planning to ensure that environmental considerations are given due weight in project decision-making. Because the Alaskan Way Viaduct and Seawall Replacement Project likely would be partially funded by FHWA, NEPA compliance is required. One of the major elements addressed in a NEPA assessment is environmental health. Assessment of impacts associated with hazardous materials and waste is a component of the environmental health evaluation.

Washington State implements many of the federal statutes pertaining to hazardous materials and wastes along with its own, often more stringent, laws and regulations. These requirements, listed below, take precedence over all other laws for governing business and operations within the state.

- **Model Toxics Control Act Cleanup Regulation (MTCA)** —WAC 173-340 implements MTCA, Revised Code of Washington (RCW) 70.105D. This provides strict requirements for site discovery and reporting, site assessments, and hazardous site listing. This regulation defines standard methods used to assess whether a site is contaminated or clean. This regulation specifically relates to any hazardous materials and water investigations associated with the project. Cleanup standards for hazardous wastes are promulgated under MTCA. Cleanup of contaminated sites is likely to be accomplished as independent actions, with technical review provided by Ecology on an as-needed basis as provided for under MTCA.
- **Dangerous Waste Regulations** — WAC 173-303 implements RCRA and the Hazardous Waste Management Act, RCW 70-105. This provides for waste identification procedures and disposal requirements for Washington State. It provides some unique

standards for Washington State such as specific land treatment standards for high levels of cadmium under WAC 173-303-655. Detailed requirements for forms and rules related to manifesting and transporting of hazardous waste are included. As stated above, any handling, treatment, or transport of hazardous waste associated with the project will be required to be in compliance with RCRA and also with Washington's Dangerous Waste Regulations and Hazardous Waste Management Act. Contaminated materials generated during construction, including soil, water, and debris, will need to be properly designated before disposal. In addition, wastes generated by the contractor during construction also will need to be properly designated.

- **Solid Waste Regulations** — WAC 173-304 implements the Solid Waste Management Act (RCW 70.95) and establishes the Minimum Functional Standards for Solid Waste Management. Solid waste facilities, including landfills, transfer stations, wood waste sites, and concrete recycling facilities, are permitted and monitored to ensure proper handling of wastes to prevent environmental contamination. Solid waste generated by this project could include soil contaminated at concentrations below dangerous waste, wood, and construction debris in addition to typical municipal waste. These waste types can be disposed of as solid waste at an appropriately permitted facility.
- **Washington State Environmental Policy Act (SEPA)** — WAC 197-11 and WAC 468-12 implement SEPA, which provides a way to identify environmental impacts that may result from proposed actions. Information provided during the SEPA review process helps agency decision-makers, applicants, and the public understand how a proposal will affect the environment. Assessment of impacts associated with hazardous materials and waste and demonstration that the proposed action has avoided or minimized those potential impacts are components of the SEPA review process.
- **Sediment Management Standards (SMS)** — WAC 173-204 implements marine sediment quality and cleanup standards similar to MTCA. This regulation imposes a number of unique requirements that could impact this project. Source control standards apply for actions that resuspend surface sediments or cause surface sediment to exceed applicable standards.
- **Water Pollution Control Act** — RCW 90.48 implements two administrative regulations that control pollution in state waters. Water Quality Standards for Surface Waters of the State of

Washington, WAC 173-201A, establishes standards for toxic substances, conventional parameters (e.g., pH, dissolved oxygen, temperature), and aesthetic values for marine and fresh surface waters. The Water Quality Standards for Ground Water of the State of Washington contain similar regulations for groundwater, with special emphasis on radionuclides and carcinogens, due to potability issues. Any construction or operational activities associated with the project must comply with Washington's water quality standards. Wastewater Discharges to Surface Waters, WAC 173-220, regulates discharges to surface water from construction projects. Under this program, it is unlawful to discharge polluting matter to surface waters without an NPDES permit. A general NPDES permit for construction will be required for the project. Wastewater Discharges to the Ground, WAC 173-216, regulates discharge of stormwater to detention basins if this water contains unacceptable concentrations of polluting matter.

- **Washington Industrial Safety and Health Act (WISHA)** — RCW 49-17 implements the Occupational Health Standards (WAC 296-62). RCW 49-17 also implements Safety Standards for Construction Work (WAC 296-155) and the Safety Standards for Asbestos and Encapsulation (WAC 296-65). These standards include rules covering operations at known hazardous waste sites and initial investigations of sites identified by the government, which are conducted before the presence or absence of hazardous substances has been ascertained. Also included are rules on site assessment and control, training, protective equipment, and emergency response. All construction activities associated with the project must comply with WISHA. WISHA includes specific procedures for work with lead-based paint and asbestos-containing materials.

The permit process involves consideration of potential contamination and could significantly impact costs and schedules. The Alaskan Way Viaduct and Seawall Replacement Project will require an NPDES permit, which will require contamination issues to be addressed.

- **Unified Fire Code** (WAC 51-34-7902.1.7.2.3) — regulates the locations of USTs that could be used to contain combustible liquids. The fire code prohibits all USTs within 25 feet of the tunnel footprint. Clean closure or upgrading of any tanks within 25 to 100 feet of the tunnel footprint will be required to comply with modern standards for leak protection. It is unlikely that all of the active heating oil tanks along the alignment have been upgraded to meet the 1998 standards because the requirement to upgrade has not been imposed on smaller heating oil tanks.

- **Washington State Department of Transportation, Environmental Procedures Manual M31-11, March 2003** — establishes policies and procedures for dealing with hazardous or problem materials encountered or potentially encountered in property WSDOT owns, manages, plans to sell, or plans to purchase. This discipline report is intended to identify and address hazardous materials that could be encountered during construction of the Alaskan Way Viaduct and Seawall Replacement Project and was prepared to support both the EIS and the WSDOT project development process.

6.2 Liabilities Associated With Property Acquisition

Properties and buildings that could be acquired or modified are listed in Exhibit 6-3 and their locations are shown in Appendix K, Relocations Technical Memorandum Exhibits 5-1, 5-2, and 5-3. Properties and buildings are discussed under each of the alternatives.

Sites with documented releases and potentially contaminated properties along the corridor likely will be acquired. In obtaining a contaminated property, WSDOT could become liable for a site cleanup. The RCW 70-105D.040 identifies persons liable for a facility/property as: (1) the current or past facility owner/operator; (2) anyone who arranged for disposal/treatment of hazardous substances at the site; (3) anyone who transported hazardous substances for disposal/treatment at the site, unless it could legally receive the materials at the time of transport; or (4) anyone who sells a hazardous substance with written instructions for its use, and abiding by the instructions results in contamination. In situations where there is more than one liable party, each party is jointly and severally liable for costs associated with cleanup of a site and cost to repair damages to natural resources.

To avoid liability, WSDOT must perform “all appropriate inquiry” prior to obtaining any contaminated properties. If the inquiry identifies actual soil and/or groundwater contamination, WSDOT may pursue a right of action with past or current owners of the property. (A private right of action is a legal claim authorized by RCW 70.105D.080 under which a person may recover costs of remedial action from other persons liable under the act.) If the source of contamination is on an adjacent property, the persons liable for the adjacent contamination would be responsible for cost associated with cleanup of a site and cost to repair damages to natural resources.

Exhibit 6-3. Properties of Concern (Legend at end of exhibit)

Block No.	Site No.	Type of Business/ Reference Name	Current Tax Assessor Records	Bldg No.	Square Footage	Rank	Potential/ Known Contaminants	Aerial PSI	Aerial ACBM/ LBP	Bypass PSI	Bypass ACBM/ LBP	Rebuild PSI	Rebuild ACBM/ LBP	Surface PSI	Surface ACBM/ LBP	Tunnel PSI	Tunnel ACBM/ LBP
150.2	150.2-1	public utility	commercial parking lot	C144	7,200	High	PCBs	x		x		x		x		x	
210.1	210.1-1	iron works	professional building	S42	6,460	High	MET, PET	x	x	x	x	x	x	x	x	x	x
210.1	210.1-2	gas station	lots 1-5: parking lot			Low	GAS	x		x		x		x		x	
210.2	210.2-1	retail and office building	vacant land			Low	SOLV			x						x	
220.2	220.2-1	iron works and auto repair	two-story retail /apartments/storage, built 1925 /condo?	S34	16,129	Low to Moderate	SOLV, MET, PET	x	x	x	x	x	x			x	x
220.2	220.2-3	truck service	two-and three-story warehouse and garage, built 1951	S32	16,600	Low	PET			x						x	
250.2	250.2-1	parking lot and fueling	surface parking lot			Low	GAS	x		x		x		x		x	
270.1	NA			Fire Station	5,868	Not Ranked			x		x		x		x		x
280.2	280.2-1,-2,-3	lithograph and printers	parking garage (not impacted-S23)			High	SOLV, GAS	x	x								
290.2	290.2-4	gas station, auto repair	surface parking lot			Low	GAS			x				x		x	
320.1	320.1-1	clothes cleaner and dyers	three-story office, built 1911	S19	5,140	Moderate to High	SOLV			x	x			x	x	x	x
330.1	330.1-1	storage/ warehouse	storage/ warehouse	NA	325,828	Low	GAS	x	x	x	x	x	x	x	x	x	x
360.15	360.15-1	sheet metal works	three-story industrial, built 1921	S1	23,632	Not Ranked			x		x		x		x	x	x
			surface parking lot			High	PET, MET	x		x		x		x			
370.1	370.1-1	gas station	warehouse, built 1939	S50	58,492	Low	GAS	x	x	x	x	x	x	x	x	x	x
370.1	370.1-2	railroad	three buildings: 1) one-story transit/freight warehouse, built 1912; 2) one-story transit warehouse/loading dock, built 1935; 3) two-story office, built 1912	S118	3,718	Low	PET	x	x	x	x	x	x	x	x	x	x

Exhibit 6-3. Properties of Concern (continued)

Block No.	Site No.	Type of Business/ Reference Name		Current Tax Assessor Records	Bldg No.	Square Footage	Rank	Potential/ Known Contaminants	Aerial	Aerial	Bypass	Bypass	Rebuild	Rebuild	Surface	Surface	Tunnel	Tunnel
		PSI	ACBM/ LBP						PSI	ACBM/ LBP	PSI	ACBM/ LBP	PSI	ACBM/ LBP	PSI	ACBM/ LBP	PSI	ACBM/ LBP
380.2	380.2-1	fuel company					Low	PET							x			
	380.2-2	machine works	variety foundry co.				High	SOLV, MET							x			
	380.2-3	junk company	junk yard				High	PET, MET, PCBs							x			
	380.2-4	can company					Low	PET							x			
450.1	NA		building 1) one to two stories, built in 1952; Building 2) one story building 1957, garage, service repair	S72	1) 114,000 2) 4,400		Not Ranked					x (multiple)		x (multiple)		x (multiple)		x (multiple)
460.2	460.2-2	food warehouse	one-story warehouse, built 1952	S73	35,310		Low	PET							x	x		
460.2	NA		one-story office building built 1959	S74	2,160		Not Ranked									x (multiple)		
460.2	NA		one-story office building built 1957	S75	6,541		Not Ranked											
460.2	460.2-1	aluminum stripping	five buildings: 1) built 1971; 2) built 1956; 3) built 1955; 4) built 1951 - all one-story industrial buildings; 5) built in 1999, one-story storage warehouse	S142	65,288		Low	MET							x	x (multiple)		
470.2	470.2-1,2,3	brass foundry, wholesale paints	maintenance shop - Two buildings: 1) one-story garage/maintenance shop, built 1959; 2) one-story garage, built 1976	S76	32,874		High	SOLV, MET, PET							x	x (multiple)		
				S77	17,040		High	MET, PET										
470.2	470.2-4	foundry		S141	17,040		High	MET										
470.2	included above		right-of-way utility road				Not Ranked								included above			
470.25	NA		warehouse, built 1949	S78	48,864		Not Ranked									x		
470.25	NA		warehouse, built 1952	S79	16,300		Not Ranked									x		

Exhibit 6-3. Properties of Concern (continued)

Block No.	Site No.	Type of Business/ Reference Name		Bldg No.	Square Footage	Rank	Potential/ Known Contaminants	Aerial	Aerial	Bypass	Bypass	Rebuild	Rebuild	Surface	Surface	Tunnel	Tunnel
		ACBM/	LBP					PSI	LBP	PSI	LBP	PSI	LBP	PSI	LBP	PSI	LBP
470.25	NA		building, built 1952	S80	27,500	Not Ranked									x		
470.25	470.25-2	trucking compnay	one-story storage building, built 1983	S84	13,390	High	SOLV, PET							x	x		
470.25	470.25-1	crane company	one-story warehouse, built 1964	S140	35,526	Low	MET							x	x		
470.25	NA		one-story masonry warehouse	S139	12,440	Not Ranked									x		
470.25	470.25-1	vacant lot	vacant lot			Low	MET							x			
470.25	NA		railroad right-of-way utility road			Low								included above			
480.6	480.6-2	machine works	two one-story buildings: office building, built 1920; machine shop, built 1957	S95	7,536	High	SOLV, MET							x	x (multiple)		
480.6	480.6-1	iron works, foundry	one-story foundry building, built 1918	S96	14,767	High	MET, PET							x	x		
Railroad Parcels (not a specific site*)																	
380.2	NA	railroad				Low											
460.2	NA	railroad	railroad right-of-way			Low											

Notes:
 GAS = gasoline not ranked = site is not identified as having potential contaminants based on historic use or federal or state databases
 MET= metals x = PSI or ACBM or LBP survey recommended
 PCB = polychlorinated biphenyls ACBM = asbestos-containing building material
 PET = petroleum LBP = lead-based paint
 PSI = preliminary site investigation SOLV = solvent
 NA = site or building number not assigned
 * although not identified as a site, all railroad right-of-way have a potential for petroleum contaminants- low but no specific PSI appears to be warranted

6.3 Worker and Public Health and Safety Concerns

Issues related to worker public health and safety issues discussed here pertain to potential exposures to pollutants and hazardous materials and wastes encountered or generated during construction activities. Physical hazards of construction activities are not addressed.

Workers could be at risk from hazardous materials and waste encountered or generated during construction because of the duration of their potential exposure and proximity to areas where such materials may be encountered or used. The primary means of exposure would be inhalation of dusts or vapors containing hazardous substances generated during construction activities, such as excavation in areas with contaminated soils. Also, demolition activities associated with the structures could expose workers and the surrounding public to asbestos and/or lead (from lead-based paint), if present.

Encountering contamination could expose workers to potentially toxic concentrations and could create other hazardous situations, such as explosive environments. Air quality and associated health concerns could be affected as a result of disturbing volatile substances during construction.

Minor spills of materials used in construction, such as fuels, lubricants, and hydraulic fluids, typically occur during construction operations. Exposure to such accidental releases could damage skin, eyes, lungs, and other organs. Unless a spill is a major event, it is not anticipated to present significant risk to human health. Chemicals potentially released from uncured asphalt in road surfacing also present some exposure risk. All workers have a legal right to know about potential hazardous conditions in the workplace and should be trained in hazard recognition, as well as how to respond to and report such conditions.

Public health risk could also arise as a result of accidental release or diversion of contaminants to environmentally sensitive areas, such as surface waters, groundwater, public drinking water systems, or public air spaces. Releases to such areas could provide direct or indirect pathways of contaminant exposure to the general public.

The following subsections discuss construction impacts specific to each of the alternatives.

6.4 Rebuild Alternative

The Rebuild Alternative includes a combination of new construction, rebuild, and retrofit of the Alaskan Way Viaduct and rebuild of the seawall. The alignment for the Rebuild Alternative generally follows the existing SR 99

alignment from south of S. Holgate Street to the BST south portal at First Avenue, with the rebuild section from S. King Street to Pike Street. The retrofit section runs from Pike Street to the BST, and also includes the existing ramps.

This alternative incorporates many types of structures, including elevated sections that will be supported by fill and mechanically stabilized earth (MSE) walls, piles, spread footings or drilled shafts, and at-grade sections. The volume of material that will be excavated or generated as spoils is approximately 795,000 cy. Of this volume, it is anticipated that a little less than half (approximately 317,000 cy) could potentially be contaminated or require special handling.

Within the project corridor, 437 sites were identified that could affect the Rebuild Alternative and have the potential to contain or create hazardous materials. Of these sites, 242 are located adjacent to the alignment; the remainder are located sufficiently close to also be considered potential sources of contamination that could affect the project. Under the Rebuild Alternative, 8 buildings and 14 parcels would be acquired or modified. Construction impacts could result from the demolition of structures acquired by WSDOT. Based on the ages of the buildings, asbestos-containing building material and lead-based paint are likely present. For discussion purposes, and to aid in locating the site(s), city blocks and sites within the corridor have been numbered as shown in Exhibit 4-1.

Construction impacts for the Rebuild Alternative are discussed below for each of the sections, beginning in the south project area.

All the alternatives propose to replace the existing seawall. The seawall extends from S. Washington Street north to Myrtle Edwards Park (just north of Broad Street). For the seawall replacement alternatives and options, there is a small section of seawall from just south of Blanchard Street to just south of Battery Street where seawall reconstruction is not proposed.

6.4.1 Existing Seawall

The existing seawall is made of three main structure types. The structures include:

- Pile-Supported Gravity Seawall (also includes Pile-Supported Frame) – Located from S. Washington Street up to Madison Street.
- Type B Seawall – Located from about Madison Street up to Union Street and a small section at Clay Street.
- Type A Seawall – Located from Union Street up to Myrtle Edwards Park.

Pile-Supported Gravity Seawall and Pile-Supported Frame

The Pile-Supported Gravity Seawall is made of an unreinforced concrete slab supported by timber piles. The concrete slab is about 12 feet thick at the base and narrows at the top. Riprap has been placed on the waterside of the concrete slab.

The Pile-Supported Frame supports sections of sidewalk and is built of unreinforced concrete supported by timber piles.

Type B Seawall

The waterside face of the Type B Seawall is built of a steel sheet pile wall on the bottom with a concrete face attached to the top. The steel sheet pile wall is exposed to the marine waters of Elliott Bay. A timber relieving platform and wood piles hold up the sheet pile wall and concrete face. The timber relieving platform extends from 40 to 80 feet east of the sheet pile wall and is located about 15 feet under the existing Alaskan Way surface street. The relieving platform holds up the seawall face and also supports the Alaskan Way surface street and utilities located in the backfill over the relieving platform.

Type A Seawall

The Type A Seawall is similar to the Type B Seawall. The primary difference is that the waterside face of the Type A Seawall is not exposed to the marine waters of Elliott Bay, it is enclosed by either soil or riprap. In addition, the relieving platform for the Type A Seawall extends up to 40 feet east of the seawall (instead of 40 to 80 feet with the Type B Seawall).

6.4.2 Rebuilt Seawall

For the Rebuild Alternative, the seawall will be rebuilt by constructing concrete drilled shafts in combination with continuous block of jet-grouted soil improvements behind the existing seawall. The jet grout will be used to stabilize the liquefiable soils behind the seawall and under the timber relieving platform. The existing sheet pile wall at Pier 48 will be removed. The Type A Seawall will remain in place and be attached to the new seawall. A new precast fascia panel will be placed at the exposed areas of the seawall.

Drilled shafts will be constructed to form a continuous secant pile wall, or they will be intermittently placed as needed to provide lateral support. The drilled shafts will also provide a place to attach a new seawall façade.

Construction Approach for Pile-Supported Gravity Seawall

The Pile-Supported Gravity Seawall extends from approximately S. Washington Street north to Madison Street. In this area, most of the

construction to rebuild the seawall will take place behind the existing seawall. Jet grouting will occur behind the existing seawall. Then the unreinforced concrete slab will be removed and replaced with sloping riprap material.

Construction Approach for Type B Seawall

Most seawall construction for the Type B Seawall will also occur behind the existing seawall. The soils behind the seawall will be strengthened through jet grouting. If needed, drilled shafts will be constructed directly behind the existing seawall. Finally, the existing exposed sheet pile wall will be removed by cutting it off at the mudline. It will be replaced with a new façade.

Construction Approach for Type A Seawall

The Type A Seawall replacement will be similar to what was described above for the Type B Seawall. The only difference between the Type A and Type B Seawall is that the existing seawall façade will not be removed and will be connected to the new seawall structure.

6.4.3 South – S. Spokane Street to S. King Street

The Rebuild Alternative will begin at S. Holgate Street with an at-grade roadway that will transition to a double level structure approximately 800 feet north of S. Royal Brougham Way. Piles and/or drilled shafts will be used to support the elevated structure from approximately 1,500 feet north of S. Royal Brougham Way to Pike Street. The pile caps will be installed approximately 10 feet below the ground surface, necessitating excavation of overlying soil. Use of piles generally reduces the overall volume of material requiring excavation; however, the near-surface soils where the excavation area is the largest are typically the most contaminated. New elevated ramps to S. Royal Brougham Way and S. Atlantic Street will be supported by drilled shaft foundations and will have MSE wall approach fills. Foundations and earthwork would likely encounter near-surface soils in the south area contaminated with petroleum and/or creosote from the treated timbers associated with former land use activities such as the railroad and former wood-plank road.

Ground improvement, such as deep soil mixing, jet grouting, or vibro-replacement (stone columns), is proposed along Alaskan Way between S. Royal Brougham Way and S. Atlantic Street and along the seawall. Deep soil mixing and jet grouting will create a more extensive barrier to groundwater flow than currently exists, resulting in an alteration of groundwater flowpaths. This could result in crossgradient migration of contaminated groundwater, potentially contaminating areas adjacent to the constructed, less permeable zone.

In addition, soil mixing or jet grouting will displace potentially contaminated soil to the surface. Irrespective of the potential contaminants, special handling will be required because the spoils will consist of commingled cement and soil. The spoils will need to be contained for 24 to 48 hours minimum to allow the spoils to stabilize prior to transporting to a disposal area. If excess water was present, it would likely have a high pH, necessitating treatment of the water prior to disposal.

During installation of drilled shafts and/or cast-in-place piles, shallow groundwater and/or water used to stabilize the hole during drilling will be displaced to the ground surface. This water may have a pH of greater than 10 because of its contact with the grout. Water above a pH of 10 will need to be treated prior to discharge. At a pH of 12 the liquid would be considered a dangerous waste. Fines (cement) may also be suspended in the water. Locally, areas of groundwater may be contaminated from historic activities.

As part of the temporary realignment of Alaskan Way Viaduct, Whatcom Rail Yard railroad tracks will be removed during construction and replaced at the conclusion of the project, as space allows. In addition, the rail lines between S. Atlantic Street and S. Hanford Street will be relocated. The shallow soil in this section consists of fill from an unknown source. Because the area is an active and long-standing rail yard, it is likely that petroleum-contaminated soil and ballast would be encountered.

Properties of Concern – South

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination. Isolated areas of petroleum-contaminated soil have been encountered at the terminal (Block 370.1), and additional areas of petroleum contamination may be present. The site is considered to be reasonably predictable and a low risk for the project. Two buildings on the site have the potential to contain asbestos-containing building material and lead-based paint.

A manufacturing company and an associated parking lot (Block 360.15) were formerly occupied by a sheet metal works that could have resulted in metal and petroleum contamination of the surrounding environment. Oil and creosote were detected at 3 to 8 feet below ground surface in a boring in the Alaskan Way right-of-way adjacent to the site. Potential contaminants include metals and petroleum products and PAHs. Based on site history, this site is considered to be substantially contaminated and to have a high risk for metal contamination.

Railroad operations (cargo terminal), along with expected fill materials and timber pilings, along the east side of Alaskan Way between S. Atlantic Street and S. Royal Brougham Way (Block 380.2) may have resulted in subsurface contamination from petroleum products and PAHs. The potential contamination is considered to be reasonably predictable, and, therefore, the property is classified as low risk to the project.

The Terminal 46 property encompasses Blocks 350.1, 360.1, 380.1, and 390.1 and extends from S. Jackson Street to S. Massachusetts Street. The majority of the property is within the south area, with a small area extending north of S. King Street (central area). The following summary of past land uses and potential contaminants is presented by block.

Block 350.1 extends along the west side of Alaskan Way S. between S. Jackson Street and S. King Street. Historical uses have included gas and oil storage and a workshop at Site 350.1-1; a gasoline station and a warehouse at Site 350.1-2; a welding shop at Site 350.1-3; a gasoline station at Site 350.1-4; and a plating operation, machine shop, and sheet metal works at Site 350.1-5. At Site 350.1-2, three USTs were removed, four were closed in place, and one unleaded gasoline UST remains in operation. Petroleum contamination was detected during a site assessment, but at concentrations below cleanup levels.

The potential for gasoline contamination at Sites 350.1-1, -2 and -4 and for metals contamination at Site 350.1-3 is reasonably predictable based on a usage history of less than 20 years (low risk to the project). However, the potential for metals and solvents contamination at Site 350.1-5 is substantial because of the plating operation and machine shop, and the period of operation (from at least 1916 to 1950). Site 350.1-5 is considered a high risk to the project.

Block 360.1 extends along the west side of Alaskan Way S. between S. King Street and S. Royal Brougham Way (approximately 0.4 mile).

Operations at Sites 360.1-1 and 360.1-3 included plating works, boiler works, brass foundries, a tin shop, a blacksmith, machine shops, sheet metal works, gas and oil storage, and foundries. A retail gasoline station was also located at Site 360.1-3. Site 360.1-2 (copper works/machine shop) was located on Alaskan Way S. These three sites, all located in proximity to each other, are considered to be substantially contaminated and pose a high risk to the project. The types of potential contaminants include metals, solvents, gas, and other petroleum products.

Site 360.1-4 formerly had a petroleum storage tank. Site 360.1-5 had a machine shop, gas and oil storage, and a repair shop. The potential for encountering petroleum contamination at Site 360.1-4 and petroleum,

solvents, or metals contamination at Site 360.1-5 is reasonably predictable (low risk to the project).

A railroad company and an industrial business have operated at Sites 360.1-6 and -7. The railroad had a roundhouse, machine shops, and blacksmith shops, and the industrial business operated a repair shop. The potential for petroleum contamination at Site 360.1-7 is reasonably predictable. There is a potential for substantial contamination from metals at both sites, and from and solvents at Site 360.1-6. These sites are considered to be high risk to the project.

A gasoline station operated at Site 360.1-8. The potential for gasoline contamination is reasonably predictable (low risk to the project).

A construction and dry dock company operated on Sites 360.1-9, -10, -11, and -12, beginning in the early 1900s. Operations included machine shops, a blacksmith shop, an auto repair shop, forge shops, a copper shop, and a foundry. Additional companies built facilities in the 1940s that had machine and repair shops and an oil house. The most likely types of contaminants from these past land uses include petroleum products, metals, and solvents. The sites are considered to have a potential for substantial contamination and pose a high risk to the project.

Block 380.1 extends along the west side of Alaskan Way S. between S. Royal Brougham Way and S. Atlantic Street. A gasoline station operated at Site 380.1-1. Other activities included machine and maintenance shops, paint shop, and boat repair. The potential for gasoline, solvents, and metals contamination is reasonably predictable based on a usage history of less than 20 years, and the site poses a low risk to the project.

A junk company operated a rag picking facility (Site 380.1-2) in the early 1900s. Warehouses and machine shops were part of the operation. The most likely forms of contamination from these operations are petroleum, metals, and solvents. The site is considered to be reasonably predictable and a low risk to the project.

A garage/service station was formerly located at Site 380.1-4, constructed in 1914. A portion of the property was also a coal briquette plant in 1916 (Site 380.1-3). More recently, the site has had warehouses, offices, and maintenance facilities. Two USTs (gasoline and diesel) were removed in 1993, and a waste oil UST was closed in place in 1994. Gasoline contamination was encountered, and waste oil contamination remains beneath the office trailer. Benzene in groundwater was detected at a concentration greater than the MTCA cleanup level. Groundwater flow was determined to be toward the

northwest during the remediation work. The potential for contamination is considered to be reasonably predictable, and the risk to the project is low.

Terminals 37, 42, 47, various agents (Site 380.1-5) – An oil company was a former tenant in two buildings at the Port of Seattle pier included Gulf Pacific and Quaker State (an oil company). The buildings were constructed in the 1920s and were torn down in 1943 and 1961. There is some potential for petroleum contamination to be present. The site is considered to be reasonably predictable and poses a low risk to the project.

Block 390.1 extends along the west side of Alaskan Way S. between S. Atlantic Street and S. Massachusetts Street. Three USTs were removed in 1997 from a warehouse property (Site 390.1-1). Petroleum-contaminated soils remain beneath the building, utility lines, and the parking lot, but the extent of contamination in soil, and possibly groundwater, has not been determined. Soil contamination from a former gasoline UST exceeds MTCA A cleanup levels in an area near a fiber optics line located near S. Alaskan Way. The site is included on the State's CSCSL. Former land use at the site included machine and blacksmith shops, so potential contaminants may also include metals and solvents. The types and quantities of contamination are considered to be reasonably predictable, so the site is considered low risk for the proposed project.

A filling station was constructed in 1924 (Site 390.1-2). Although there is a potential for encountering petroleum contamination, this type of contamination is reasonably predictable and poses a low risk to the project.

A marine repair shop and a metals company were formerly located at the properties (Sites 390.1-3 and -4), respectively. A blacksmith shop was also located on the block (390.1-6). The potential for metals contamination at these sites is reasonably predictable based on a usage history of less than 20 years, and the sites pose a low risk to the project.

Several machine shops and a blacksmith were located at or near this property (Site 390.1-5) in the early 1900s. In 1995, soil contaminated with lead was discovered at the site, with the highest concentrations located near the waterfront. The owner plans to conduct an interim action to remove contaminated soil during a project to construct a new shipping and receiving facility. That facility was not constructed as of 2002. The potential for metals contamination is reasonably predictable based on a usage history of less than 20 years, and the site poses a low risk to the project.

A multi-block rail yard between S. Atlantic Street and S. Hanford Street may impact the Rebuild Alternative. The area includes Blocks 390.2, 400.2, 400.3, 410.2, 410.3, 420.1, 430.2, 440.1, and 450.1.

The railroad operations, along with expected fill materials and timber pilings, may have resulted in subsurface contamination from petroleum products and PAHs. Specific operations that may have resulted in contamination include a shop building with a pit and UST (Block 440.1); a carpenter and paint shop and an oil house (Block 430.2); fuel storage and a shop (Block 420.1); warehouses and workshop (Block 410.3); fuel tanks, blacksmith shop, machine shop, power house, oil shed, and multiple garages (Block 410.2); coal yard and storage, oil tanks, paint storage, and metal and machinery products businesses (Block 400.3); and railroad car repair sheds (Block 390.2). These operations may have resulted in subsurface contamination, primarily from petroleum products. There is some potential for solvents and/or metals contamination from some of the historic operations, but the documented period for such operations was relatively short. The potential contamination is considered to be reasonably predictable, and the multi-block property is classified as low risk to the project.

A release of diesel is known to have occurred on (Site 450.1-1). Petroleum-contaminated soil was left in place because of its proximity to a car shop and utilities. The petroleum contamination is expected to be reasonably predictable and the risk to the project is considered to be low. Two buildings on the site (S72 and S131) have the potential to have asbestos-containing building material and lead-based paint.

6.4.4 Central – S. King Street to Battery Street Tunnel

Ground improvement, such as deep soil mixing or jet grouting, is proposed along Alaskan Way extending from S. Royal Brougham Way to Columbia Street and along the seawall. Impacts from these methods are discussed in the South section (Section 6.4.3).

Construction of the seawall and the aerial portion of the viaduct through downtown Seattle will occur in an area that was a former tideflat and was subsequently filled. The fill along the waterfront ranges from approximately 25 to 40 feet thick and is from unknown sources. An elevated railroad trestle and/or elevated wood-plank road were constructed along the former waterfront; consequently, the former ground surface may have been contaminated with low levels of petroleum from small releases from the rail cars and/or vehicles. In addition, creosote-treated timbers may have been used to support the former trestles and piers; contamination from these timbers likely leached into the adjacent soil.

Fill soil will be removed from drilled shafts for both the seawall and the aerial structures, for pile caps adjacent to Alaskan Way to relocate utilities, and for stormwater detention vaults. The excavated fill soil will likely contain

localized petroleum and creosote contamination, as well as creosote-treated timbers. Elevated metal concentrations have also been identified sporadically in fill along the waterfront.

During installation of drilled shafts and/or cast-in-place piles, shallow groundwater and/or water used to stabilize the hole during drilling will be displaced to the ground surface. This water may have a pH greater than 10 because of its contact with the grout. Water above a pH of 10 will need to be treated prior to discharge. At a pH of 12 the liquid would be considered a dangerous waste. Fines (cement) may also be suspended in the water.

Storm sewer outfalls for Washington, Madison, University, and Vine Streets will be rebuilt for all Build Alternatives. The pipe will be constructed above the relieving platform for University and Vine Streets. If contaminants are present upgradient of these outfalls, the reconstructed outfalls could create preferential pathways for contaminant migration. The backfill material along the entire downgradient portion of the utility corridor could become contaminated. Similarly, backfill that will be excavated from around the existing outfalls could be contaminated. Sediment near the outfalls will be disturbed during reconstruction. The sediment, particularly shallow sediments, may be contaminated with PAHs and heavy metals. Impacts from sediment that could be resuspended are discussed in Appendix S, Water Resources Discipline Report.

H₂S may be encountered in excavations along the waterfront. It is known to be present at the intersection of University Street and Alaskan Way. The presence of H₂S as a gas may require special procedures to protect workers in the area. Groundwater removed from the area may also contain high levels of H₂S that would necessitate treatment of the groundwater prior to discharge.

Between Pike Street and Stewart Street, the existing viaduct structure will be retrofitted and new foundation elements will be installed. North of Stewart Street, large-diameter drilled shaft foundations will be used to support the rebuilt viaduct in some areas and retrofitting of existing columns will be performed in other areas. Micropiles will be used to retrofit some of the existing viaduct foundations. The existing ramps at Columbia Street and Seneca Street will be rebuilt and will be supported on cast-in-place concrete piles and/or drilled shafts. The on-ramp and off-ramp adjacent to the south end of the BST will be rebuilt and supported by drilled shafts and spread footings. MSE wall approach fills will also be constructed for these ramps. Fill thickness on the slope is generally less than 10 feet, and the potential for widespread contamination to impact the project is low.

Properties of Concern – Central

There are five blocks in the six-block area between S. Jackson Street and Madison Street that are adjacent to and upgradient of the Rebuild Alternative where land uses have included printing companies, an ink manufacturer, and cleaners (Blocks 340.1, 320.1, 290.2, 280.2, and 270.2). The concentration of multiple businesses where solvents are likely to have been used increases the potential for subsurface contamination to be encountered in soil and groundwater.

Bunker C oil contamination is known to exist in the vicinity of viaduct footings to a depth of approximately 17 to 19 feet in the block between University and Union Streets. The drilled shaft footings coincide with the existing eastern viaduct footings, and the likelihood of encountering Bunker C contamination is high.

There is a six-block area along the alignment, between S. Blanchard Street on the south and Second Avenue on the east, where land uses on at least five of the blocks could have resulted in substantial contamination (Blocks 160.3, 160.2, 150.1, 150.2, 150.3, and 140.3). Land uses in the area included a wood products company, blacksmith, dye works, machine shop, electroplating, paint store, gas station and auto body shop, electric transformer station, ink and chemical manufacturer, and a laundry/dry cleaner. The concentration of multiple businesses where solvents are likely to have been used increases the potential for subsurface contamination to be present. TCE, a solvent, has been detected in the groundwater at one of the properties, located approximately 250 feet upgradient (east) of the alignment. Other potential contaminants include gasoline/petroleum products, metals, and PCBs. Although some of the properties are considered to be substantially contaminated, as a whole they pose a low to moderate risk to the project because project-related excavation within the properties is not anticipated.

Block 330.1 is located along the west side of Alaskan Way, and extends from S. Washington Street to S. Jackson Street. The seawall will be rebuilt along the western and northern perimeters of Pier 50. A property in this block (Site 330.1-1) was formerly occupied by a gasoline station, and gasoline odor was noted in a boring in the Alaskan Way right-of-way east of Pier 50. The potential for gasoline contamination is reasonably predictable, and the risk to the project is low.

Creosote was encountered in an exploratory boring in the parking lot located south of the fire station on Block 270.1. No historic information was available regarding the site that would allow for an evaluation for other potential contamination. The fire station building has the potential to have asbestos-containing building material and lead-based paint.

The northwest property on the block between Union and Pike Streets (Block 220.2, Parcel S34) is located adjacent to the east side of the alignment. Past operations have included a machine shop, auto repair, electric blacksmithing, and welding. The potential for metals, solvents (based on a usage history of less than 20 years), and petroleum contamination is reasonably predictable and the site is considered a low risk to the project.

6.4.5 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activities in the north waterfront will be primarily related to the seawall. Construction impacts, including impacts from the fill, the former wood-plank road, and former railroad trestles along the waterfront, are discussed in the Central section (Section 6.4.4).

Petroleum/creosote contamination will most likely be encountered southwest of the former Unocal site (proposed Sculpture Garden, located between Bay and Broad Streets) (Block 90.1). Contamination has been detected in this area and may have resulted from former use by the railroad, fill from unknown sources, and possibly contaminants that have migrated from the oil tank farm site and a former gas station. Petroleum contamination is considered to be reasonably predictable, and the site is identified as a low risk to the project.

Properties of Concern – North Waterfront

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

The potential exists for PCBs to be present in soils on the former substation property at the corner of Western Avenue and Battery Street (Block 150.2). The site is considered substantially contaminated and a high risk.

Blocks 210.1 and 220.1 were formerly occupied by a metal plating facility (at the north end of the block), a fuel and transfer company, gasoline stations, and an auto repair facility. The blocks are considered to be substantially contaminated and a high risk to the project based on the potential for metal contamination. In addition, a professional building (S42) is located on the site and has a potential to have asbestos-containing building material and lead-based paint.

6.4.6 North – Battery Street Tunnel to Ward Street

Construction of the Rebuild Alternative ends at the south portal of the BST. Properties of concern north of the BST are related to potential staging areas.

Properties of Concern – North

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination. Block 40.1 was redeveloped as part of the athletic training facility. Petroleum-contaminated soil encountered during construction was transported to the adjacent Bus Barn site, but no assessment or cleanup was conducted. Historic operations at various properties on this block included a machine shop, a gasoline station, an auto repair shop, and a paint removing company. Potential contaminants include solvents, metals, gasoline, and other petroleum products. Most contaminants are considered reasonably predictable, but there could be substantial solvent contamination because of past operations at Site 40.1-4. The site poses a high risk to the project.

Another block (40.05) was a City of Seattle maintenance, fueling, and storage facility for streetcars, trolleys, and buses beginning in the early 1900s (Bus Barn site, 40.05-1). Twelve USTs have been removed, and approximately 3,000 to 4,000 cy of petroleum-contaminated soil were treated on-site using land farming. Unexcavated petroleum-contaminated soil may remain at the site, as well as at least 10,000 cy of heavy TPH-contaminated soil. Petroleum contamination and the potential for metals and solvent contamination from the former machine shop that was part of the maintenance facility are considered reasonably predictable (low risk to the project). A building on this block (N56) has a potential to have asbestos-containing building material and lead-based paint.

A former substation transformer house was located at Site 40.05-2. The building has been removed, but PCBs may be present in site soils. The site has a potential to be substantially contaminated and poses a high risk to the project.

One of the former operations at Site 50.02-1 was an auto repair shop; the potential for petroleum contamination is reasonably predictable and is considered to be a low risk to the project. One of the former uses of a building at Site 50.05-1 was auto repairing, including a paint booth, from 1947 to 1962. The potential for solvent contamination is reasonably predictable based on a usage history of less than 20 years, and the site poses a low risk to the project.

6.4.7 Seawall – S. King Street to Myrtle Edwards Park

Fill soil will be removed from drilled shafts for the seawall, from below the relieving platform, and adjacent to Alaskan Way to relocate utilities. The excavated fill soil will likely contain localized petroleum and creosote contamination, as well as creosote-treated timbers. Elevated metal

concentrations have also been identified sporadically in fill along the waterfront.

In the vicinity of the drilled shafts proposed for the seawall reconstruction, the footing and timbers associated with the existing precast panel wall will be cut at the mudline and removed. This work will occur above the mudline; consequently, no sediment waste should be generated. Impacts from sediment that could be resuspended are discussed in Appendix S, Water Resources Discipline Report.

The Type B Relieving Platform for the seawall will be constructed with drilled shafts with a cast-in-place cap and cantilever. The existing platform and pilings will remain. Some of the soil ballast above the platform will be excavated. This material, which underlies Alaskan Way, consists of sand and gravel and has a relatively low potential for containing contamination, because after placement the soil was immediately covered with the impermeable road surface.

For the Type B Relieving Platform, sediments could be disturbed during removal of the existing exposed sheet pile wall and placement of the new fascia. The existing precast wall and sheet pile will remain for the Type A Relieving Platform. Sediment could also be disturbed during placement of the riprap and removal of the unreinforced slab. Impacts from sediment that could be resuspended are discussed in Appendix S, Water Resources Discipline Report.

Jet grouting will displace potentially contaminated soil to the surface. Irrespective of the potential contaminants, special handling will be required because the spoils will consist of commingled cement and soil. The spoils will need to be contained for 24 to 48 hours minimum to allow the spoils to stabilize prior to transporting to a disposal area. If excess water was present, it would likely have a high pH, necessitating treatment of the water prior to disposal.

During installation of drilled shafts, shallow groundwater and/or water used to stabilize the hole during drilling will be displaced to the ground surface. This water may have a pH greater than 10 because of its contact with the grout. Water above a pH of 10 will need to be treated prior to discharge. At a pH of 12 the liquid would be considered a dangerous waste. Fines (cement) may also be suspended in the water. Locally, areas of groundwater could be contaminated from historic activities.

As part of the seawall replacement, the Waterfront Street Car tracks will be temporarily closed or removed and relocated as required. Shallow soils under the rail will most likely be contaminated with low levels of petroleum,

primarily lubricating oil and associated PAHs that may have dripped from the trolley or resulted from historic railroad activities.

6.5 Aerial Alternative

The Aerial Alternative will include replacement of the existing Alaskan Way Viaduct with a new viaduct along the waterfront through downtown. The alignment generally follows the existing SR 99 from S. Lander Street in the south end to Aurora Avenue N. at Ward Street in the north end. During construction, traffic will be detoured using Broad Street and Alaskan Way.

The Aerial Alternative will include a fire/life safety upgrade to the BST. This upgrade will include extension of both portals and construction of several emergency egresses, fan enclosures, and vent structures.

The Aerial Alternative will include construction of a six-lane aerial structure between S. Walker and the existing BST. Mercer Street Underpass will be widened and an overpass will be constructed at Thomas Street and SR 99. In addition, the existing depressed Broad Street roadway will be backfilled between Fifth Avenue N. and Eighth Avenue N.

Traffic will be detoured during construction onto Broad Street then south onto Alaskan Way. A temporary grade separation trestle will be required over the BNSF railroad at the turn onto Alaskan Way. The detour route will then connect back on the existing viaduct, requiring an approximately 600-foot-long temporary ramp structure. This structure will extend from just south of the Waterfront Landing condominiums to the viaduct at approximately Pine Street. A temporary aerial bypass structure will be constructed along the waterfront from S. Royal Brougham Way to the existing BST to carry traffic during construction of the replacement viaduct.

Under an option for the Aerial Alternative, a temporary aerial structure identified as the Battery Street Tunnel Flyover Detour would be constructed over the Art Institute to detour traffic in lieu of the Broad Street Detour. Also under an option, SR 99 north of the BST would be lowered from its existing grade into a boat section from the north end of the BST to about Prospect Street. New bridge overpass structures would be constructed to reconnect the surface streets.

The Rebuilt Seawall will be rebuilt as described in the Rebuild Alternative.

The Seawall Frame option would replace the seawall with a structural frame. A continuous secant pile wall would be constructed behind the existing seawall and a landside bulkhead would be constructed to the east. The landside bulkhead would likely use construction techniques described for slurry wall construction. The landside bulkhead would be connected by a

concrete beam with up to 12 feet of fill on the top. The concrete beam would be constructed in a similar manner as a pile cap.

Once seawall construction is completed, the Alaskan Way surface street will be constructed on top of the roadway fill, and utilities will be relocated to the area between the concrete beam and the roadway.

Construction impacts that could arise if contaminated soil and/or groundwater was encountered during construction activities and potential contaminants are discussed at the beginning of this chapter. For the Aerial Alternative, the estimated volume of material that will be excavated or generated as spoils is approximately 809,000 cy. A little less than one half of the material (approximately 353,000 cy) could be considered potentially contaminated or require special handling.

Within the project corridor, 583 sites were identified that could impact the Aerial Alternative and have the potential to contain or create hazardous materials. Of these sites, 352 sites are located adjacent to alignment; the remainder are located sufficiently close to be considered as potential sources of contamination that could affect the project. In the Aerial Alternative, 8 buildings and 18 parcels would be modified or acquired. Construction impacts could result from the demolition of structures acquired by WSDOT. Based on the ages of the buildings, asbestos-containing building material and lead-based paint are likely present. For discussion purposes and to aid in locating the site(s), city blocks within the corridor have been numbered as shown in Exhibit 4-1.

6.5.1 South – S. Spokane Street to S. King Street

For the Aerial Alternative, the road will be constructed at-grade from S. Stacey Street to S. Walker Street. Pile foundations and/or drilled shafts with ground improvement are proposed from S. Walker Street to S. Royal Brougham Way. Soil will be excavated to a depth of 10 feet for the pile cap. The proposed pile caps are 8 feet thick and range from 44 to 90 feet long by 30 feet wide. Shallow soil in the south that will be excavated for installation of the piles and caps and/or drilled shafts consists of fill from unknown sources. In addition, a wood-plank road and railroad trestles historically were located in the area, and their operations likely contaminated soil with low levels of petroleum and creosote.

During installation of drilled shafts and/or cast-in-place piles, shallow groundwater and/or water used to stabilize the hole during drilling will be displaced to the ground surface. This water may have a pH greater than 10 because of its contact with the grout. Water above a pH of 10 will need to be treated prior to discharge. At a pH of 12 the liquid would be considered a

dangerous waste. Fines (cement) may also be suspended in the water. Locally, areas of groundwater may be contaminated from historic activities.

Ground improvement, such as deep soil mixing, jet grouting, or vibro-replacement (stone columns), is proposed along Alaskan Way from S. Royal Brougham Way to S. Washington Street and along the seawall. Deep soil mixing and jet grouting will create a more extensive barrier to groundwater flow than currently exists and will alter groundwater flowpaths. If groundwater flowpaths are altered, contaminated groundwater could migrate crossgradient and contaminate areas adjacent to the barrier area.

In addition, soil mixing or jet grouting will displace potentially contaminated soil to the surface. Irrespective of the potential contaminants, special handling will be required because the spoils will consist of commingled cement and soil. The spoils will need to be contained for 24 to 48 hours minimum to allow the spoils to stabilize prior to transporting to a disposal area. If excess water was present, it would likely have a high pH, necessitating treatment of the water prior to disposal.

As part of the temporary realignment of Alaskan Way Viaduct, Whatcom Rail Yard railroad tracks will be removed during construction and replaced as space allows. The shallow soil in this area consists of fill from an unknown source. Because the area is an active and long-standing rail yard, the likelihood of encountering petroleum-contaminated soil and ballast is high. This is the only alternative where rail yards south of S. Atlantic Street will not be modified.

An at-grade option has been retained for the Aerial Alternative for the south. Construction impacts for this option are discussed in the Rebuild Alternative (Section 6.4.3).

Properties of Concern – South

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination. Four properties of concern, because of their proximity to the project have been previously described in the Rebuild Alternative.

Portions of Blocks 380.2 and 380.3 may impact the Aerial Alternative. A former junk company operated on the north portion of Site 380.2-3. Another parcel is a leased parcel within the railroad property. Former operations on Blocks 380.2 and 380.3 include truck sales and service (Site 380.3-3), a can company warehouse (Site 380.2-4), an iron and machine works/foundry (Site 380.2-2), and a former cleaning products company from 1938 to 1944 (Site 380.3-1). Potential for solvents at the cleaning products company is

reasonably predictable based on a usage history of less than 20 years (low risk to the project). Potential contaminants at the other sites to be acquired include metals, petroleum products, solvents, and/or PCBs. The former foundry and junkyard sites are considered substantially contaminated and pose a high risk to the project. In addition, a building in this block (S54) could pose a hazard from asbestos-containing building material and lead-based paint.

6.5.2 Central – S. King Street to Battery Street Tunnel

Ground improvement will not be required north of S. Washington Street. Drilled shafts will be used to support the new aerial structure and the temporary bridge from S. Royal Brougham Way to the BST. Under the Seawall Frame option, the frame of the seawall would provide the foundation for the temporary bridge. There are several sources of potential contaminants that could be encountered in the drilled shafts. Impacts from ground improvement and drilled shafts are discussed in the South section (Section 6.5.1).

An elevated railroad and/or wood-plank road historically occupied the waterfront. These structures, along with former trestles and piers, were constructed with creosote-treated timbers, which likely contaminated adjacent soils. The waterfront was subsequently filled with material from unknown sources, some of which may have been contaminated; elevated metal concentrations have also been identified sporadically in fill along the waterfront. Fill soil will be removed from drilled shafts, from below the relieving platform, from the area adjacent to Alaskan Way to relocate utilities, and for stormwater detention vaults. Petroleum and creosote contamination will likely be encountered in fill material, as well as creosote-treated timbers.

Storm sewer outfalls for Washington, Madison, University, and Vine Streets will be rebuilt. If contaminants are present upgradient of these outfalls, the reconstructed outfalls could create preferential pathways for contaminant migration. The backfill material along the entire downgradient portion of the utility corridor could become contaminated. Similarly, backfill that will be excavated from around the existing outfalls could be contaminated. Sediment near the outfalls will be disturbed during reconstruction. The sediment, particularly shallow sediments, may be contaminated with PAHs and heavy metals. Impacts from sediment that could be resuspended are discussed in Appendix S, Water Resources Discipline Report.

Properties of Concern – Central

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

As described in the Rebuild Alternative, there are five blocks in the six-block area between S. Jackson Street and Madison Street that are adjacent to and upgradient of the Aerial Alternative (Blocks 340.1, 320.1, 290.2, 280.2, and 270.2) where land uses have resulted in the potential for subsurface solvent contamination to be encountered in soil and groundwater. In addition, Bunker C oil contamination has been identified between University and Union Streets under the existing viaduct. The H&S detected in the subsurface in this area may be associated with the Bunker C.

As described in the Rebuild Alternative, there is a six-block area along the alignment, between S. Blanchard Street on the south and Second Avenue on the east, where land uses on at least five of the blocks could have resulted in substantial contamination (Blocks 160.3, 160.2, 150.1, 150.2, 150.3, and 140.3). Although some of the properties are considered to be substantially contaminated, as a whole they pose a low to moderate risk to the project because project-related excavation within the properties is not anticipated.

Block 330.1 is located along the west side of Alaskan Way, and extends from S. Washington Street to S. Jackson Street. A property in this block (Site 330.1-1) was formerly occupied by a gasoline station, and gasoline odor was noted in a boring in the Alaskan Way right-of-way east of Pier 50. The potential for gasoline contamination is reasonably predictable, and the risk to the project is low.

Creosote was encountered in an exploratory boring in the parking lot located south of the fire station on Block 270.1. No historic information was available regarding the site that would allow for an evaluation for other potential contamination. The fire station building has the potential to have asbestos-containing building material and lead-based paint.

The block bounded by Bell and Battery Streets and Western and Elliott Avenues (Block 150.1) was formerly occupied by an automobile repair shop. Potential contaminants include gasoline, asbestos-containing building material, and lead-based paint. The contamination is considered reasonably predictable and the site poses a low risk to the project. One building on this property (N104) has the potential to have asbestos-containing building material and lead-based paint.

Property located east of the alignment in the block between Spring and Seneca Streets (Block 250.2) was formerly occupied by a gasoline station; potential for gasoline contamination if present on this block is considered reasonably predictable and the risk is considered to be low.

One parcel on the block between S. Washington Street and Yesler Way (adjacent to the east side of the alignment) was occupied by a cleaner and

dyeworks operation. This property represents a high risk because of the potential for solvent contamination. Based on the location of the parcel, creosote-treated timbers and low levels of petroleum could also be encountered.

The northwest property on the block between Union and Pike Streets (Block 220.2, Parcel S34) is located adjacent to the east side of the alignment. Past operations have included a machine shop, auto repair, electric blacksmithing, and welding. The potential for metals, solvents (based on a usage history of less than 20 years), and petroleum contamination is reasonably predictable, and the site is considered a low risk to the project.

6.5.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activities in the north waterfront will be primarily related to the seawall and the Broad Street and Alaskan Way Detour. Construction impacts, including impacts from the fill, the former wood-plank road, and former railroad trestles along the waterfront and sediments, are discussed in the Central and North sections (Sections 6.5.2 and 6.5.4).

A temporary trestle will be constructed for the detour and will be supported on piles. Petroleum/creosote contamination will most likely be encountered southwest of the former gas station (proposed Sculpture Garden, located between Bay and Broad Streets) (Block 90.1). Contamination has been identified and may have resulted from former use by the railroad, fill from unknown sources, and possibly migration of contaminants from the former gas station. Petroleum contamination is considered to be reasonably predictable and the site is considered to pose a low risk to the project.

Properties of Concern – North Waterfront

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

Properties of concern for the North Waterfront area for the Aerial Alternative include the former substation property at the corner of Western Avenue and Battery Street (Block 150.2) and the commercial building (Block 210.1). These two properties are discussed in the Rebuild Alternative (Section 6.4.5, Properties of Concern – North Waterfront).

6.5.4 North – Battery Street Tunnel to Ward Street

In the Aerial Alternative, Mercer Street Underpass will be widened and an overpass will be constructed at Thomas Street and Aurora Avenue N. In

addition, the existing depressed Broad Street roadway will be backfilled between Fifth Avenue N. and Eighth Avenue N.

In the Lowered Aurora/SR 99 option, the portion of SR 99 located north of the BST would be widened and a boat section would extend from the north portal to Ward Street. The depth of the boat section would vary between 18 and 28 feet. Temporary bridges would be constructed over Aurora Avenue N. at John and Thomas Streets. In addition, new bridge structures would be constructed at Harrison, Republican, Mercer, and Roy Streets.

Former dry cleaners operated on the three blocks on the west side of Aurora Avenue N. on cross streets, John, Thomas, Harrison, and Republican Streets. Contaminants, if present, could have migrated into the right-of-way for each of these streets and into SR 99. Soil excavated for the drilled shafts for the bridge foundations and for utility relocations that occur on these streets could encounter contaminated soil and/or groundwater.

Drilled shafts installed through areas of groundwater contamination could create temporary vertical migration pathways for the groundwater, contaminating soil and groundwater at depth.

Most of the other historic activities along the north could have resulted in petroleum contamination, primarily gasoline from former gas stations and oil from former heating oil tanks. These contaminants, if present, are considered reasonably predictable.

Properties of Concern – North

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

A vacant parcel is located on Aurora Avenue N. between Denny Way and John Street (Block 80.5). No specific information is available regarding prior land uses that will allow for an evaluation for potential contamination of this property. Adjacent properties in the same block have had gasoline and service stations. The site is considered reasonably predictable and a low risk to the project because of the potential to be contaminated with gasoline from adjacent sites.

Other properties that would be modified for all the Build Alternatives except for the Rebuild Alternative include a portion of the property on Second Avenue, a portion of the block bounded by Fifth and Sixth Avenues, Bell Street, and Battery Street; and a portion of the property on Wall Street.

No specific information was available regarding prior uses of Block 150.5 that would allow for an evaluation for potential contamination; however, adjacent

sites within the same block have had automobile repair shops and film processors. The site is considered to be substantially contaminated and a moderate risk because of the adjacent properties' potential use of solvents. In addition, one building on the property (C98) has a potential to have asbestos-containing building material and lead-based paint.

A building on Third Avenue (C115) has a potential to have asbestos-containing building material and lead-based paint. No specific information was available regarding prior land uses that would allow for an evaluation for potential contamination.

A portion of the block bounded by Fifth and Sixth Avenues, Bell Street, and Battery Street (Block 150.8) was occupied by a former gasoline station and an automobile sales lot. Potential contaminants include gasoline. The site is considered reasonably predictable and a low risk to the project. In addition, one building (C108) has the potential to have asbestos-containing building material and lead-based paint.

Block 140.8 was formerly occupied by a gasoline station and a newspaper publisher. Potential contaminants include solvents associated with the newspaper publishing business. The site is considered to be substantially contaminated and high risk based on the potential solvent contamination. One building (C119) has the potential to have asbestos-containing building material and lead-based paint.

Parcels within a multi-block area bounded by Fifth Avenue N. and Mercer, Harrison, and Broad Streets (Blocks 40.05, 40.1, 50.02, 50.05, and 50.1) have varying degrees of risk to the project, from low to high. Most contaminants are considered reasonably predictable, but there could be solvent contamination (low to high risk to the project) and PCB contamination (a high risk to the project). In addition, a garage (Building N56) has the potential to have asbestos-containing building material and lead-based paint.

Dry cleaning solvents (TCE and PCE) have been documented in soil and groundwater at the former dry cleaning facility site now occupied by a hotel, located on Aurora Avenue N. between Harrison Street and Thomas Street (Block 60.3). Contaminants may also have migrated into the right-of way on Harrison Street. The hotel site is currently undergoing site investigation/remediation. This site poses a high risk to the project.

In addition, a former dry cleaner has been identified on Harrison Street, facing Aurora Avenue N., between Republican and Harrison Streets (Block 50.1). The site is currently a parking lot, and no site investigation work has been documented. This site poses a high risk to the project.

6.5.5 Seawall – S. King Street to Myrtle Edwards Park

Construction impacts for the seawall are described in the Rebuild Alternative. However, an option to construct the seawall using a frame structure has also been identified for the Aerial Alternative.

The volume of soil excavated along the north waterfront would be significantly greater for the Seawall Frame option. Soil would be removed to a depth of approximately 22 to 26 feet, depending upon the section, across the entire width of the frame. As discussed for the Rebuild Alternative (Section 6.4), the soil ballast above the relieving platform has a low potential to be contaminated. Fill below the relieving platform is from unknown sources. In addition, the bracing timbers for the relieving platform, which may have been treated with creosote, would be cut. Soil and timbers above the new frame would be excavated. Because of the large volume of potentially treated wood and the potential for contaminants in the fill soils, these soils would most likely require disposal at a permitted landfill.

Sediment may be disturbed from seaside construction. The footings and timbers of the existing precast panel wall would be cut and removed, as required, to clear for the drilled shaft secant wall. The riprap would be removed as necessary. Once the secant wall and frame have been installed, the existing master pile and wood fascia could be removed.

The groundwater in this area is in direct contact with Elliott Bay. Groundwater could be contaminated at low levels with petroleum- and creosote-related compounds.

6.6 Tunnel Alternative

The Tunnel Alternative will replace the existing SR 99 Alaskan Way Viaduct with a new six-lane roadway from S. Hanford Street to Pike Street, located generally along the alignment of the existing SR 99 relocated to the west of the current SR 99 alignment onto the site of the existing Whatcom Rail Yard. The Whatcom Rail Yard will be relocated to the east and combined with the existing BNSF Seattle International Gateway (SIG) Rail Yard. At Pike Street, the mainline will diverge from the seawall with a new four-lane connection to the existing BST, with connection to Aurora Avenue N. At Pike Street, ramps will surface into Alaskan Way along the north waterfront seawall.

The Tunnel Alternative will begin at-grade in the vicinity of S. Hanford Street and transition to a boat section followed by the cut-and-cover tunnel, which will begin at approximately S. King Street.

The Broad Street Detour will be used to divert traffic during construction, as described in the Aerial Alternative (Section 6.5), with an option to construct

the temporary aerial structure over the Art Institute. The option would utilize a side-by-side aerial detour extending from BST and ties into a waterfront tunnel near Pike Street.

North of BST, Mercer Street Underpass will be widened, and Broad Street will be filled as described in the Aerial Alternative.

Under an option, the Tunnel Alternative will begin at-grade in the vicinity of S. Hanford Street and transition to an MSE wall and then an aerial structure to S. Royal Brougham Way. Drilled shafts will support the aerial structure. Fill, supported by an MSE wall, will be used north of the aerial structure for 900 feet. The road then will transition the boat section followed by the cut-and-cover tunnel at approximately S. King Street. With the exception of the No Build Alternative, the proposed design for the Seawall Replacement Project is similar. With the Tunnel Alternative, the western wall of the tunnel will serve as both the outer tunnel wall and the new seawall. The construction method proposed for the western tunnel wall is described below and includes replacing the seawall with a secant pile wall. This seawall replacement structure will extend from approximately S. King Street (where the tunnel begins) north to where the tunnel ends near Union Street. Remaining areas of the seawall from approximately Pike Street north will be rebuilt.

The western wall of either Tunnel Alternative option will most likely be a secant pile wall. The wall will be constructed of 4-foot-diameter drilled shafts. The shafts will extend up to 90 feet deep. The shafts will be constructed to form a continuous wall from where the tunnel begins near S. King Street to where the tunnel ends near Union Street. The secant pile wall will be constructed behind the existing Alaskan Way Seawall and will serve a dual purpose of replacing the existing seawall and forming the outer wall of a tunnel.

Construction impacts that could arise if contaminated soil and/or groundwater were encountered during construction activities and potential contaminants are discussed at the beginning of this chapter. For the Tunnel Alternative, the estimated volume of material that will be excavated or generated as spoils is 2,290,000 cy. Less than one third of the material (672,000 cy) could be considered potentially contaminated or require special handling.

Within the project corridor, 596 sites were identified that could impact the Tunnel Alternative and have the potential to contain or create hazardous materials. Of these sites, 361 sites are located adjacent to the alignment; the remainder are located sufficiently close to be considered potential sources of contamination that could affect the project. For the Tunnel Alternative, 10 buildings and 20 parcels would be either modified or acquired. Construction impacts could result from the demolition of structures acquired by WSDOT.

For discussion purposes and to aid in locating the site(s), city blocks within the corridor have been numbered as shown in Exhibit 4-1.

6.6.1 South – S. Spokane Street to S. King Street

Impacts from the at-grade road are presented in the Rebuild Alternative.

Ground improvement, such as deep soil mixing or jet grouting, is proposed along Alaskan Way between S. King and S. Washington Streets and along the seawall. Deep soil mixing and jet grouting will create a more extensive barrier to groundwater flow than currently exists and will alter groundwater flowpaths. If groundwater flowpaths are altered, contaminated groundwater could migrate crossgradient and contaminate areas adjacent to the less permeable area.

In addition, soil mixing or jet grouting will displace potentially contaminated soil to the surface. Irrespective of the potential contaminants, special handling will be required because the spoils will consist of commingled cement and soil. The spoils will need to be contained for 24 to 48 hours minimum to allow the spoils to stabilize prior to transporting to a disposal area. If excess water was present, it would likely have a high pH, necessitating treatment of the water prior to disposal.

During installation of drilled shafts and/or cast-in-place piles, shallow groundwater will be displaced to the ground surface. This water may have a pH greater than 10 because of its contact with the grout. Water above a pH of 10 will need to be treated prior to discharge. At a pH of 12 the liquid would be considered a dangerous waste. Fines (cement) may also be suspended in the water. Locally, areas of groundwater may be contaminated from historic activities.

A slurry will be required for construction of diaphragm walls. Many of these walls will be installed in areas of potential contamination and could result in contaminated slurry. The ability to reuse the slurry in subsequent sections of the wall will depend upon the type and degree of contamination.

Properties of Concern – South

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

Four properties because of their proximity to all Build Alternatives in the south are described in the Rebuild Alternative.

A multi-block rail yard between S. Atlantic Street and S. Hanford Street may impact the Tunnel Alternative. The area includes Blocks 390.2, 400.2, 400.3, 410.2, 410.3, 420.1, 430.2, 440.1, and 450.1.

The railroad operations, along with expected fill materials and timber pilings, may have resulted in subsurface contamination from petroleum products and PAHs. Specific operations that may have resulted in contamination include a shop building with a pit and UST (Block 440.1); a carpenter and paint shop and an oil house (Block 430.2); fuel storage and a shop (Block 420.1); warehouses and workshop (Block 410.3); fuel tanks, blacksmith shop, machine shop, power house, oil shed, and multiple garages (Block 410.2); coal yard and storage, oil tanks, paint storage, and metal and machinery products businesses (Block 400.3); and railroad car repair sheds (Block 390.2). These operations may have resulted in subsurface contamination, primarily from petroleum products. There is some potential for solvents and/or metals contamination from some of the historic operations, but the documented period for such operations was relatively short. The potential contamination is considered to be reasonably predictable, and the multi-block property is classified as low risk to the project.

A release of diesel is known to have occurred on Site 450.1-1). Petroleum-contaminated soil was left in place because of its proximity to a car shop and utilities. The petroleum contamination is expected to be reasonably predictable and the risk to the project is considered to be low. Two buildings on the site (S72 and S131) have the potential to have asbestos-containing building material and lead-based paint.

6.6.2 Central – S. King Street to Battery Street Tunnel

Construction of the cut-and-cover tunnel will require excavation of soil to a depth of approximately 40 to 55 feet from approximately S. King Street to Pike Street. Seawall construction and the cut-and-cover tunnel through downtown Seattle will occur in an area that was a former tidelflat and was subsequently filled. The fill along the waterfront ranges from approximately 25 to 40 feet thick and is from unknown sources. An elevated railroad trestle and/or elevated wood-plank road were constructed along the historic waterfront; consequently, the former ground surface may have been contaminated with low levels of petroleum from small releases from the railcars and/or vehicles. In addition, creosote-treated timbers may have been used to support the former trestles and piers; contamination from these timbers likely leached into the adjacent soil.

Fill soil will be removed from drilled shafts, for pile caps, from below the relieving platform, and adjacent to Alaskan Way to relocate utilities. The

excavated fill soil will likely contain localized petroleum and creosote contamination, as well as creosote-treated timbers. Elevated metal concentrations have also been identified sporadically in fill along the waterfront. Impacts from the drilled shafts are discussed in the South section (Section 6.6.1).

A slurry will be required for construction of diaphragm walls. Many of these walls will be installed in areas of potential contamination and could result in contaminated slurry. The ability to reuse the slurry in subsequent sections of the wall will depend upon the type and degree of contamination.

H₂S has been identified in the subsurface in the vicinity of Alaskan Way and University Street. Groundwater removed from this area will likely require treatment prior to discharge of the pumped water. The H₂S will also pose a potential hazard to workers.

Based on pumping tests conducted for this project, prolonged construction dewatering associated with cut-and cover tunnels along the waterfront could result in a large areal extent of drawdown that could potentially mobilize contaminants in groundwater toward the alignment from large distances. Additionally, downward vertical gradients created during testing suggest that vertical migration of contaminants from the shallow soils could impact treatment of groundwater from dewatering activities.

The roadway will extend approximately 21 feet over the water near Washington Street. In-water construction will consist of a diaphragm wall with excavation east of the wall. Contaminated sediments exceeding Ecology's Sediment Cleanup Screening Level has been detected by Pier 48 in the vicinity of the in-water excavation. Contaminant levels in the shallow sediments (to depth of 10 feet) may exceed hazardous waste criteria. Detected compounds included PCBs, PAHs, and heavy metals, including lead at high concentrations. Because of the potential presence of contaminants, open-water disposal of the upper 10 feet of sediment will be unlikely. In addition, rigorous testing in accordance with Puget Sound Dredge Disposal Analysis and agency review will be required before any open water disposal could be approved. Contaminant concentrations are higher and extend to greater depths between Piers 54 and 57.

Sediment will most likely be disturbed during installation of the diaphragm wall and could become resuspended, adversely impacting surface water quality. For additional information, please refer to Appendix S, Water Resources Discipline Report.

Properties of Concern – Central

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

As described in the Rebuild Alternative, there are five blocks in the six-block area between S. Jackson Street and Madison Street that are adjacent to and upgradient of the Tunnel Alternative (Blocks 340.1, 320.1, 290.2, 280.2, and 270.2) where land uses have increased the potential for subsurface solvent contamination to be encountered in soil and groundwater. In addition, Bunker C oil contamination has been identified between University and Union Streets under the existing viaduct.

As described in the Rebuild Alternative, there is a six-block area along the alignment, between S. Blanchard Street on the south and Second Avenue on the east, where land uses on at least five of the blocks could have resulted in substantial contamination (Blocks 160.3, 160.2, 150.1, 150.2, 150.3, and 140.3). Although some of the properties are considered to be substantially contaminated, as a whole they pose a low to moderate risk to the project because project-related excavation within the properties is not anticipated.

A drilled shaft-supported aerial structure will connect the cut-and-cover tunnel to the BST. This area is primarily dense soil with little fill. Native dense soil has a lower potential to be contaminated.

Block 330.1 is located along the west side of Alaskan Way, and extends from S. Washington Street to S. Jackson Street. The seawall will be rebuilt along the western and northern perimeters of Pier 50. A property in this block (Site 330.1-1) was formerly occupied by a gasoline station, and gasoline odor was noted in a boring in the Alaskan Way right-of-way east of Pier 50. The potential for gasoline contamination is reasonably predictable, and the risk to the project is low.

Creosote was encountered in an exploratory boring in the parking lot located south of the fire station on Block 270.1. No historic information was available regarding the site that would allow for an evaluation for other potential contamination. The fire station building has the potential to have asbestos-containing building material and lead-based paint.

The block between Yesler Way and Columbia Street (Block 290.2) is located adjacent to the east side of the alignment. A gasoline station and auto repair shop formerly operated at this location. The potential for gasoline and petroleum products is reasonably predictable and the site is considered a low risk.

Property located east of the alignment in the block between Spring and Seneca Streets (Block 250.2) was formerly occupied by a gasoline station. The potential for gasoline contamination is reasonably predictable and the risk is low.

A block between Union and Pike Streets (Block 220.2) (S32, 34) is located adjacent to the east side of the alignment. In addition to past uses as a machine shop, auto repair, electric blacksmithing, and welding, the other properties have had a gasoline station and a truck repair shop. The potential for metals, solvents, gasoline, and petroleum contamination is reasonably predictable based on a usage history of less than 20 years, and the site is considered a low risk.

6.6.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activities in the north waterfront will be primarily related to the seawall and the Broad Street and Alaskan Way Detour. Impacts from the fill, former wood-plank road, and former railroad trestles along the waterfront and historic site uses are discussed in the Aerial Alternative (Section 6.5).

Properties of Concern – North Waterfront

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

Properties of concern for the North Waterfront area for the Tunnel Alternative include the former substation property at the corner of Western Avenue and Battery Street (Block 150.2) and the commercial building (Block 210.1). These two properties are discussed in the Rebuild Alternative (Section 6.4.5, Properties of Concern – North Waterfront).

6.6.4 North –Battery Street Tunnel to Ward Street

As with the Aerial Alternative, the Tunnel Alternative includes a fire/life safety upgrade to the BST. The upgrade will involve an extension of the north portal and will likely involve some excavation for the foundation. Former gas stations were located near the portal, and subsurface soils may be contaminated with gasoline. Please refer to the Aerial Alternative (Section 6.5) for a discussion of impacts.

Properties of Concern – North

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

A vacant parcel is located on Aurora Avenue N. between Denny Way and John Street (Block 80.5). No specific information is available regarding prior land uses that will allow for an evaluation for potential contamination of this property. Adjacent properties in the same block have had gasoline and service stations. The site is considered reasonably predictable and a low risk to the project because of the potential to be contaminated with gasoline from adjacent sites.

Other properties of concern for all the Build Alternatives except for the Rebuild Alternative include a portion of the property on Second Avenue, a portion of the block bounded by Fifth and Sixth Avenues, Bell Street, and Battery Street; and a portion of the property on Wall Street as described in the Aerial Alternative.

A multi-block area bounded by Fifth Avenue N. and Mercer, Harrison, and Broad Streets (Blocks 40.05, 40.1, 50.02, 50.05, and 50.1) has been identified as a property of concern for all Build Alternatives, as described in the Rebuild Alternative. Parcels within this area have varying degrees of risk to the project, from low to high. Most contaminants are considered reasonably predictable, but there could be solvent contamination (low to high risk to the project) and PCB contamination (a high risk to the project). A garage (Building N56) on the property has the potential to have asbestos-containing building material and lead-based paint.

6.6.5 Seawall – S. King Street to Myrtle Edwards Park

Construction impacts for the seawall are described in the Rebuild Alternative (Section 6.4.7). The soil that will be removed as part of the tunnel construction is addressed above.

6.7 Bypass Tunnel Alternative

The Bypass Tunnel Alternative incorporates a modified version of the cut-and-cover tunnel and also incorporates at-grade and aerial portions of the roadway. The southern extent of this alternative will begin at the same stationing as the Tunnel Alternative and will also require the relocation of the Whatcom Rail Yard railroad tracks. Along E. Marginal Way, between S. Atlantic Street and S. Royal Brougham Way, retained fills will be used to construct elevated structures. The boat section transitioning to the tunnel will begin between S. Royal Brougham Way and S. King Street. At Washington Street, the tunnel will be constructed approximately 60 feet west of the location of the original seawall, resulting in in-water construction. A water treatment facility is proposed for this alternative at the WOSCA site, located directly north of S. Royal Brougham Way and First Avenue S.

The Broad Street Detour will be used to divert traffic during construction, as described in the Aerial Alternative (Section 6.5), with an option to construct the temporary aerial structure over the Art Institute. The option would utilize a side-by-side aerial detour extending from BST and ties into a waterfront tunnel near Pike Street.

The proposed design for the seawall replacement for the Bypass Tunnel is similar to that of the Tunnel Alternative. The seawall replacement structure will extend from approximately S. King Street (where the tunnel begins) north to Pike Street. Remaining areas of the seawall north of Pike Street will be rebuilt.

Construction impacts that could arise if contaminated soil and/or groundwater were encountered during construction activities and potential contaminants are discussed at the beginning of this chapter. For the Bypass Tunnel Alternative, the estimated volume of material that will be excavated or generated as spoils is 1,459,000 cy. Less than one-half of the material (554,000 cy) could be considered potentially contaminated or require special handling.

Within the project corridor, 596 sites were identified that could impact the Bypass Tunnel Alternative and have the potential to contain or create hazardous materials. Of these sites, 361 sites are located adjacent to the alignment; the remainder are located sufficiently close to be considered potential sources of contamination that could affect the project. For the Bypass Tunnel Alternative, 10 buildings and 20 parcels would be modified or acquired. Construction impacts could result from the demolition of structures acquired by WSDOT. For discussion purposes and to aid in locating the site(s), city blocks within the corridor have been numbered as shown in Exhibit 4-1.

Construction impacts could result from the demolition of structures acquired by WSDOT. Based on the ages of the buildings, asbestos-containing building material and lead-based paint are likely present.

6.7.1 South – S. Spokane Street to S. King Street

Similar to the Tunnel Alternative, the roadway will be at-grade in the south. The boat section that will transition to the tunnel begins between S. Royal Brougham Way and S. King Street. Construction of the single-level cut-and-cover tunnel will require excavation to depths similar to the Tunnel Alternative (40 to 55 feet). The primary difference will be that the tunnel will be less extensive in width (east tunnel structure eliminated). Therefore, volumes of contaminated soil will be less.

Please refer to the Tunnel Alternative (Section 6.6.1) for other impacts in this section.

Properties of Concern – South

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

Four properties are of concern for all the Build Alternatives in the south, as described in the Rebuild Alternative.

As described in the Rebuild Alternative, a multi-block rail yard between S. Atlantic Street and S. Hanford Street may impact the Bypass Tunnel Alternative. The area includes Blocks 390.2, 400.2, 400.3, 410.2, 410.3, 420.1, 430.2, 440.1, and 450.1.

The railroad operations, along with expected fill materials and timber pilings, may have resulted in subsurface contamination from petroleum products and PAHs. Specific operations may also have resulted in contamination, primarily from petroleum products. There is some potential for solvents and/or metals contamination from some of the historic operations as well, but the documented period for such operations was relatively short. The potential contamination is considered to be reasonably predictable, and the multi-block property is classified as low risk to the project.

Block 450.1 contains two buildings (S72 and S131) that have the potential to have asbestos-containing building material and lead-based paint. A petroleum release site is known to exist north of S. Hanford Street (Block 450.1). The petroleum contamination is expected to be reasonably predictable and the risk to the project low.

6.7.2 Central – S. King Street to Battery Street Tunnel

Seawall construction and the Bypass Tunnel through downtown Seattle will occur in an area that was a former tidelflat and was subsequently filled. The fill along the waterfront ranges from approximately 25 to 40 feet thick and is from unknown sources. An elevated railroad trestle and/or elevated wood-plank road were constructed along the waterfront; consequently, the former ground surface may have been contaminated with low levels of petroleum from small releases from the railcars and/or vehicles. In addition, creosote-treated timbers may have been used to support the former trestles and piers; contamination from these timbers likely leached into the adjacent soil.

Fill soil will be removed from drilled shafts, for pile caps, from below the relieving platform, adjacent to Alaskan Way to relocate utilities, and for stormwater detention and water quality vaults. The excavated fill soil will likely contain localized petroleum and creosote contamination, as well as creosote-treated timbers. Elevated metal concentrations have also been identified sporadically in fill along the waterfront.

Based on pumping tests conducted for this project, prolonged construction dewatering associated with cut-and cover tunnels along the waterfront could result in a large areal extent of drawdown that could potentially mobilize contaminants in groundwater toward the alignment from large distances. Additionally, downward vertical gradients created during testing suggest that vertical migration of contaminants from the shallow soils could impact treatment of groundwater from dewatering activities.

Ground improvement, such as deep soil mixing or jet grouting, is specified for the MSE walls in the vicinity of S. Atlantic Street and S. Royal Brougham Way. Deep soil mixing and jet grouting will create a more extensive barrier to groundwater flow than currently exists and alter groundwater flowpaths. If groundwater flowpaths are altered, contaminated groundwater could migrate crossgradient and contaminate areas adjacent to the less permeable area.

In addition, soil mixing or jet grouting will displace potentially contaminated soil to the surface. Irrespective of the potential contaminants, special handling will be required because the spoils will consist of commingled cement and soil. The spoils will need to be contained for 24 to 48 hours minimum to allow the spoils to stabilize prior to transporting to a disposal area. If excess water was present, it would likely have a high pH, necessitating treatment of the water prior to disposal.

A diaphragm wall by S. Royal Brougham Way and S. King Street will also result in displaced soils, either through direct excavation or by a deep soil mixed wall. A slurry will be required for construction of diaphragm walls. Many of these walls will be installed in areas of potential contamination and could result in contaminated slurry. The ability to reuse the slurry in subsequent sections of the wall will depend upon the type and degree of contamination.

A water treatment facility and stormwater detention vault will be constructed adjacent to S. Royal Brougham Way and First Avenue S. at the WOSCA site. The detention basin will be 250 feet long by 60 feet wide and 65 feet deep. Soils in this area consist of fill overlying the former tideflat as described above. Isolated areas of petroleum-contaminated soil have been encountered at the site. Dewatering activities will be necessary for construction. Treatment of the groundwater will likely be required prior to discharge.

At Stewart Street, the tunnel will transition to a side-by side aerial structure extending to the BST south portal, as described in the Tunnel Alternative.

Properties of Concern – Central

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

As described in the Rebuild Alternative, there are five blocks in the six-block area between S. Jackson Street and Madison Street that are adjacent to and upgradient of the Bypass Tunnel Alternative (Blocks 340.1, 320.1, 290.2, 280.2, and 270.2) where land uses have increased the potential for subsurface solvent contamination to be encountered in soil and groundwater. In addition, Bunker C oil contamination has been identified between University and Union Streets under the existing viaduct.

As described in the Rebuild Alternative, there is a six-block area along the alignment, between S. Blanchard Street on the south and Second Avenue on the east, where land uses on at least five of the blocks could have resulted in substantial contamination (Blocks 160.3, 160.2, 150.1, 150.2, 150.3, and 140.3). Although some of the properties are considered to be substantially contaminated, as a whole they pose a low to moderate risk to the project because project-related excavation within the properties is not anticipated.

Block 330.1 is located along the west side of Alaskan Way, and extends from S. Washington Street to S. Jackson Street. The seawall will be rebuilt along the western and northern perimeters of Pier 50. A property in this block (Site 330.1-1) was formerly occupied by a gasoline station, and gasoline odor was noted in a boring in the Alaskan Way right-of-way east of Pier 50. The potential for gasoline contamination is reasonably predictable, and the risk to the project is low.

Creosote was encountered in an exploratory boring in the parking lot located south of the fire station on Block 270.1. No historic information was available regarding the site that would allow for an evaluation for other potential contamination. The fire station building has the potential to have asbestos-containing building material and lead-based paint.

One parcel on the block between Yesler Way and Columbia Street (290.2) is located adjacent to the east side of the alignment. A gasoline station and auto repair shop formerly operated here. The potential for gasoline and petroleum products is reasonably predictable and the risk to the project is low.

Property located east of the alignment in the block between Spring and Seneca (Block 250.2) was formerly occupied by a gasoline station; potential for gasoline contamination is reasonably predictable and the risk to the project is low.

Parcel S32, located on the block between Union and Pike Streets and adjacent to the east side of the alignment, would include sites 220.2-1 and -3. Past operations have included a machine shop, auto repair, electric blacksmithing, and welding. The potential for metals, solvents, gasoline, and petroleum contamination is reasonably predictable based on a usage history of less than 20 years, and the risk to the project is low.

One parcel in the block east of the alignment between Blanchard and Bell Streets (Block 160.3) was formerly occupied by a blacksmith, an auto rebuild shop, and welding operations. The potential exists for metals to be present in soils. The site is considered substantially contaminated and a moderate risk to the project.

6.7.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activities in the north waterfront will be primarily related to the seawall and the Broad Street and Alaskan Way Detour. Impacts from the fill, former wood-plank road, and former railroad trestles along the waterfront and historic site uses are discussed in the Aerial Alternative (Section 6.5).

Properties of Concern – North Waterfront

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

Properties of concern for the North Waterfront area for the Bypass Tunnel Alternative include the former substation property at the corner of Western Avenue and Battery Street (Block 150.2) and the commercial building (Block 210.1). These two properties are discussed in the Rebuild Alternative (Section 6.4.5, Properties of Concern – North Waterfront).

6.7.4 North – Battery Street Tunnel to Ward Street

As with the Aerial Alternative, the Bypass Tunnel Alternative includes a fire/life safety upgrade to the BST. The upgrade will involve an extension of the north portal and will likely involve some excavation for the foundation. Former gas stations were located near the portal, and subsurface soils may be contaminated with gasoline. Please refer to the Aerial Alternative for a discussion of impacts.

Properties of Concern – North

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

A vacant parcel located on Aurora Avenue N. between Denny Way and John Street (Block 80.5) is a property of concern for four of the five Build Alternatives as described in the Aerial Alternative. Other properties of concern for all the Build Alternatives except for the Rebuild Alternative include a portion of the property on Second Avenue, a portion of the block bounded by Fifth and Sixth Avenues, Bell Street, and Battery Street; and a portion of the property on Wall Street as described in the Aerial Alternative. A multi-block area bounded by Fifth Avenue N. and Mercer, Harrison, and Broad Streets (Blocks 40.05, 40.1, 50.02, 50.05, and 50.1) has been identified as a property of concern for all Build Alternatives, as described in the Rebuild Alternative. Parcels within this area have varying degrees of risk to the project, from low to high. Most contaminants are considered reasonably predictable, but there could be solvent contamination (low to high risk to the project) and PCB contamination (a high risk to the project). A garage (Building N56) on the property has the potential to have asbestos-containing building material and lead-based paint may be modified for the project.

6.7.5 Seawall – S. King Street to Myrtle Edwards Park

Construction impacts for the seawall are described in the Rebuild and Tunnel Alternatives.

6.8 Surface Alternative

The Surface Alternative includes constructing SR 99 at-grade from S. Hanford Street to Roy Street, with the exception of the BST section of the alignment. The BST will be retrofitted for fire/life safety, and northbound and southbound ramps will be constructed south of the tunnel to accommodate the elevation change from the at-grade level at approximately Pine Street to the BST elevation. This alternative also includes rebuilding the seawall, reconstructing the Elliott Avenue on- and off-ramps, constructing the Columbia Street undercrossing from First Street to the Colman Dock Ferry Terminal, and extending Seneca Street from First Street to SR 99. North of the BST, Mercer Street Underpass will be widened and an overpass will be constructed at Thomas Street.

An option would keep SR 99 as it is north of the BST, except signals would be added at Roy, Republican, and Harrison Streets.

The Surface Alternative incorporates many types of structures, including aerial sections that are supported by fill and MSE walls, piles, or drilled shafts. A water treatment facility and stormwater detention vault will be constructed adjacent to S. Royal Brougham Way and First Avenue S. at the WOSCA site.

Construction impacts that could arise if contaminated soil and/or groundwater were encountered during construction activities and potential contaminants are discussed at the beginning of this chapter. For the Surface Alternative, the estimated volume of material that will be excavated or generated as spoils is 741,000 cy. Slightly less than one half of the material (351,000 cy) could be considered potentially contaminated or require special handling.

Within the project corridor, 641 sites were identified that could impact the Surface Alternative and have the potential to contain or create hazardous materials. Of these sites, 401 sites are located adjacent to the alignment; the remainder are located sufficiently close to be considered potential sources of contamination that could affect the project. For the Surface Alternative, 20 buildings and 33 parcels would be modified or acquired. Construction impacts could result from the demolition of structures acquired by WSDOT. For discussion purposes and to aid in locating the site(s), city blocks within the corridor have been numbered as shown in Exhibit 4-1.

6.8.1 South – S. Spokane Street to S. King Street

To accommodate an at-grade roadway, construction of this alternative extends approximately 1,400 feet farther south than any of the other alternatives in order to relocate the railroad tracks to the east. The ballast from the existing rail yard is likely contaminated with petroleum.

A water treatment facility and stormwater detention vault will be constructed adjacent to S. Royal Brougham Way and First Avenue S. at the WOSCA site. The detention basin will be 250 feet long by 60 feet wide and 65 feet deep. Soils in this area consist of fill overlying the former tideflat. Isolated areas of petroleum-contaminated soil have been encountered at the site. Dewatering activities will be necessary for construction. Treatment of the groundwater will likely be required prior to discharge.

An elevated railroad trestle and/or elevated wood-plank road were constructed parallel to the waterfront; consequently, the former surface horizons may have been contaminated with low levels of petroleum from small releases from the railcars and/or vehicles. In addition, creosote-treated timbers may have been used to support the former trestles and piers, contaminating the adjacent soils. Potential contaminants include petroleum and creosote in soils, as well as creosote-treated timbers. Potentially contaminated soil will be displaced during installation of cast-in-place pilings, drilled shafts, and deep soil mixing.

During installation of drilled shafts and/or cast-in-place piles, shallow groundwater and/or water that was used to stabilize the hole during drilling

will be displaced to the ground surface. This water may have a pH greater than 10 because of its contact with the grout. Water above a pH of 10 will need to be treated prior to discharge. At a pH of 12 the liquid would be considered a dangerous waste. Fines (cement) may also be suspended in the water. Locally, areas of groundwater may be contaminated from historic activities.

Properties of Concern – South

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

Four properties are of concern for all the Build Alternatives in the south, as described in the Rebuild Alternative.

Two properties located south of S. Spokane Street are considered properties of concern. They include a foundry (Site 480.6-1) and a machine shop (Site 480.6-2). Oil contamination was discovered at the foundry site in 1991. Some contaminated soil was removed, but there are indications that contamination remains beneath the building. Groundwater is shallow (4 to 5 feet below ground surface) and was also contaminated by oil. The site is considered to be substantially contaminated because of the potential for metals contamination from historic activities and the documented petroleum release, and a high risk for this alternative. The machine shop (Site 480.6-2) has operated since 1957, and the potential exists for metals contamination to be present at the site (substantial contamination, high risk for the Surface Alternative).

Three blocks of property located on the east side of the existing viaduct between S. Spokane Street and S. Hanford Street (Blocks 460.2, 470.2, and 470.25) are considered properties of concern. Properties on these blocks where contamination is known to exist include terminals, a maintenance shop, and warehouses (S73, S74, S75, S76, S77, and S84). Other properties have had long-term use as foundries and machine shops. Potential for encountering soils contaminated with petroleum, solvents, PAHs, and metals is high. In addition, creosote associated with former wood-plank roads that were made with treated timbers may be encountered. Site buildings have the potential to have asbestos-containing building material and lead-based paint.

As described in the Rebuild Alternative, a multi-block rail yard between S. Atlantic Street and S. Hanford Street is considered a property of concern. The area includes Blocks 390.2, 400.2, 400.3, 410.2, 410.3, 420.1, 430.2, 440.1, and 450.1.

The railroad operations, along with expected fill materials and timber pilings, may have resulted in subsurface contamination from petroleum products and PAHs. Specific operations may also have resulted in contamination, primarily from petroleum products. There is some potential for solvents and/or metals contamination from some of the historic operations as well, but the documented period for such operations was relatively short. The potential contamination is considered to be reasonably predictable, and the multi-block property is classified as low risk to the project.

Block 450.1 contains two buildings (S72 and S131) that have the potential to have asbestos-containing building material and lead-based paint. A petroleum release site is known to exist north of S. Hanford Street (Block 450.1). The petroleum contamination is expected to be reasonably predictable and the risk to the project low.

6.8.2 Central – S. King Street to Battery Street Tunnel

Seawall construction and the aerial portion of this alternative through downtown Seattle will occur in an area that was former tidelflat and was subsequently filled. The fill along the waterfront ranges from approximately 25 to 40 feet thick and is from unknown sources. An elevated railroad trestle and/or elevated wood-plank road were constructed along the waterfront; consequently, the former ground surface may have been contaminated with low levels of petroleum from small releases from the rail cars and/or vehicles. In addition, creosote-treated timbers may have been used to support the former trestles and piers; contamination from these timbers likely leached into the adjacent soil. Coal was used as a fill material, particularly near King Street. Elevated metal concentrations have also been identified sporadically in fill along the waterfront.

Aerial portions of this alternative in the central and north areas include the Columbia Street undercrossing, the Seneca Street extension, the north- and south-bound ramps of SR 99 south of the BST, and the Elliott Avenue on- and off-ramps. Drilled shafts on land will support the Columbia Street undercrossing and cast-in-place piles and/or drilled shafts will be used over water. The drilled shafts are expected to be approximately 100 feet long. The cast-in-place piles are expected to be 160 to 200 feet long, and the pile caps will be 15 to 38 feet wide and 4 to 6 feet thick.

The Seneca Street extension will be supported by 100-foot-long drilled shafts east of Western Avenue and 16-to 36-foot-high MSE walls with spread footings west of Western Avenue. The north- and south-bound ramps south of the BST will be supported by 100-foot-long drilled shafts and/or MSE walls. The Elliott Avenue on-ramp will be supported by 100-foot-long drilled shafts.

A concrete abutment wall on 40-foot-long drilled shafts and/or MSE walls will support the Elliott Avenue off-ramp.

In the Surface Alternative, the existing seawall will be removed and a new seawall will be constructed using drilled shafts in combination with a continuous block of jet grouting. In the vicinity of the drilled shafts, the footing and timber associated with the existing precast panel wall will be cut at the mudline and removed. This work will occur above the mudline; consequently, no sediment waste should be generated. However, sediment that may be contaminated will be generated from the drilled shafts and jet grouting.

Storm sewer outfalls for Washington, Madison, University, and Vine Streets will be rebuilt. The pipe will be constructed above the relieving platform for University and Vine Streets. If contaminants are present upgradient of these outfalls, the reconstructed outfalls could create preferential pathways for contaminant migration. The backfill material along the entire downgradient portion of the utility corridor could become contaminated. Similarly, backfill that will be excavated from around the existing outfalls could be contaminated. Sediment near the outfalls will be disturbed during reconstruction. The sediment, particularly shallow sediments, may be contaminated with PAHs and heavy metals. Impacts from sediment that could be resuspended are discussed in Appendix S, Water Resources Discipline Report.

H₂S has been identified in the subsurface in the vicinity of Alaskan Way and University Street. Groundwater removed from this area will likely require treatment prior to discharge of the pumped water. The H₂S will also pose a potential hazard to workers.

Ground improvement, such as deep soil mixing or jet grouting, is proposed along Alaskan Way between S. King and S. Washington Streets and along the seawall. Deep soil mixing and jet grouting will create a more extensive barrier to groundwater flow than currently exists and alter groundwater flowpaths. If groundwater flowpaths are altered, contaminated groundwater could migrate crossgradient and contaminate areas adjacent to the less permeable area.

In addition, soil mixing or jet grouting will displace potentially contaminated soil to the surface. Irrespective of the potential contaminants, special handling will be required because the spoils will consist of commingled cement and soil. The spoils will need to be contained for 24 to 48 hours minimum to allow the spoils to stabilize prior to transporting to a disposal area. If excess water was present, it would likely have a high pH, necessitating treatment of the water prior to disposal.

During installation of drilled shafts, shallow groundwater and/or water used during drilling to stabilize the hole will be displaced to the ground surface. This water may have a pH greater than 10 because of its contact with the grout. Water above a pH of 10 will need to be treated prior to discharge. At a pH of 12 the liquid would be considered a dangerous waste. Fines (cement) may also be suspended in the water. Locally, areas of groundwater may be contaminated from historic activities.

Fill soil will be removed from drilled shafts for the seawall and the aerial structures, the pile caps and shallow MSE spread footings, and excavation associated with utility relocation and the proposed stormwater detention and water quality treatment vaults to be located north of S. Royal Brougham Way. Contaminated soils may also be encountered during shallow excavation associated with the at-grade portions of the roadway and the removal and/or relocation of the trolley railroad tracks. Petroleum contamination and creosote contamination is likely to be encountered in fill material, in addition to creosote-treated timbers. Metals may also be encountered in fill along the waterfront.

Removing the existing seawall and driving cast-in-place piles and/or drilled shafts in Elliott Bay may cause sediments to become mobilized. For a discussion of impacts from sediments that are resuspended, please refer to Appendix S, Water Resources Discipline Report.

Properties of Concern – Central

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

As described in the Rebuild Alternative, there are five blocks in the six-block area between S. Jackson Street and Madison Street that are adjacent to and upgradient of the Surface Alternative (Blocks 340.1, 320.1, 290.2, 280.2, and 270.2) where land uses have increased the potential for subsurface solvent contamination to be encountered in soil and groundwater. In addition, Bunker C oil contamination has been identified between University and Union Streets under the existing viaduct.

As described in the Rebuild Alternative, there is a six-block area along the alignment, between S. Blanchard Street on the south and Second Avenue on the east, where land uses on at least five of the blocks could have resulted in substantial contamination (Blocks 160.3, 160.2, 150.1, 150.2, 150.3, and 140.3). Although some of the properties are considered to be substantially contaminated, as a whole they pose a low to moderate risk to the project because project-related excavation within the properties is not anticipated.

Block 330.1 is located along the west side of Alaskan Way, and extends from S. Washington Street to S. Jackson Street. The seawall will be rebuilt along the western and northern perimeters of Pier 50. A property in this block (Site 330.1-1) was formerly occupied by a gasoline station, and gasoline odor was noted in a boring in the Alaskan Way right-of-way east of Pier 50. The potential for gasoline contamination is reasonably predictable, and the risk to the project is low.

Creosote was encountered in an exploratory boring in the parking lot located south of the fire station on Block 270.1. No historic information was available regarding the site that would allow for an evaluation for other potential contamination. The fire station building has the potential to have asbestos-containing building material and lead-based paint.

One parcel on the block between S. Washington Street and Yesler Way (adjacent to the east side of the alignment) is considered a property of concern. Former land use includes a drycleaner and dyeworks operation. This property represents a high risk to the project due to its potential for solvent contamination. Site buildings have the potential to have asbestos-containing building material and lead-based paint.

6.8.3 North Waterfront – Pike Street to Myrtle Edwards Park

Construction activities in the north waterfront will be primarily related to the seawall and the Broad Street and Alaskan Way Detour. Impacts from the fill, former wood-plank road, and former railroad trestles along the waterfront and historic site uses are discussed in the Aerial Alternative (Section 6.5).

Properties of Concern – North Waterfront

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

Properties of concern for the North Waterfront area for the Surface Alternative include the former substation property at the corner of Western Avenue and Battery Street (Block 150.2) and the commercial building (Block 210.1). These two properties are discussed in the Rebuild Alternative (Section 6.4.5, Properties of Concern – North Waterfront).

6.8.4 North – Battery Street Tunnel to Ward Street

As with the Aerial Alternative, the Surface Alternative includes a fire/life safety upgrade to the BST. The upgrade will involve an extension of the north portal and will likely involve some excavation for the foundation. Former gas stations were located near the portal, and subsurface soils may be

contaminated with gasoline. Mercer Street will be widened and an overpass will be constructed at Thomas Street. Please refer to the Aerial Alternative for a discussion of impacts.

Under this option, the existing SR 99 is maintained and signals are added. Contaminated soil could be encountered during road improvement at Harrison, Republican, and Roy Streets; however, the subsurface work will be minimal. Contaminated soil may also be encountered during relocation of utilities.

Properties of Concern – North

Properties of concern include sites that pose a potential liability to the project because of the presence of hazardous building materials and/or site contamination.

A vacant parcel located on Aurora Avenue N. between Denny Way and John Street is considered a property of concern for four of the five Build Alternatives as described in the Aerial Alternative. Other properties of concern for all the Build Alternatives except for the Rebuild Alternative include a portion of the property on Second Avenue, a portion of the block bounded by Fifth and Sixth Avenues, Bell Street, and Battery Street; and a portion of the property on Wall Street as described in the Aerial Alternative.

A multi-block area bounded by Fifth Avenue N. and Mercer, Harrison, and Broad Streets (Blocks 40.05, 40.1, 50.02, 50.05, and 50.1) is considered a property of concern for all Build Alternatives, as described in the Rebuild Alternative. Parcels within this area have varying degrees of risk to the project, from low to high. Most contaminants are considered reasonably predictable, but there could be solvent contamination (low to high risk to the project) and PCB contamination (a high risk to the project). A garage (Building N56) on the property has the potential to have asbestos-containing building material and lead-based paint.

6.8.5 Seawall – S. King Street to Myrtle Edwards Park

Construction impacts for the seawall are described in the Rebuild Alternative (Section 6.4.7).

6.9 Recommendations for Further Investigations

6.9.1 Data Gaps and Unknowns

The sources of information that were used to generate the histories of properties along the proposed project corridor included general information from readily available sources. The data was not adequate to compile

complete site histories for any of the properties. There may have been uses at individual sites that could result in contamination that were not revealed by the available information.

It is assumed that the risk of contamination from businesses that use, store, or dispose of hazardous materials increases with the length of time the business was in operation. The length of time particular businesses were in operation was not necessarily revealed by the available data, limiting the ability to ascertain this risk.

6.9.2 Site Reconnaissance Recommendations

A full-access site reconnaissance is recommended for all properties to be acquired or modified for the selected Build Alternative. These properties are identified in Exhibit 6-3. The reconnaissance should be conducted by an experienced environmental professional, and, wherever possible, include interview(s) of persons knowledgeable about present and past operations at the site.

6.9.3 PSI Recommendations

Preliminary site investigations (PSI) should be conducted at properties to be acquired by WSDOT where there is either a risk of contamination from past site operations, or where contamination is known to exist. In addition, PSIs are recommended within the right-of-way of adjacent properties where contaminants may be encountered when performing construction activities including excavation, ground improvement, installation of drilled shafts, and/or conducting dewatering. Potentially contaminated adjacent properties that pose a high enough risk to warrant PSIs include those ranked as substantially contaminated under FHWA guidelines, sites where it is known or suspected that contamination extends into the right-of-way, and any sites where the most likely potential contaminants are solvents or gasoline. Such contaminants have a tendency to be highly mobile and may present a hazard to activities on other properties, such as those proposed for this project.

In most cases, explorations to obtain soil and groundwater samples could be conducted with direct push type equipment, such as a GeoProbe. Drilling may be necessary at a few locations, such as at current and former dry cleaners located on higher elevation properties, where relatively deep explorations (greater than approximately 15 feet) are needed.

Recommendations for PSIs at specific properties are summarized in Exhibits 6-3 and 6-4. Exhibit 6-3 includes the location, map reference number, primary contaminant(s), and which construction alternatives are applicable. Exhibit 6-4 includes the same information, with the exception of the applicable alternative.

The following is a summary of the number of PSIs that are recommended for each Build Alternative:

Alternative	Number of Recommended PSIs
Rebuild	11
Aerial	15
Tunnel	15
Bypass Tunnel	15
Surface	21

6.9.4 Additional Investigations

Site characterization or more extensive investigations may be necessary for sites that would be acquired; particularly if the PSI indicated site contamination is present.

6.9.5 Asbestos-Containing Building Material and Lead-Based Paint Survey Recommendations

Surveys for asbestos-containing building material and lead-based paint will be required for buildings that will be acquired or modified for the selected Build Alternative. Exhibit 6-3 shows properties for which asbestos-containing building material and lead-based paint surveys would be needed, based on preliminary project information. The following is a summary of the number of asbestos-containing building material and lead-based paint surveys that would be required for each Build Alternative:

Alternative	Asbestos -Containing Building Material/ Lead-Based Paint Survey
Rebuild	8
Aerial	8
Tunnel	10
Bypass Tunnel	10
Surface	20

Exhibit 6-4. Recommended PSIs for Adjacent Properties (Legend at end of exhibit)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
10.05	10.05-1	Sign painting	One-story building with two stores, built 1932, two stoves	Sign painting	Two-story commercial building, built in 1932, no heat		North	Low	RP	SOLV
10.05	10.05-2	Gas station and auto repair	One-story gas station, built 1950, oil burner, tanks: two 6,000-gallon, one 4,000-gallon, one 550-gallon	Gas station and auto repair	One-story commercial building, built 1977, Auto Body Repair & Painting		North	Low	RP	GAS
20.2	20.2-1	Laundry	One-story building, built 1925, heat not listed, demolished 1948/ one story building, built 1947 (additions to original building on lot 1?, two oil burners, gas pumps shown in photo, two 6,000-gallon tanks, two 550-gallon tanks, also includes garage (for delivery trucks?))	Laundry	Three buildings: 1) laundry- built in 1925, 2) laundry- built in 1966, 3) garage -built in 1947.	Yes	North	Moderate	SC	SOLV, GAS
20.2	20.2-2	Auto repair	Associated with Laundry	Auto repair			North	Moderate	SC	SOLV, GAS
20.2	20.2-3	Gas station	One-story gas station, built 1931, stove heat, two wood grease pits, two 1,400-gallon tanks, two 3,500-gallon tanks, one 550-gallon tank, and two 5,000-gallon tanks, demolished 1966	Gas station			North	Moderate	SC	SOLV, GAS
20.2	20.2-4	Garage, gas and oil	Associated with Laundry	Garage, gas and oil	Not reviewed, not adjacent		North	Moderate	SC	SOLV, GAS
30.01	30.01-1	Sheet metal works / gas engine rebuild	One-story showroom and warehouse building, built 1946, oil burner	Sheet metal works / gas engine rebuild			North	Low	RP	PET, GAS
30.01	30.01-2	Cabinet shop	One-story woodworking shop, stove	Cabinet shop			North	Low	RP	SOLV
30.01	30.01-3	Gas station	One-story gas station and grease shop, built 1928, no heating system, tanks not listed	Gas station			North	Low	RP	GAS
30.05	30.05-2	Contractor's warehouse	One-story office and material yard, built 1945?, stove; new parking lot in 1962	contractor's warehouse, gas tank shown	Four-story hotel, built 1999, heat pump		North	Low	RP	GAS
30.1	30.1-1	Gas station	One-story gas station, built 1930, demolished 1941?	Gas station	One-story office and warehouse building, forced air heat, built in 1919		North	Low	RP	GAS
30.1	30.1-2	Varnish mfrs., laundry	One-story building, built 1919, boilers and cleaning department shown on record	Varnish mfrs.	(Lots 3-6) Three commercial buildings: one-story warehouse, built in 1946, no heat; one-story factory, built in 1945, no heat; one-story warehouse, built in 1926, space heaters		North	Moderate	SC	SOLV
30.1	30.1-3	Gas station and auto repair	One-story gas station, built 1930, demolished 1945?	Gas station and auto repair			North	Low	RP	GAS
30.1	30.1-4	Paint products/floor factory	One-story floor factory, built 1926, steam heat	Paint products			North	Low	RP	SOLV
30.2	30.2-1	Gas station and auto repair	One-story shop building built 1929, stove heat, used for auto repair, one-story gas station built 1929, stove heat	Gas station and auto repair	Vacant land		North	Low	RP	GAS

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
30.3	30.3-1	Commercial sign painting/commercial printing/cabinet and sign shop	One masonry factory building built 1924, addition 1962, oil burner	Commercial sign painting/commercial printing/cabinet and sign shop	One masonry building (industrial light manufacturing) built 1924, space heaters		North	Moderate	SC	SOLV
30.3	30.3-3	Sign company			Leased by sign company, masonry building built in 1920		North	Low	RP	SOLV
30.3	30.3-4	Gas station and auto repair	Gas station, built 1930, torn down 1956, stove heat		Leased by sign company masonry building built in 1920		North	Low	RP	GAS
40.1	40.1-2	Gas station	Built in 1933, single story gas station, with stove.	Gas station	Sports facility		North	Low to Moderate	RP	GAS
40.2	40.2-1	Battery manufacturer	Built in 1928, listed as single story garage building with oil burner stove. Business is wholesale photographic distributors.	Battery manufacturer/ Auto Service	One-story building, built 1928, forced air heat; silver plating listed as business		North	Moderate/ Low	SC/ RP	MET, PET/ PET
40.2	40.2-2	Printing / auto service	Built in 1930, listed as single story garage building/warehouse.	Auto service / printing / auto service	One-story service garage, built 1930, space heaters		North	Low	RP	PET, SOLV
40.2	40.2-3	Gas station	Built in 1934, one-story service station, stove heat, addition in 1948.	Gas station	Parking lot		North	Low	RP	GAS
40.2	40.2-4	Gas station	Built in 1930, single story gas station with stove. One 2,000-gallon tank and two 3,000-gallon tanks	Gas station			North	Low	RP	GAS
40.3	40.3-1	Print shop	Three-story bank building, built in 1956, oil heat, print shop in basement		Three-story bank, built 1956		North, Seawall	High	SC	SOLV
50.05	50.05-2	Gas station & auto repair		Gas station & auto repair			North	Low	RP	GAS
50.1	50.1-1	Cleaners	Built in 1944-45, one-story laundry with boilers and garage. Tank inventory includes one 9,550-gallon fuel oil tank.	Dry cleaning on 1950 Sanborn	Parking lot		North	Moderate	SC	SOLV
50.1	50.1-2	Cleaning supply company	Built in 1924, listed as a two-story warehouse [furniture repair], with oil burner. Provides dry cleaning supplies and laundry dyes.	Cleaning supplies / furniture upholstery & paint spraying			North	Moderate	SC	SOLV
50.1	50.1-4	Battery manufacturer	Built in 1922, listed as two-story store building with stove.				North	Moderate	SC	MET
50.2	50.2-2	Film processing	One-story warehouse, built in 1948, gas heat	Film processing	One-story commercial building, built 1948, currently listed as a print shop, space heaters		North	Low	RP	SOLV

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
50.2	50.2-3	Maintenance shop, oil company	One-story warehouse, built 1924, steam, sawdust burner	Sign painting/ maintenance shop	Parking lot		North	Low	RP	SOLV
60.1	60.1-1	Gas station	One-story service station, built 1958, oil burner; one 6,000-gallon, two 4,000-gallon and two 500-gallon tanks, one hydraulic lift	Gas station	Vacant Lot		North, Seawall	Low	RP	GAS
60.1	60.1-4	Dry cleaners	One-story building with balcony, store and warehouse building, built 1929, steam/oil burner; dry cleaning plant	Dyers & cleaners	One-story building, built 1929, forced air heat; recorded as restaurant		North	Moderate	SC	SOLV
60.2	60.2-1	Public Utility	Transfer yard and associated structures including: one-story control building, built 1950, electric heat; one-story shop, pump room, and crane tower, built 1950, electric heat	Substation	Broad Street Substation, four buildings, built 1950, all have electric heat. one control building, one crane tower, one shop, one pump room		North	Moderate	SC	PCBs
60.3	60.3-1	Hotel	One-story cleaning plant and laundry, built 1946, steam heat/oil burner; replaced by three-story motel, built 1961, electric heat	Gas station (Polk) / dry cleaners (Sanborn & Polk)	Three-story motel, built in 1961, electric heat	Yes	North	Moderate	SC	SOLV, GAS
70.05	70.05-2	Sheet metal works	One-story warehouse and store, built 1920, two oil burners, demolished 1960.	Sheet metal works with paints (Sanborn)			North	Low	RP	MET, SOLV
70.05	70.05-3	Electroplating	One-story shop and offices, built 1895, oil burner heat, demolished 1960. Also one-story residence, built 1895, stove heat, demolished 1948.	Electroplating			North	Moderate	SC	MET
70.05	70.05-4	Printers		Printers			North	Low	RP	SOLV
70.1	70.1-1	Gas station and auto repair	One-story gas station, built 1930, no heat (also grease shed), no info on tanks; demolished and rebuilt in 1959 for another gas station, oil burner, tanks: One 5,000-gallon, one 2,000-gallon, one 1,000-gallon	Gas station and auto repair	Parking lot		North	Moderate	SC	GAS, PET
70.1	70.1-2	Machine shop	One-story office and shop building, built 1945, stove	Machine shop	One-story industrial building, built 1945, space heaters		North	Moderate	SC	SOLV, MET
70.4	70.4-1	Cleaners, laundry	One-story store building, built 1930, steam heat/oil burner; remodeled 1944 as dry cleaner and laundry	Dry cleaners, note on Sanborn "cleaning fluid tank in ground"	Five-story motel building, built 1959, hot water heat		North	Moderate	SC	SOLV
70.5	70.5-1	Manufacturing chemist / generators	One-story warehouse and factory, built 1950, gravity hot air furnace/oil burner	Manufacturing chemist / generators	One-story water house, built in 1950, space heaters		North	Low	RP	SOLV
70.5	70.5-3	Gas station	One-story hotel, built in 1951, steam heat	Gas station			North	Low	RP	GAS

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
70.5	70.5-4	Gas station	One-story gas station, built 1933, stove, second building is "grease shed", no mention of tanks; torn down in 1955; replaced by one-story warehouse and office building, built 1956, suspended gas steam heating units	Gas station	One-story warehouse building, built 1956, space heaters		North	Low	RP	GAS
70.6	70.6-2	Printers	Two-story office and shop, built 1954, oil burner, "service shop" noted	Printers			North	Low	RP	SOLV
70.6	70.6-3	Auto repair / paints	Three-story warehouse/garage, built 1933, oil heat	Auto repair / paints			North	Moderate	SC	SOLV
80.5	80.5-1	Restaurant	One-story gas and service station, built 1934, stove heat, torn down 1953; replaced by café, oil burner heat, built 1954	Gas station	One-story convenience store with gas station, built 1998, heat pump	Yes	North	Low	RP	GAS
80.5	80.5-2	Gas station / repairs	One-story restaurant/retail building, suspended gas heat, built 1941, torn down 1962; replaced by one-story service station, built in 1961, oil burner heat, "tune-up" area; one 6000-gallon tank, one 550-gallon tank, two hoists	Gas station / repairs	One-story service garage, built in 1961, space heaters	Yes	North	Low	RP	GAS
80.5	80.5-3	Gas station and auto repair	One-story gas station and repair shop, built in 1931, torn down 1942, stove heat, two pumps	Gas station and auto repair			North	Low	RP	GAS
80.6	80.6-2	Gas station	One-story gas station, stove heat, built 1936, removed 1954; grease shed, oil service on gravel area, three pumps	Gas station	(Lots 7 - 11) Parking lot		North	Low	RP	GAS
80.6	80.6-3	Gas station	One-story service station, built 1940, two 2,000-gallon tanks, four 1,500-gallon tanks, one hoist; three pumps, torn down in 1948		(Lots 7 - 11) Parking lot		North	Low	RP	GAS
90.0	90.0-1	Oil Company	Docks (over water)		Not reviewed, not adjacent		North Waterfront, Seawall	Moderate	SC	PET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
90.1	90.1-1	Oil Company, plant/truck filling	Various uses: two lube tanks on 12' concrete platform; roofed truck load rack (1951); boiler house with two 300 high pressure boilers (buildings have steam heat) (1925); dehydrator building/pump house (1910, remodeled,1955); railroad loading rack (1916); warehouse (one story) (1910) steam heat (lot 6); shop for barrel cleaning (lot 1) (1951), steam heat. One-story storage and warehouse built in 1937 (remodeled in 1951); truck load rack in 1936; one-story office built in 1916, oil burner heat; one-room warehouse built around 1937, torn down in 1962.	Plant/truck filling	Vacant land	Yes	North Waterfront, Seawall	Moderate	SC	PET, GAS
90.1	90.1-2	Service Station	One-story "shop" built in 1928, tanks listed (illegible), stove heat; gas station built in 1928 (different than shop), stove heat; grease shed, two tanks, torn down 1956; one-story garage (appears to be auto repair) built in 1946, no heat		All of lots 5-6: pub: one-story restaurant built in 1976 with warmed and cooled air for heat, land owned by City of Seattle	Yes	North Waterfront, Seawall	Low	RP	GAS
90.2	90.2-1	Oil Company	Bulk fuel storage facility, several aboveground storage tanks, and numerous buildings: three-story office building built in 1924, steam heat; cart house, built in 1927; truck loading rack, built in 1927?; one-story pump house built in 1927; two-story office building, oil burner heat, built in 1949; two-story warehouse, steam heat, built ?; one-story garage	Numerous tank farms	Vacant land	Yes	North Waterfront, Seawall	Moderate	SC	PET, GAS
110.1	110.1-2	Can company	Four-story factories (two adjacent buildings) built in 1916 and 1925, steam heat	Office and plants	Six-story office building, built in 1916, hot and chilled water for heat		North Waterfront, Seawall	Moderate	SC	MET
130.9	130.9-1	Gas Station	Auto service/gas station built 1934, stove heat, three 1,000-gallon tanks; 1959: station remodeled - oil burner heat, four 4,000-gallon tanks, one 1,000-gallon tank, one 550-gallon tank, two hoists	Gas station	Parking lot (vacant land)		North	Low	RP	GAS
140.05	140.05-1	Service Station	Pier 12, oil company noted as leasor, smokestack noted in picture, docks, no other details, torn down at some point	Gas station	(Lots 3-8): four-story motel built in 1961, heat pump		North Waterfront, Seawall	Low	RP	GAS
140.3	140.3-1	Public Utility	Possible transformer station, built in 1957, torn down ~1962		Not reviewed, not adjacent		Central, Seawall	Moderate	SC	PCBS

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
140.3	140.3-2	Trunk mfrs.	Two-story store and loft, stove heat, built in 1912	Manufacturers	Not reviewed, not adjacent		Central, Seawall	Moderate	SC	SOLV
140.3	140.3-3	Ink and Chemical Company	Two-story hotel and retail building, coal stoker heat, built 1909		Not reviewed, not adjacent		Central, Seawall	Low	RP	SOLV
140.3	140.3-4	Laundry and cleaners	Three-story hotel and retail building built in 1889, stove heat		Not reviewed, not adjacent		Central, Seawall	Moderate	SC	SOLV
140.4	140.4-1	Oil burner service, cleaning compounds, printers	Two-story hotel and retail building, oil burner, built 1910	Cleaning compounds / printers			North	Moderate	SC	SOLV
140.4	140.4-2	Color film processing laboratory	Two-story retail building, oil burner heat, built in 1927	Film exchange-entire west side of street (Sanborn)			North	Moderate	SC	SOLV
140.6	140.6-1	Chemical company	Two-story rooming house with stove heat, built in 1890, torn down 1946; two-story commercial building with two oil burners for heat, built 1947	Chemicals	One-story retail and office, built 1946-1947, hot water heat		North	Low	RP	SOLV
140.7	140.7-1	Printers	One-story retail building, stove heat, built 1925	Printers	(All lots): six stories, built 1998, electric heat		North	Low	RP	SOLV
140.7	140.7-2	Apartments	One-story gas station, stove heat, built in 1927-1928, one 1,000-gallon tank, one 550-gallon tank, 1-hydraulic hoist, torn down ~1960?	Auto repair / dry cleaners		Yes	North	Low	SC	SOLV, GAS
140.8	140.8-1	Gas station		Gas station	Three-story office, built 1947, complete HVAC heat	Yes	North	Low	RP	GAS
140.9	140.9-1	Gas station & auto repair	One-story repair shop, built 1939, torn down 971, stove heat, hydraulic lift	Gas station & auto repair	Parking lot (vacant land)		North	Low	RP	PET, GAS
141.1	141.1-1	Car wash	Used car lot with one-story office, built in 1938, stove heat; one-story car wash added 1956	Gas station	Car wash (no details on buildings)	Yes	North	Low	RP	GAS
141.2	141.2-1	Service Station	Two-story gas station, built 1934, no heat, one 3,000-gallon tank, three 3,000-gallon tanks, four 1,500-gallon tanks, one hoist	Gas station	Parking lot (vacant land)		North	Low	RP	GAS
150.1	150.1-1	Service station	Service station and parking, built in 1947, torn down 1949, stove heat in onestory, one- room office, two 550-gallon tanks		Six-story apartments, built 1990, forced air unit heat		Central, Seawall	low	RP	GAS
150.1	150.1-3	Lumber and manufacturing company	Three-story loft built in 1908; manufacture wood products		Lots 9-10: Three-story storage warehouse, built in 1908, space heaters; lots 11-12: no building records, listed on map as Belltown Lofts condominium		Central, Seawall	Moderate	SC	SOLV
150.1	150.1-4	Laundry	Three-story building, built in 1915, large steam plant for laundry purposes		Lots 11-12: no building records, listed on map as Belltown Lofts condominium		Central, Seawall	Moderate	SC	SOLV

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
150.4	150.4-1	Gas station	One-story gas station and parking lot, one-story (one room) shed, one 3,000-gallon tank, one 1,500-gallon tank, built ?	Gas station	Parking lot (vacant land)		North	Low	RP	GAS
150.4	150.4-3	Printing company	Three-story warehouse, built in 1955-56, suspended gas heat		Two-story retail/rooming house, built 1955, electric heat		North	Low	RP	SOLV
150.5	150.5-1	Auto rebuild	Two-story "garage", built in 1921, "paint spray room" noted on second floor, steam heat	Auto body works and painting	Two-story retail (fire destroyed in August-2001), built 1921, hot water heat		North	Moderate	SC	SOLV
150.5	150.5-2	Film processing	One-story retail, built 1928, two oil burners for heat	Film exchange	Lot 3:one-story retail, built 1928, hot water heat; lot 4: two-story office/restaurant, built 1925, hot water heat		North	Moderate	SC	SOLV
150.5	150.5-5	Film Processing	One-story plant, built 1926, oil burner heat, torn down 1962, also a dance hall, church, and bowling alley	Film developing	Five-story apartments, built 1990, electric wall heat		North	Moderate	SC	SOLV
150.6	150.6-1	Publishing company, battery company, printing company, fuel oil UST	One-story warehouse, built 1924, stove heat, one 6,000-gallon fuel oil tank, several businesses over time but predominantly news printing		One-story retail/storage warehouse, built 1935, hot water heat; one-story open office, built 1924, hot water heat		North	Low	RP	SOLV
150.6	150.6-2	Commercial property	One-story building, built 1936, service station, then upholstery shop, three tanks in drawing from 1937, two tanks noted on card in year 1958	Gas and oil	One-story warehouse, built 1914, hot water heat	Yes	North	Low	RP	GAS
150.6	150.6-3	Printers	One-story warehouse and store, oil burner heat, built 1914	Printing			North	Moderate	SC	SOLV
150.7	150.7-1	Cleaners	One-story retail with dry cleaners, built ~1925, steam heat		One-story retail, built 1924, space heaters		North	Moderate	SC	SOLV
150.7	150.7-5	Dry cleaners, oil burners, printers	One-story retail building, built 1926, stove heat	Dry cleaners / oil burners / printers / printers	Vacant land		North	Moderate	SC	SOLV
160.1	160.1-2	Pier 66		Location mapped per Hart Crowser Figure 3, J-3447, Environmental Assessment Site Plan 3/92		Yes	North Waterfront, Seawall	Low	RP	GAS
160.2	160.2-1	Paints	One-story paint store with oil burner heat, built in 1950	Paints	Six-story apartments, built 1994, electric wall heat units		Central, Seawall	Moderate	SC	SOLV
160.2	160.2-2	Machine shop	One story shop with stove heat, built in 1914, torn down 1957		Two-story office building, built 1957, forced air unit heat		Central, Seawall	Moderate	SC	SOLV, MET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
160.3	160.3-2	Wagon and carriage	Two-story building constructed in 1904, blacksmith, auto rebuild, welding, torn down for Alaskan Way in 1969		Parking lot		Central, Seawall	Moderate	SC	MET
160.3	160.3-3	Dye Works	Two-story retail and apartments with stove heat, built in ~1908, torn down in 1968	Dye shop	Apartments: sixteen stories, built 1970, electric wall heat		Central, Seawall	Low	RP	SOLV
160.3	160.3-4	Machinery company	Two-story warehouse built in 1904, stove heat	Machine shop	Two-story retail/offices, built 1913, warmed and cooled air for heat		Central, Seawall	Low	RP	SOLV, MET
160.3	160.3-5	Hotel/plating company		Electroplating		Yes	Central, Seawall	Moderate	SC	SOLV
170.1	170.1-1	Gas station	Two story retail and apartments, oil burner and steam heat, 10' x 16' boiler room in basement with fire door, built ~1910, torn down 1966 for parking lot	Gas station	Condominiums, per map		Central, Seawall	Low	RP	GAS
180.2	180.2-1	Service Station	One-story gas station, built 1936, stove heat, three gas tanks	Gas station	Lots 1-4 and 10-12 of blocks 35 and 36: Pike Place Market, historic property, vacant land		Central, Seawall	Low	RP	GAS
190.2	190.2-1	Gas station	One-story gas station built in 1919 with one 550-gallon tank	Gas station	Pike Place Market Park		Central, Seawall	Low	RP	GAS
190.2	190.2-3	Printers		Printers			Central, Seawall	Low	RP	SOLV
190.2	190.2-4	Gas station, metal plating	One-story gas station built in 1925, stove heat, three 750-gallon tanks; located under current Alaskan Way Viaduct (the station was torn down to build the freeway); metal plating business formerly in adjacent retail building torn down for Viaduct		No record available		Central, Seawall	Moderate	SC	MET, GAS
220.1	220.1-1	Gas station		Gas station and auto parking	No tax assessor records for this block		Central, Seawall	Low	RP	GAS, PET
220.1	220.1-2	Fuel and transfer co.		Auto freight	No tax assessor records for this block		Central, Seawall	Low	RP	GAS, PET
220.2	220.2-2	Motor oil company	One-story gas station with one 300-gallon tank and two 550-gallon tanks, stove heat inside, built 1932, torn down 1965		No tax assessor records for this block		Central, Seawall	Low	RP	GAS
230.2	230.2-1	Power company	One-story building with basement built in 1895 (fronts Western) also one-story boiler house built in 1955 with "oil tank retention wall" noted in drawing (AST)	Steam plant	Steam company: two-story industrial light manufacturing (built 1900) and one-story storage warehouse (built 1918)	Yes	Central, Seawall	High	SC	PET
230.2	230.2-3	Truck service	One-story gas and service station built in 1950 with three 3,000-gallon tanks, steam heat	Gas station	Steam company. - Western Avenue and University Street surface parking lot (vacant)		Central, Seawall	Low	RP	GAS
240.2	240.2-1	Marine supply	Five-story warehouse built in 1918	Machine shop	Six-story office, built 1918	Yes**	Central, Seawall	Moderate	SC	SOLV, MET, GAS
240.3	240.3-2	Fertilizer mfrs.	Three-story store and loft built in 1911	Manufacturers	No tax assessor records for this lot		Central, Seawall	Moderate	SC	MET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
240.3	240.3-3	Laundry	Four-story retail/hotel built 1910, acid tank in basement	Chinese laundry	Twenty-five-story apartment, built 1996, electric wall heat		Central, Seawall	Moderate	SC	MET, SOLV
240.3	240.3-4	Plating works		Electroplating			Central, Seawall	Moderate	SC	MET
240.3	240.3-5	Leather works	Four-story office/loft, built 1901	Manufacturers and delivery			Central, Seawall	Moderate	SC	SOLV
240.4	240.4-1	Laundry/printers	Four-story hotel and retail, built 1889, oil burner				Central, Seawall	Moderate	SC	SOLV
240.4	240.4-2	Printers	Five-story retail, built 1906	Printing			Central, Seawall	Low	RP	SOLV
240.4	240.4-3	Printers		Printers			Central, Seawall	Low	RP	SOLV
240.4	240.4-4	Printers/hand laundry/service station		Hand laundry	Vacant commercial lot	Yes**	Central, Seawall	Low	RP	SOLV, GAS
250.3	250.3-1	Lithographer	Four-story retail and loft constructed in 1907 with steam heat		Parking garage, built 1983, "warmed and cooled air" for heat		Central, Seawall	Moderate	SC	SOLV
250.4	250.4-1	Sheet metal works	Four-story hotel and retail, built 1906, steam heat		No tax assessor records for this block		Central, Seawall	Moderate	SC	MET
250.4	250.4-2	Cleaners	Four-story hotel and retail constructed in 1902 with oil heat	Clothes cleaners			Central, Seawall	Moderate	SC	SOLV
250.4	250.4-4	Paint company	One-story retail building constructed in 1915, steam heat, corner of First Avenue and Spring Street				Central, Seawall	Moderate	SC	SOLV
250.4	250.4-5	Printers					Central, Seawall	Moderate	SC	SOLV
250.4	250.4-6	Printers		Printers			Central, Seawall	Moderate	SC	SOLV
250.5	250.5-1	Dry cleaners	One-story retail building, built 1914	Dry cleaners			Central, Seawall	Low	RP	SOLV
250.5	250.5-2	Printers		Printers			Central, Seawall	Moderate	SC	SOLV
250.5	250.5-3	Printers	Six-story office and retail building, built 1903	Printers			Central, Seawall	Moderate	SC	SOLV
250.5	250.5-4	Hatters	One-story retail building, built 1908, stove heat, torn down 1967, Building C, Laundry	Cleaners			Central, Seawall	Moderate	SC	SOLV
250.5	250.5-5	Printing company/auto repair shop	Print shop, built 1911	Auto repair shop			Central, Seawall	Low	RP	SOLV, PET
250.5	250.5-6	Printing and Publishing co.	Two-story bank, built 1908, torn down 1969				Central, Seawall	Low	RP	SOLV

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
260.1	260.1-1	waterfront property, Seafood Business				Yes**	Central, Seawall	High	SC	GAS, PET
260.2	260.2-1	Mixed use building	Two-story warehouse, built in 1909, demolished in 1962 and block converted to paved parking lot			Yes	Central, Seawall	Low	RP	MET
270.2	270.2-1	Printing co./chemical co.	Five-story warehouse with retail, built in 1910 covering entire block	Manufacturers	Five-story office/retail, built 1910, heat pump		Central, Seawall	Moderate	SC	SOLV
270.2	270.2-2	Tailors and Cleaners					Central, Seawall	Moderate	SC	SOLV
270.2	270.2-5	Cleaners		Clothes cleaners			Central, Seawall	Moderate	SC	SOLV
280.1	280.1-1	Colman Dock				Yes	Central, Seawall	Moderate	SC	METALS AND PET
280.2	280.2-4	Parking facility				Yes	Central, Seawall	Moderate	SC	PET
280.3	280.3-2	Cleaners		Clothes pressers			Central, Seawall	Low	RP	SOLV
280.3	280.3-3	Printers					Central, Seawall	Low	RP	SOLV
280.5	280.5-1	Cleaners	Three-story hotel and retail building, built 1890, steam heat, torn down 1955	Clothes cleaners			Central, Seawall	Moderate	SC	SOLV
290.2	290.2-1	Printers	Constructed 1910, six-story commercial/retail building	Printing	Six-story office, built 1910, steam heat without boiler		Central, Seawall	Low	RP	SOLV
290.2	290.2-2	Ink manufacturer		Ink manufacturer			Central, Seawall	Low	RP	SOLV
290.2	290.2-3	Engineer Company		Marine gasoline and diesel			Central, Seawall	Low	RP	GAS
290.3	290.3-1	Printers	Four-story building, built 1914	Printing materials / machine shop	Newspaper: built in 1914, steam heat without boiler		Central, Seawall	Moderate	SC	SOLV, MET
290.3	290.3-2	Manufacturing chemists		Manufacturing chemists			Central, Seawall	Low	RP	SOLV
290.3	290.3-3	Electric company/power company	Two buildings: 1901 three-story brick powerhouse with one 14,000-gallon tank (under Post Street?); 1911 one-story garage with steam heat	Power plant	Steam company - two buildings: 1) three-story industrial steam plant, built 1901; 2) one-story storage warehouse, built 1925, no heat		Central, Seawall	Moderate	SC	PCBS
290.3	290.3-5	Power machine works/welding co.		Welding shop	Steam Company - 2 buildings: 1) three-story industrial steam plant, built 1901; 2) one-story storage warehouse, built 1925, no heat		Central, Seawall	Moderate	SC	SOLV, PCBS, MET
290.3	290.3-6	Steam company				Yes	Central, Seawall	Moderate	SC	PCBS, PET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
290.4	290.4-1	Tailors and Cleaners	Six-story office and retail building, built 1908, steam heat		Nine-story parking garage/bank/retail/office, built 1970, no heat listed		Central, Seawall	Low	RP	SOLV
290.4	290.4-2	Smelter	Six-story office and retail building, built 1897, steam heat		Six-story office, built 1900, warmed and cooled air heat		Central, Seawall	Moderate	SC	MET
290.5	290.5-1	Auto repair	Building constructed 1958, stove heat, four 1,000-gallon tanks, 1-500-gallon tank				Central, Seawall	Low	RP	GAS
290.5	290.5-2	Printers	Sixteen-story retail and office building, steam heat				Central, Seawall	Low	RP	SOLV
290.5	290.5-3	Dye works/cleaners and tailors		Clothes pressers			Central, Seawall	Moderate	SC	SOLV
290.5	290.5-4	Real estate co., condo				Yes**	Central, Seawall	Low	RP	MET, GAS
320.1	320.1-2	Lithographer		Lithographer	Hotel: four stories, built 1914, electric wall heat		Central, Seawall	Low	RP	SOLV
320.1	320.1-3	Steel company and storage	Six-story factory and loft building, built 1902	Metal stamping and machine shop	Built in 1902, mixed use office building/apartment with heat pump		Central, Seawall	Moderate	SC	SOLV, MET
320.1	320.1-4	Manufacturing chemist, print shop, mimeo department	Three-story loft and print shop, built 1908	Manufacturing chemists / mimeo department	Office/retail building, built 1900, forced air unit.		Central, Seawall	Moderate	SC	SOLV
320.1	320.1-5	Cleaners			Hotel: four stories, built 1914, electric wall heat		Central, Seawall	Moderate	SC	SOLV
320.1	320.1-6	Printers		Printers	Office/retail building, built 1900, forced air unit		Central, Seawall	Moderate	SC	SOLV
320.1	320.1-7	Printers/lithographer		Printers	Five-story office, built 1900, hot water heat		Central, Seawall	Moderate	SC	SOLV
320.1	320.1-8	Engine works	Two-story shop building, built 1918, stove heat	Machine shop and pattern shop	Two-story retail, built 1918, space heaters		Central, Seawall	Low	RP	SOLV, MET
340.1	340.1-1	Parking garage	Two-story garage, built 1909, oil burner, three gas tanks, automotive and truck steam cleaning	Parking garage with autobody shop and auto repair	Three-story parking garage, built 1909, no heat	Yes	Central, Seawall	Low	RP	GAS AND PET
340.1	340.1-2	Printing and lithograph company	Four-story store and warehouse, built 1900	Printing	Condominiums, per map		Central, Seawall	Moderate	SC	SOLV
340.1	340.1-3	Printing company	Four-story hotel/manufacturing, built 1900		Four-story office, built 1900, forced air unit		Central, Seawall	Moderate	SC	SOLV

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
340.1	340.1-4	Textile mfr.	Three-story hotel/retail, built 1898, stove heat	Machine shop	Three-story office, built 1900, restaurant, forced air unit		Central, Seawall	Moderate	SC	MET, SOLV
350.2	350.2-1	Gas Station	One-story gas station, built 1937, stove heat	Gas station	Three-story parking structure, built in 1984, unknown heating system		Central	Low	RP	GAS
360.2	360.2-1	Paint manufacturers	No Records Available	Paint manufacturers	Seven-story office building, built 1904, warmed and cooled air heat	Yes**	South	Low	RP	SOLV, GAS
360.2	360.2-3	Automobile service	No Records Available	Tires, gas, and oil	Retail and athletic club, masonry building built in 1923; warmed and cooled air		South	Low	RP	GAS, PET
360.2	360.2-4	Painters, sign co.	No Records Available	Painters			South	Low	RP	SOLV
370.2	370.2-1	Gas station	No Records Available	Gas station			South	Low	RP	GAS
370.2	370.2-2	Pattern Works					South	Moderate	SC	MET
370.2	370.2-3	Brass works		Machinists			South	Low	RP	SOLV, MET
370.2	370.2-4	Pattern and model works, machine shop	Two-story machine shop, built 1890, stove heat				South	Moderate	SC	SOLV, MET
370.2	370.2-9	Copper and brass works	One-story store, built 1927				South	Moderate	SC	MET
370.2	370.2-10	Copper and brass works, wire and cable co.	One-story store, built 1929, oil burner	Machine shop			South	Moderate	SC	SOLV, MET
370.2	370.2-11	Electric Company	One-story store, built 1903				South	Moderate	SC	PCBS
370.2	370.2-12	Electric motors and chains	One-story store, date built unknown, oil burner.				South	Moderate	SC	MET
370.2	370.2-13	Machinery mfrs.	One-story store/office building, built 1918, oil burner				South	Low	RP	MET
370.2	370.2-14	Oil company/battery and chemical company		Paint manufacturers and paint spraying / metallurgist / oil dealers			South	Low	RP	SOLV, MET, PCBS
370.2	370.2-15	Paint Company	Four-story warehouse building, built 1909, oil burner				South	Low	RP	SOLV, MET
370.2	370.2-17	Machine shop		Machine shop			South	Low	RP	SOLV, MET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
370.2	370.2-18	Junk company	One-story warehouse/store/office building, built 1920, oil burner	Junk yard			South	Moderate	SC	PET, MET
370.2	370.2-19	Gas Station	One-story gas station, built 1942, stove heat; six 1,000-gallon tanks; repair garage, built 1946	Gas station with auto service		Yes	South	Low	RP	GAS
380.3	380.3-1	Cleaning products		Cleaning compounds			South	Low	RP	SOLV
380.3	380.3-2	Junk company	Built 1954, stove heat	Junk yard	Built 1914, two-story industrial, hot water heat		South	High	SC	MET, PET
380.4	380.4-1	Auto repairs and gas station	Service station, built 1939, stove heat; two 2,000-, one 1,000-, one 550-, and two 300-gallon tanks	Repairs and gas station			South	Low	RP	GAS
380.4	380.4-2	Machine shop	Warehouse/office/loft, built 1917, oil burner	Machine shop			South	Low	RP	SOLV, MET
380.4	380.4-3	Auto supply company/paint warehouse	Warehouse, built 1904	Paint warehouse			South	Low	RP	SOLV
390.1	390.1-1	Warehouse		Machine shops and blacksmith	Terminals 37, 42 and 46 (marine/commercial/fish) Port of Seattle- four buildings: 1) two-story transit warehouse/gate/guardhouse, built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3) transit warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/maintenance, built 1967, space heaters	Yes	South	Low	RP	SOLV, MET, GAS
390.3	390.3-3	Public Utility	Power plant with battery room	Substation	Two buildings: 1) one-story storage warehouse/utility, built 1969, forced air unit; 2) one-story storage warehouse/utility, built 1990, no heat	Yes	South	Moderate	SC	PCBS
390.5	390.5-1	Warehouse and transfer company	Warehouse: signs indicate chemicals, adhesives, colors, foundry and steel mill supplies, built 1926				South	Low	RP	SOLV, PET
390.5	390.5-2	electric motors/distribution company	Store, built 1901, stove heat	Oil and gasoline / oil treating compounds			South	Low	RP	SOLV, PET
390.5	390.5-3	Metal finishing and painting operation	Built 1937, stove heat	Metal finishing and painting			South	Low	RP	SOLV
390.5	390.5-6	Textile bag manufacturers	Built 1938, stove heat	Textile bag manufacturers			South	Moderate	SC	SOLV, PET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
400.1	400.1-1	Furniture mfg., bulk petroleum storage	Furniture factory, built 1909, oil burner/1920s-1995 bulk petroleum storage facility. Port of Seattle purchased in 1993 (Pier 34) to be redeveloped for freight container handling facility.		Three buildings: 1) one-story industrial, built 1909, no heat; 2) one-story industrial, built 1909, no heat; 3) one-story industrial, built 1942, no heat		South	Low	RP	SOLV, MET, PET
400.1	400.1-2	Foundry supplies, painting		Foundry supplies			South	Low	RP	SOLV, MET, PET
400.1	400.1-3	Machine shops		Machine shops			South	Low	RP	SOLV, MET, PET
400.1	400.1-4	Aluminum business, warehouse	Aluminum business warehouse, built 1942, stove heat				South	Low	RP	SOLV, MET, PET
400.1	400.1-5	Disposal company	Transfer Station		Three buildings; 1) built in 1991, one-story government services, warmed & cooled air; 2) one-story storage warehouse, built in 1991, unknown heating; 3) one-story office building, built in 1992, warmed and cooled air / -two buildings: 1) one-story multi-purpose, built in 1991, heat pump; 2) one-story storage warehouse, built 1991, no heat	Yes	South	Low	RP	GAS
400.1	400.1-6	Ink manufacturing	Built 1950, oil burner, one 10,000-gallon fuel oil tank, two other large tanks	Ink manufacturing	One-story industrial building, vacant, built 1950, no heat	Yes	South	Moderate	SC	SOLV, PET
400.1	400.1-7	Pier 34 (former petroleum company)	Boiler house w/ stove/oil burner; bulk rail loading rack, bulk truck loading rack, garage, wash rack, pump house, six tanks, tank farm, warehouse for drum storage and loading; salt tower (petroleum refining), built 1928	Tank farm	Container yard, vacant / terminal (marine/commercial/fish)	Yes	South	Moderate	SC	PET, GAS
410.1	410.1-1	Terminal 30	Built 1913: two one-story garages, maintenance shop, two warehouses, truck oil loading rack, train loading rack, pipe shed, and tanks (tank farm, bulk)	Tank farm	Terminal 30	Yes	South	Moderate	SC	PET
410.1	410.1-2	Gas station	One-story service station, built 1950, stove heat; two 1,000-gallon and one 550-gallon tanks	Gas station			South	Low	RP	GAS
430.1	430.1-1	Chemical manufacturers	One-story garage, built 1960; also ferry landing, piers, warehouses, track pier	Chemical manufacturers			South	Moderate	SC	PET, SOLV
430.1	430.1-2	Iron Works		Foundry and forge shop			South	Moderate	SC	MET
430.1	430.1-3	Gas station		Gas station			South	Low	RP	GAS

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
430.1	430.1-4	Brass foundry and pattern shop		Brass foundry and pattern shop			South	Moderate	SC	MET
430.1	430.1-5	Railyard dock		40-gallon chemical containers			South	Moderate	SC	SOLV
430.1	430.1-6	Gas Station	One-story warehouse, two-story dock, built 1918, oil burner; storage/shop building	Gas station	Terminal 30		South	Low	RP	GAS
430.1	430.1-9	Machine Works			Terminal 30		South	Low	RP	SOLV, MET
450.05	450.05-1	Iron Works, boat building	Built 1943-44, boiler, 1944 permit for new buried oil tank/replace old tank; one-story factory, built 1927; coal shed, washroom, shop, built 1917; one-story machine shop and foundry, built 1927 / railroad barracks, built 1942, stove heat	Steel fabricating / with iron works	Marine/commercial/fish terminal - 6 buildings: 1) one-story gatehouse, built 1991, electric heat; 2) one-story storage warehouse, built 1980, space heaters; 3) two-story storage warehouse/fish shed, built 1938, no heat; 4) one-story storage warehouse, built 1916, no heat; 5) seven-story cold storage warehouse, built 1916, refrigerated cooling; 6) three-story cold storage warehouse, built 1921, refrigerated cooling		South	Moderate	SC	SOLV, MET, PET, PAH
450.05	450.05-3	Gas Station	One-story café, built date unknown, stove heat	Gas station	Rail terminal		South	Low	RP	GAS
450.05	450.05-4	Railroad	Tanks: three 25'6" diameter x 26' height approximately 3,159 barrels (bbls) each; one 36'x28' approximately 6,872 bbls; and one-11'x12' approximately 269 bbls, all equals 31.5 gallon bbl., built 1927		Marine/commercial/fish terminal - six buildings: 1) one-story gatehouse, built 1991, electric heat; 2) one-story storage warehouse, built 1980, space heaters; 3) two-story storage warehouse/fish shed, built 1938, no heat; 4) one-story storage warehouse, built 1916, no heat; 5) seven-story cold storage warehouse, built 1916, refrigerated cooling; 6) three-story cold storage warehouse, built 1921, refrigerated cooling		South	Moderate	SC	PET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
450.2	450.2-1	Chain and Supply Company	One prefabricated metal warehouse building, built 1970, no heat; one metal warehouse-shed building, built 1946, no heat, torn down 1970; one post and beam warehouse building, built 1938, stove heat; one warehouse mill building, built ? (1941), no heat; Block 20 owned by railroad company in 1912; masonry office and crane way, built 1949, oil burner; black top built 1946; wood barn built 1908, no heat, torn down 1946	Junk and used pipe storage, used machinery, wire and rope warehouse	Ten buildings: 1) built 1938, wood frame industrial, heat none or unknown, (industrial light manufacturing); 2) 1943, masonry warehouse, heat none or unknown; 3) 1949, wood frame shed, (material storage), heat none or unknown; 4) 1970, prefabricated steel equipment shed, heat none or unknown; 5) 1969, prefabricated steel equipment shop, no heat; 6) 1952, (industrial heavy manufacturing) structural steel building, no heat; 7) 1965, (industrial heavy manufacturing) structural steel building, no heat; 8) 1939, wood frame (industrial light manufacturing), hot water-radiant heat; 9) 1966, (industrial light manufacturing) prefabricated steel building, no heat; 10) 1939, wood frame garage (storage), no heat	Yes**	South	Moderate	SC	PET, PCB, MET
450.2	450.2-2	Machinery Assembly	Crane shed, steel frame and concrete block, built 1955, no heat; Mill construction concrete "fabricating steel" building, built 1942, no heat	Machinery assembly	Two buildings: one wood frame built 1942, and one prefabricated steel built 1955, heat source none or unknown		South	Moderate	SC	MET
450.2	450.2-3	Metal fabricators	One tank housing masonry building, built 1964, no heat; one single-frame factory building, built 1943, oil burner	Wood working, iron works, steel and castings storage	One wood frame warehouse building built 1943, space heaters, used for industrial light manufacturing	Yes**	South	Moderate	SC	MET
460.1	460.1-1	Terminal 25	Offices and lab, built date unknown, oil burner		Marine/commercial/fish terminal - six buildings: 1) one-story gatehouse, built 1991, electric heat; 2) one-story storage warehouse, built 1980, space heaters; 3) two-story storage warehouse/fish shed, built 1938, no heat; 4) one-story storage warehouse, built 1916, no heat; 5) seven-story cold storage warehouse, built 1916, refrigerated cooling; 6) three-story cold storage warehouse, built 1921, refrigerated cooling	Yes	South	High	SC	SOLV
460.2	460.2-1	Aluminum stripping, machine shop	One-story lumber storage, built 1917, oil burner, removed 1955 to one-story manufacturing/shop, oil burner	Aluminum stripping (lot 7-10), machine shop (lot 6-7 W por), oil house (lot 6 E por)	Five buildings: 1) built 1971; 2) built 1956; 3) built 1955; 4) built 1951 - all one-story industrial buildings, no heat; 5) built in 1999, one-story storage warehouse, space heaters		South	Low	RP	SOLV, MET
460.3	460.3-1	Produce company warehouse, former garage	One-story warehouse built 1926, oil-burner; garage built 1955, no heat (many 55-gallon drums in photo); café/tavern, built 1920, moved 1954, stove, torn down 1968; garage built 1927, stove	Bolt and nut manufacturing, second-hand machinery storage	One warehouse building built in 1926, no heat		South	Moderate	SC	SOLV, PET, PCB, MET
460.3	460.3-2	Machine storage company	built 1922, no heat; machine shop and shed, built 1921, no heat; office, built 1922, stove	Second-hand machinery junk yard and machine manufacturers	Two buildings: one (industrial light manufacturing) built in 1974 space heaters; one (office) building built 1974, forced air		South	Moderate	SC	SOLV, PET, PCB, MET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
470.1	470.1-6	Saw Mill Company		Machine shop / saw mill with oil house	Port of Seattle (2917 E. Marginal Way S.) marine/commercial/fish terminal - six buildings: 1) one-story gatehouse, built 1991, electric heat; 2) one-story storage warehouse, built 1980, space heaters; 3) two-story storage warehouse/fish shed, built 1938, no heat; 4) one-story storage warehouse, built 1916, no heat; 5) seven-story cold storage warehouse, built 1916, refrigerated cooling; 6) three-story cold storage warehouse, built 1921, refrigerated cooling		South	Low	RP	SOLV, PET, MET
470.1	470.1-7	Saw Mill Company	One-story fuel bunker, built 1915, two-story machine shop, built 1921, stove heat				South	Low	RP	SOLV, PET, MET
470.3	470.3-2	Brass foundry		Brass foundry			South	Moderate	SC	MET
470.3	470.3-3	Machinery company		Machine shop			South	Moderate	SC	SOLV, MET, PET
470.35	470.35-2	Water distribution company	Two-story office, built 1951, oil burner		Four buildings: 1) one-story industrial, built 1941, no heat 2) one-story industrial, built 1969, no heat 3) two-story offices, built 1951, hot water heat 4) one-story part washing building, built 1993, no heat.	Yes	South	Low	RP	MET, GAS, PET
470.35	470.35-3	Brass Foundry	One-story machine shop and foundry, built date unknown, stove heat		Same as above		South	Low	RP	SOLV, MET
470.35	470.35-5	Machinery manufacturing	One-story factory, built 1941, oil burner		Lots 12-16: commercial service building (no details listed)		South	Low	RP	SOLV, MET, PET
470.35	470.35-7	Machine shop & pattern shop		Machine shop & pattern shop	Lots 12-16: commercial service building (no details listed)		South	Low	RP	SOLV, MET
480.5	480.5-1	Brass foundry	One- and two-story warehouse, built 1924, oil burner; two-story foundry and factory, built 1917, stove heat		One-story warehouse, built 1924, no heat / copper works - three buildings covering portions of lots 1-3 and 21-22: 1) one-story industrial, built 1918, no heat; 2) one-story industrial, built 1947, no heat; 3) one-story industrial, built 1917, no heat		South	Moderate	SC	MET
480.5	480.5-2	Copper works and machine shop	One-story factory, manufacturing, sales; machine shop built 1918, oil burner	Welding and fabricating	Three buildings covering portions of lots 1-3 and 21-22: 1) one-story industrial, built 1918, no heat; 2) one-story industrial, built 1947, no heat; 3) one-story industrial, built 1917, no heat		South	Moderate	SC	SOLV, MET
480.5	480.5-4	Machine works	One-story warehouse, shop, and factory, built 1941, 1947, 1956, oil burner	Machinery shop	One-story industrial, built 1941, no heat		South	Moderate	SC	SOLV, MET

Exhibit 6-4. Recommended PSIs for Adjacent Properties (continued)

Block No.	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Current Tax Assessor Notes	Listed Site?	Segment	Rank	RP/ SC	Potential/Known Contaminant(s)
480.5-5	480.5-5	Machinery sales and service		Machinery sales and service	Three buildings: 1) twenty-story office, built 1946, forced air unit; 2) one-story industrial shop, built 1945, no heat.; 3) one-story industrial shop, built 1949; manufacturing company, - eight buildings: 1) one-story industrial, built 1947, no heat; 2) one-story fabrication shop, built 1949, no heat; 3) warehouse, built 1949, labeled "bldg.#3,4,5,&6", no heat; 4) one-story office, built 1949, labeled as "bldg.#7 & #8", forced air unit		South	Low	RP	SOLV, MET, PET
480.5	480.5-6	Steel works	One- and two-story warehouse/office, built 1945, two oil burners		Three buildings: 1) twenty-story office, built 1946, forced air unit; 2) one-story industrial shop, built 1945, no heat.; 3) one-story industrial shop, built 1949		South	Moderate	SC	MET
480.5	480.5-8	Steel fabricating co.		Fabricating, steel product manufacturers			South	Moderate	SC	MET
480.5	480.5-9	Sheet metal works	One-story sheet metal shop/warehouse/office, built 1947-49, stove heat, deep pit 12'x16', painting, spray structure, sand blast structure	Steel fabricating and welding, gas tank shown	Eight buildings: 1) one-story industrial, built 1947, no heat; 2) one-story fabrication shop, built 1949, no heat; 3) warehouse, built 1949, labeled "bldg.#3,4,5,&6", no heat; 4) one-story office, built 1949, labeled as "bldg.#7 & #8", forced air unit		South	Moderate	SC	SOLV, GAS, MET
480.5	480.5-10	Auto truck repair		Auto truck repair	One-story industrial, built 1941, no heat		South	Low	RP	SOLV, MET, PET
480.5	480.5-11	Tool works		Two oil tanks	One-story industrial, built 1941, no heat		South	Low	RP	SOLV, MET
480.5	480.5-12	Chains and sprockets, metals company, ice machine company		One gas tank shown / machine shop and manufacturing, one gas tank			South	Low	RP	SOLV, MET, GAS
480.7	480.7-1	Sheet metal manufacturing	One-story warehouse, built 1926, stove heat				South	Moderate	SC	MET
480.7	480.7-2	Power company	One-story power plant, built 1920, two rotary generators (13,000 volts)	Substation			South	Moderate	SC	PCB, PET

Notes:

GAS = gasoline

MET= metals

PCB = polychlorinated biphenyls

PET = petroleum

SOLV = solvent

PSI = preliminary site investigation

RP = reasonably predictable

SC = substantially contaminated

not ranked = site is not identified as having potential contaminants based on historic use or federal or state databases

x = PSI or ACBM or LBP survey recommended

ACBM = asbestos-containing building material

LBP = lead-based paint

* although not identified as a site, all railroad right-of-way have a potential for petroleum contaminants- low but no specific PSI appears to be warranted

** site listed in UST database only, installed prior to 1980. No known release.

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Chapter 7 SECONDARY AND CUMULATIVE IMPACTS

Secondary and cumulative impacts of all the Build Alternatives include an overall reduction of contaminants in the environment. Specifically, contamination may be discovered and cleaned up that would otherwise remain in place with a potential to migrate. Also, removing potential hazardous material release sources, such as USTs, would prevent future contamination from occurring. Construction activities could uncover contaminated material, allowing more direct exposure to the public, and spread of contamination, if preventative measures were not implemented.

Ten potentially contaminated sites located on 12 parcels for all Build Alternatives have been identified for possible acquisition or modification. Contaminated sites that are acquired could result in liability for cleanup beyond the construction phase. Please see Exhibit 6-3 for a list of properties of concern.

Rebuilding the existing seawall will allow for other improvements along the waterfront. Sediment would be disturbed during the removal of the existing over-water structure and the existing bulkhead at Pier 48. This sediment is likely contaminated with PAHs and heavy metals. Potential impacts from resuspended sediments are discussed in Appendix S, Water Resources Discipline Report.

Expansion of the Colman Dock Ferry Terminal (Pier 52/53) (Block 280.1) is proposed with a construction start in 2007. Contaminated sediments have been documented in the area. Shallow sediment that may be removed would have to be disposed of off-site at an upland location. Sediment could also be re-suspended, adversely affecting water quality. For more information, please refer to Appendix S, Water Resources Discipline Report.

Broad Street will be filled for all Build Alternatives, with the exception of the Rebuild Alternative. This soil could be contaminated if shallow groundwater from an adjacent contaminated site migrates into the new Broad Street.

7.1 No Build Alternative

Secondary and cumulative impacts of the No Build Alternative include (1) contamination that would otherwise be cleaned up or controlled by the project will remain and could migrate, (2) potential hazardous materials release sources such as USTs will not be removed, and future releases could occur, and (3) hazardous materials in some buildings may not be abated and could pose a health hazard to occupants.

7.2 Rebuild Alternative

The Rebuild Alternative would acquire or modify 14 potentially contaminated sites. Contaminated sites that are acquired could result in liability for cleanup beyond the construction phase.

7.3 Aerial Alternative

The Aerial Alternative would acquire or modify 18 potentially contaminated parcels. Contaminated sites that are acquired could result in liability for cleanup beyond the construction phase.

7.4 Tunnel Alternative

The Tunnel Alternative would acquire or modify 20 potentially contaminated parcels. Contaminated sites that are acquired could result in liability for cleanup beyond the construction phase.

7.5 Bypass Tunnel Alternative

The Bypass Tunnel Alternative would acquire or modify 20 potentially contaminated parcels. Contaminated sites that are acquired could result in liability for cleanup beyond the construction phase.

7.6 Surface Alternative

The Surface Alternative would acquire or modify 33 potentially contaminated parcels. As the owner of contaminated property, the City of Seattle, WSDOT, and/or FHWA could become liable for future cleanups.

Chapter 8 OPERATIONAL MITIGATION

Operational impacts related to hazardous materials and water are primarily associated with stormwater quality. These issues are addressed in Appendix S, Water Resources Discipline Report rather than in this report.

Under Scenarios 1, 2, and 3 of the No Build Alternative, localized sections or the entire seawall could collapse. Little mitigation could be accomplished during the seawall collapse other than emergency response. A silt curtain could be implemented to minimize the distribution of resuspended sediment, although the timing of the response may be challenging.

The Battery Street Tunnel is being upgraded for safety concerns to address potential impacts from a hazardous material spill or fire. Hazardous materials are currently restricted from the Battery Street Tunnel and this restriction could continue. The tunnels would be designed to provide emergency access and evacuation in conformance with NFPA 101 (Life Safety Code), NFPA 502, (standard for Road Tunnels, Bridges, and Other Limited Access Highways), and other codes and regulations. The tunnel would also need to be ventilated, and access to tunnel sections would need to be maintained at all times to ensure prompt response times and safety of both passengers and service providers. Similar to restrictions for the Battery Street Tunnel, hazardous materials could be restricted from the Tunnel and Bypass Tunnel Alternatives. Please see the Public Services and Utilities Technical Memorandum for additional information.

Mitigation for release of contaminants to air or ground surface could be implemented. Absorbent material could be used as part of a spill response to minimize the spread of liquid. Personal protective equipment such as respirators could be employed for personnel in the area to protect against contaminated fugitive dust.

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Chapter 9 CONSTRUCTION MITIGATION

Contamination is likely to be encountered during construction in all of the Build Alternatives. The project may avoid some areas of contamination by not acquiring properties, such as proposed staging areas, that have been identified as having known or potential contamination. However, contamination may not be avoidable in areas of the SR 99 right-of-way where earthwork is anticipated.

All of the Build Alternatives contain some elements in common. For example, they all include repairing and/or replacing the existing Alaskan Way Viaduct Seawall. The Build Alternatives also have proposed geotechnical elements in common, such as the use of drilled shafts, MSE walls, cast-in-place concrete piles, ground improvement (deep soil mixing and/or jet grouting), and other elements that will require soil and/or groundwater disposal.

A summary of the estimated volume of soil that will be removed for each of the alternatives is presented in Exhibit 6-1. A summary of the estimated volume of material that is potentially contaminated is presented in Exhibit 6-2. The quantities were estimated based on the depth of fill, all of which was assumed to be contaminated, and a worst-case scenario. All of the existing rail ballast, ties, and obstructions that will be removed were also assumed to be contaminated. As presented in Exhibit 6-2, some construction activities result in less waste or spoils that could be contaminated.

For structures that would be acquired or modified, verification of the presence of asbestos-containing building material and lead-based paint and an estimation of the quantities of each material occurring in and on the structure to be demolished would need to be completed prior to demolition. Soil handling options include (1) using soils that do not exceed Washington State MTCA Method A cleanup levels under roadways as fill [if the soils meet both state and regulatory requirements and geotechnical fill specifications], and (2) transporting the soils to a thermal treatment facility, landfill, and/or hazardous waste landfill or incinerator, as described below. This would be accomplished as a pre-demolition building survey conducted by an Asbestos Hazard Emergency Response Act (AHERA)-certified building inspector. If asbestos-containing building material and/or lead-based paint were identified, mitigation will consist of removing these materials in compliance with the Washington Industrial Safety and Health Act (WISHA) and Puget Sound Clean Air Agency standards, prior to building demolition and disposing of them in an approved facility.

Twelve parcels/buildings have been identified for all Build Alternatives. The parcels are potentially contaminated with metals, petroleum, and gas.

9.1 Mitigation for Specific Alternatives

Mitigation and hazardous materials handling and disposal options for the construction impacts of the proposed alternatives are summarized below.

9.1.1 No Build Alternative

Because no construction is involved in the No Build Alternative, contaminated sites will be avoided.

9.1.2 Rebuild Alternative

For the Rebuild Alternative, 14 buildings and 8 parcels would be either acquired or modified. In comparison to the other Build Alternatives, this alternative would involve acquisition or modification of the fewest number of buildings and parcels.

Contamination will likely be encountered during earthwork for this alternative in the fill along the waterfront and in the right-of-way in the vicinity of the steam plant site. In the waterfront area, petroleum- and creosote-contaminated soil, as well as creosote-treated timber, will likely be encountered due to the railroad tracks, seawall, piers, and the former wood-plank road in this area.

Bunker C oil has reportedly migrated into the soils below Alaskan Way from the steam plant site on Western Avenue. This fuel becomes tar-like at ambient temperatures. Contaminated soil associated with this plume can be disposed at a Class D landfill or thermally treated. Use of solvents will be necessary to clean equipment used in excavating and handling this material; the spent solvent will then have to be handled and disposed of appropriately.

The presence of H₂S along the waterfront may require special procedures, including monitoring and mechanical ventilation of excavations. For any dewatering activities that encounter H₂S dissolved in the groundwater, treatment will most likely be required prior to discharge.

Contamination may also be encountered from contaminants migrating into the right-of-way from adjoining or nearby properties. If petroleum contamination, asbestos-containing building material, and/or lead-based paint are encountered, mitigation is expected to be reasonably predictable. Remediation of other contaminants that may be encountered, such as halogenated solvents and other solvents, metals, PCBs, creosote,

formaldehyde, volatile and semivolatile organic compounds, and PAHs, is not considered reasonably predictable.

Avoidance

Contamination could likely be avoided by relocating staging areas to properties that are not likely to be contaminated or relocating to non-contaminated portions of the property to minimize contact with contaminated media.

In addition to avoiding acquiring the properties, there are various means of minimizing potential liability, including but not limited to:

- Leasing property rather than purchasing property.
- Obtaining a surface easement rather than purchase property.
- Create an indemnification agreement and/or prospective purchaser agreement with the current property owner.
- Value property as “clean” and place funds in escrow until cleanup is completed by owner.

Minimization of Impacts

To minimize the amount of contamination that may be encountered, a Preliminary Site Investigation should be performed in areas where excavation and/or drilling are expected to determine the location and extent of contamination so as to avoid hot spots. For bridge foundations, driven piles should be used instead of drilled shafts, if possible, to reduce the potential for opening conduits for contaminant migration.

The slurry used in construction may become contaminated. To minimize the potential for contamination, the contaminated portion of the hole could be cased, with a maximum depth of about 50 feet. If slurry were to become contaminated, the contaminated slurry may be reused at a particular portion of the wall adjacent to the contaminated property, but may not be acceptable for use elsewhere on the project. The contaminated property could be handled separately, reducing the volume of contaminated slurry generated by constant reuse through this portion of the project. At the end of the contaminated area, the contaminated slurry should be disposed of appropriately to minimize cross contamination along the diaphragm wall.

Drilled shafts are proposed for this alternative. Soil that could be contaminated will be removed from the shaft. Other structures that do not result in waste soil include driven piles or stone columns. Both methods displace soil laterally. However, they may have limited applications. Driven piles cannot be installed near buildings because vibration and installation of stone columns requires overhead clearance, which is limited along the project

corridor. Large amounts of water could be displaced during installation of stone columns if a wet method is employed.

Depending on the type of structure/earthwork, specific construction methods may need to be employed to minimize the transport of hazardous material or contaminated media. Controlled-density fill or trench dams may be installed at intervals along utility runs where contamination is suspected to prevent migration of contaminants in shallow groundwater.

Depending upon contaminant concentrations and the geotechnical qualities of the ballast, it could be reused in the relocated rail yard.

In areas of known groundwater contamination, special drilling methods would be employed to reduce the potential for vertical migration of contaminants during drilled shaft installation. Each saturated zone should be cased to prevent the groundwater from entering the borehole and flowing down the open shaft, thereby isolating the saturated zone.

An alternative method for ground improvement would be to use stone columns (either wet or dry method), which displace soil laterally. However, the wet method could displace large volumes of water mixed with eroded soil to the ground surface.

The jet grouting and deep soil mixing could be accomplished to allow windows for groundwater to flow through the area after ground improvements are completed. Although flow paths will be altered, this approach would avoid a large-scale groundwater diversion and would reduce the potential for contamination of crossgradient properties. This approach is not possible along the seawall, where ground improvement will need to be continuous.

A silt screen would be installed outboard of the seawall in work zones to minimize mobility of sediment that may be disturbed during work on the seawall. Please see Appendix S, Water Resources Discipline Report.

In-water work such as removing riprap could be conducted at low tide to minimize resuspension of sediments.

VOCs, including compounds from creosote-treated timbers and gasoline, contaminate soil and could become airborne during construction. Engineering controls such as fans and blowers could be employed to dissipate volatile contaminants. More elaborate engineering controls, such as filtration, may be necessary.

Stormwater control and treatment will be improved as discussed in Appendix S, Water Resources Discipline Report.

Hazardous Materials Handling and Disposal Options

Mitigation measures that will be required as part of the construction planning include development of spill prevention, control, and countermeasure plans; erosion and sedimentation control plans; and plans for handling and disposal of known and unanticipated contamination. Development and implementation of these plans will be required by WSDOT Standard Specifications and required regulatory permits, including the NPDES stormwater permit.

Although most contaminated sites potentially affecting the project have been identified, the possibility of encountering unknown contamination cannot be discounted. The WSDOT Construction Manual (WSDOT 2003, Section 510.09) provides guidelines for addressing discoveries of unanticipated contamination. Contractors who are likely to encounter unknown contamination should be capable of identifying and rapidly responding to these situations. Workers should be apprised of the possibility of encountering contaminated areas. The contractor should be required to have a site Health and Safety Plan that describes monitoring requirements, and the use of personal protective equipment will be necessary for workers that come in contact with contaminated media.

When encountering contaminated soil and/or groundwater is unavoidable, contaminated soil and/or groundwater could be characterized prior to excavation to minimize space requirements for stockpiling and the need for double handling of the material.

Spoils from jet grouting and deep soil mixing will result in a waste consisting of soil and grout. The deep soil mixed soil may be a thick mud. The spoils may be contaminated if they were removed from areas of contamination. Stabilization or dewatering the mixture will be necessary prior to disposal.

Depending on the nature of the contaminant, the soil and groundwater could be stockpiled or containerized and then characterized to determine disposal options. Soil handling options include using soils that do not exceed Washington State MTCA Method A cleanup levels under roadways as fill if the soils meet state and federal regulatory requirements, geotechnical fill specifications, or transporting the soils to a thermal treatment facility, landfill, and/or hazardous waste landfill or incinerator, as described below. The disposal sites are readily accessible by federal and state highways. Some disposal sites are accessible by rail.

Soil with low concentrations of hydrocarbons and other contaminants may be disposed at a land reclamation facility. The soil may contain construction debris other than wood.

Contaminated soil that is not a hazardous waste and wood (both creosote-treated and untreated) could be disposed at a Class D landfill facility. Alternatively, petroleum-contaminated soil could be remediated at a thermal treatment facility but will require removal of timber and piles.

Soil contaminated at levels that constitute a hazardous waste will require disposal at a Class C landfill, bioremediation for solvents, or incineration, depending on the type and concentration of contaminants.

Groundwater that does not exceed Method A cleanup levels could be discharged directly or indirectly to the ground surface or surface water, provided that discharge conforms to regulatory criteria. Groundwater that is above the Method A cleanup levels but below dangerous waste criteria could be treated to meet requirements for local discharge through a publicly owned treatment works or off-site disposal at a private treatment, storage, and disposal (TSD) facility. Groundwater that exceeds dangerous waste criteria will require pretreatment and disposal through a publicly owned treatment works or disposal at a hazardous waste TSD facility.

Abatement of other contaminated materials, such as asbestos-containing building material and building materials with lead-based paint, will need to be conducted in accordance with applicable regulations.

9.1.3 Aerial Alternative

In the Aerial Alternative, 8 buildings and 18 parcels would either be acquired or modified. Unlike the other Build Alternatives, potentially contaminated properties north of the BST and west of SR 99 would be acquired for the option in this alternative. Dry cleaners formerly operated at three of these properties and may have affected the soil and groundwater underlying the properties and adjacent surface street rights-of-way. Solvent-contaminated soil and groundwater could be encountered.

Petroleum- and creosote-contaminated soil, as well as creosote-treated timber, will likely be encountered in fill material in the waterfront area due to the railroad tracks, seawall, piers, and the former wood-plank road in this area.

Avoidance

Avoidance options will be the same as for the Rebuild Alternative (Section 9.1.2).

Minimization of Impacts

Options to minimize impacts will be the same as for the Rebuild Alternative.

Hazardous Materials Handling and Disposal Options

Hazardous materials handling and disposal options will be the same as for the Rebuild Alternative.

9.1.4 Tunnel Alternative

In the Tunnel Alternative, 10 buildings and 20 parcels would either be acquired or modified. In addition, this alternative will generate the largest quantity of excavated fill soils from the waterfront.

The tunnel portion of this alternative extends from S. King Street to Stewart Street in the waterfront area. Petroleum- and creosote-contaminated soil, as well as creosote-treated timber, will likely be encountered in fill material in this area due to the railroad tracks, seawall, piers, and former wood-plank road.

The at-grade alignments of this alternative will require in-water work at Washington Street. The road will extend approximately 21 feet west of the current seawall. Contaminated sediments are present near Pier 48 at concentrations exceeding Ecology's Sediment Cleanup Standards. Off-site upland disposal of the shallow sediment removed from the drilled shafts will most likely be required. Elevated concentrations of metals (primarily lead) have been detected in the upper 10 feet of sediment. If the sediment exceeds dangerous waste criteria, it will require disposal at a Class C landfill.

Avoidance

Avoidance options will be the same as for the Rebuild Alternative (Section 9.1.2).

Minimization of Impacts

Options to minimize impacts include those discussed for the Rebuild Alternative. In addition, the dewatering system that will need to be constructed for the tunnel should be designed to minimize the drawdown and the area of influence so as to reduce the potential for mobilizing contaminants that may be present in the groundwater.

Hazardous Materials Handling and Disposal Options

Hazardous materials handling and disposal options will be the same as for the Rebuild Alternative.

9.1.5 Bypass Tunnel Alternative

In the Bypass Tunnel Alternative, 10 buildings and 20 parcels would either be acquired or modified.

Petroleum- and creosote-contaminated soil, as well as creosote-treated timber, will likely be encountered in fill material in the waterfront area due to the railroad tracks, seawall, piers, and the former wood-plank road in this area. Not as much fill soil from the waterfront area will be excavated for the tunnel on the Bypass Tunnel Alternative because the tunnel will be narrower than the one proposed for the Tunnel Alternative. However, the Bypass Tunnel Alternative will involve construction of a water treatment facility with a detention basin that will be 1,000 feet long by 58 feet wide and 65 feet deep. The facility will be located in the waterfront area near S. Royal Brougham Way. Petroleum- and creosote-contaminated soil, as well as creosote-treated timber, will likely be encountered in fill material in this area due to the railroad tracks and the former wood-plank road in this area.

Like the Tunnel Alternative, the at-grade alignments of this alternative will require in-water work at Washington Street. The road will extend approximately 57 feet west of the current seawall. Contaminated sediments are present near Pier 48 at concentrations exceeding Ecology's Sediment Cleanup Standards. Off-site upland disposal of the shallow sediment removed from the drilled shafts will most likely be required. Elevated concentrations of metals (primarily lead) have been detected in the upper 10 feet of sediment and may exceed dangerous waste criteria.

Avoidance

Avoidance options will be the same as for the Rebuild Alternative (Section 9.1.2).

Minimization of Impacts

Options to minimize impacts include those discussed for the Rebuild Alternative. In addition, the dewatering system that will need to be constructed for the tunnel and detention basin should be designed to minimize drawdown and the area of influence so as to reduce the potential for mobilizing contaminants that may be present in the groundwater.

Hazardous Materials Handling and Disposal Options

Hazardous materials handling and disposal options will be the same as for the Rebuild Alternative.

9.1.6 Surface Alternative

For the Surface Alternative, 20 buildings and 33 parcels would either be acquired or modified. Properties would be acquired as far south as

S. Spokane Street and would include numerous businesses with potential historic use of hazardous materials.

The Surface Alternative will extend approximately 1,400 feet farther south than any of the other Build Alternatives to accommodate relocating the railroad tracks to the east. Any foundation work for the new track will most likely encounter low levels of petroleum associated with long-term railroad use of the area.

This alternative will involve construction of a water treatment facility with a detention basin in the waterfront area that will be 200 feet long by 72 feet wide and 65 feet deep. The facility will be located near S. Royal Brougham Way. Petroleum- and creosote-contaminated soil, as well as creosote-treated timber, will likely be encountered in fill material in the waterfront area due to the railroad tracks and the former wood-plank road in this area.

Avoidance

Avoidance options will be the same as for the Rebuild Alternative (Section 9.1.2).

Minimization of Impacts

Options to minimize impacts will be the same as for the Rebuild Alternative. In addition, the dewatering system that will need to be constructed for the detention basin should be designed to minimize drawdown and the area of influence so as to reduce the potential for mobilizing contaminants that may be present in the groundwater.

Hazardous Materials Handling and Disposal Options

Hazardous materials handling and disposal options will be the same as for the Rebuild Alternative.

9.2 Construction Planning

Several mitigation measures will be required as part of construction planning. These include development of spill prevention, control, and countermeasure plans; erosion and sedimentation control plans; and plans for handling and disposal of known and unanticipated contamination. These plans will describe procedures, including best management practices (BMPs), such as installing storm drain inlet protection, covering stockpiled soils, and containerizing and characterizing groundwater prior to discharge and/or disposal. Development and implementation of these plans will be conditions of permits required for the project, including the NPDES stormwater permit.

In accordance with the WSDOT Highway Runoff Manual, any construction contract for the Alaskan Way Viaduct and Seawall Replacement Project will require the contractor to provide plans and procedures for dealing with pollutants other than sediment. The BMPs recommended by the contractor in this addendum are simple and cost-effective methods of preventing contamination of the environment from construction activities.

Although most contaminated sites potentially affecting the project have been identified, the possibility of encountering unknown contamination cannot be discounted. The WSDOT Construction Manual provides guidelines for addressing discoveries of unanticipated contamination. It is necessary to ensure that there are individuals on site who are trained in recognizing potential contamination and reporting procedures. Failure to recognize such hazards can lead to spills or injury, with the associated response and health implications. Contractors who are likely to encounter unknown contamination should be required to demonstrate their ability to identify these situations and respond quickly.

As discussed in the Construction Impacts chapter (Chapter 6), there is a possibility that workers could encounter unanticipated contaminants during construction activities. Workers should be apprised of the possibility of these encounters and the potentially contaminated areas. A site Health and Safety Plan that describes monitoring requirements and the use of personal protective equipment will be necessary for all contractors.

Excavation could be required in potentially contaminated areas. A stockpile area could be designated for temporary storage of soils while awaiting characterization results. If soils encountered during project construction are anticipated to be a dangerous waste (contaminant concentrations exceed the state criteria for disposal at Class D landfill), an identification number along with planning for soil handling and disposal can be completed prior to construction. This would reduce soil handling time, as soils could be loaded onto trucks during initial excavation and hauled to treatment or disposal facilities.

An asbestos survey will need to be conducted by AHERA-certified inspectors prior to demolition or modification of any structures associated with project construction. Abatement work will need to be conducted in accordance with applicable asbestos regulations.

Chapter 10 REFERENCES

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ATTACHMENT A

EDR Area Study Report

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Exhibit A-1
The EDR Area Study Report

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The EDR Area Study Report

Study Area
Viaduct
Seattle, WA 98121

September 17, 2001

Inquiry number 679391.4s

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR).

TARGET PROPERTY INFORMATION

ADDRESS

VIADUCT
SEATTLE, WA 98121

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL ASTM STANDARD

Proposed NPL..... Proposed National Priority List Sites
RCRIS-TSD..... Resource Conservation and Recovery Information System

STATE ASTM STANDARD

HSL..... Hazardous Sites List

FEDERAL ASTM SUPPLEMENTAL

CONSENT..... Superfund (CERCLA) Consent Decrees
Delisted NPL..... National Priority List Deletions
MINES..... Mines Master Index File
NPL Liens..... Federal Superfund Liens

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in *bold italics* are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

FEDERAL ASTM STANDARD

NPL: Also known as Superfund, the National Priority List database is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund program. The source of this database is the U.S. EPA.

A review of the NPL list, as provided by EDR, and dated 07/26/2001 has revealed that there is 1 NPL

EXECUTIVE SUMMARY

site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
HARBOR ISLAND (LEAD)	MOUTH OF DUWAMISH RIVER	0	11

CERCLIS: The Comprehensive Environmental Response, Compensation and Liability Information System contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

A review of the CERCLIS list, as provided by EDR, and dated 05/14/2001 has revealed that there are 5 CERCLIS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
HARBOR ISLAND (LEAD)	MOUTH OF DUWAMISH RIVER	0	11
SEAFAB METALS CO	2700 16TH AVE SW	335	612
LOCKHEED SHIPBLDG CO YARD 1	2929 16TH AV SW	348	650
WEYERHAEUSER SEATTLE LAB-UNDEV	3233 11TH ST SW	361	680
VALUE PLATING & METAL POL	3207 11TH AV SW	361	682

CERCLIS-NFRAP: As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

A review of the CERCLIS-NFRAP list, as provided by EDR, and dated 05/14/2001 has revealed that there are 18 CERCLIS-NFRAP sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
DANIEL BOONE PAINT CO INC SEAT	1401 DEXTER AVE N	7	25
JARVIE PAINT MFG CO	760 ALOHA ST	16	37
SEATTLE POST INTELLIGENCER	521 WALL ST	104	220
METAL LAUNDRY INCORPORATED	614 12TH	194	323
TOOMEY PROPERTY SITE	28836 164 SE	220	382
METRO KING CO DOT TR DIV CENTR	401 S JACKSON ST	253	428
SEATTLE TECHNICAL FINISHING IN	1005 S KING	260	435
USCG INTEGRATED SUPPORT COMMAN	1519 ALASKAN WAY S	288	486
GOLDEN PENN OIL CO OF SEATTLE	13614 129 PL NE	292	495
METZGER FARM	T28N R31E S12	299	521
LEON CHRISTIAN DRUMS	5020 PORTLAND AVE	319	565
EQUILON ENTERPRISES LLC	2555 13TH AVE SW	325	575
INDUSTRIAL PLATING CORP	2411 6TH S	329	591
BOEING COMPANY PLANT 2	7755 E MARGINAL WAY S	331	598
FRANZ SEATTLE BAKERY	2901 6TH AVE S	349	655
BEI CHEMPRO FIELD SVCS PS	3400 E MARGINAL WAY S	379	723

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<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
SEATTLE CITY LIGHT SEATTLE MRW	3613 4TH AV S	382	729
ASH GROVE CEMENT WEST INC	3801 E MARGINAL WAY S	385	746

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/27/2001 has revealed that there are 3 CORRACTS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
GOLDEN PENN OIL CO OF SEATTLE	13614 129 PL NE	292	495
SEAFAB METALS CO	2700 16TH AVE SW	335	612
VALUE PLATING & METAL POL	3207 11TH AV SW	361	682

RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-LQG list, as provided by EDR, and dated 06/21/2000 has revealed that there are 25 RCRIS-LQG sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
SEATTLE CITY ROY STREET FACILI	802 ROY ST	33	68
WESCOR GRAPHICS CORP	500 DEXTER AVE N	45	93
ARI 400 BUILDING	400 9TH AVE N	54	115
SEATTLE CENTER	305 HARRISON ST	59	123
ANALYTICAL RESOURCES INC 333 B	333 9TH AVE N	64	132
SPACE NEEDLE CORP	219 4TH AVE N	72	141
SEATTLE TIMES	1120 JOHN ST	81	152
HUGH CORBETT BUILDING	1942 WESTLAKE AVE	150	273
CINERAMA	2100 4TH AVE	152	276
IMMUNEX CORP SEATTLE	51 UNIVERSITY ST	202	334
US WEST COMMUNICATIONS INC W00	1122 3RD AVE USW	203	341
CENTRAL DISTRICT YMCA	909 4TH AVE	212	355
ROMAC INDUSTRIES INC	1064 4TH AVE S	277	463
USCG INTEGRATED SUPPORT COMMAN	1519 ALASKAN WAY S	288	486
GOLDEN PENN OIL CO OF SEATTLE	13614 129 PL NE	292	495
TODD SHIPYARDS	1801 16TH SW	308	539
SEATTLE RADIATOR WORKS	1936 1ST AVE S	314	549
EQUILON ENTERPRISES LLC	2555 13TH AVE SW	325	575
INDUSTRIAL PLATING CORP	2411 6TH S	329	591
ARCO TANK FARM	1652 SW LANDER ST	332	601
GATX HARBOR ISLAND TERMINAL	2720 13TH AVE SW	340	627
SHERWIN WILLIAMS PAINT CO 6TH	2940 6TH AVE S	349	656
ALASKAN COPPER WORKS	3200 6TH AVE S	359	674
SEATTLE CITY LIGHT SEATTLE MRW	3613 4TH AV S	382	729
VAN WATERS & ROGERS 1ST AVE S	4000 1ST AV S	398	771

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RCRIS: The Resource Conservation and Recovery Act database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. The source of this database is the U.S. EPA.

A review of the RCRIS-SQG list, as provided by EDR, and dated 06/21/2000 has revealed that there are 357 RCRIS-SQG sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
BIRD JOHNSON CO	1608 FAIRVIEW AVE E	2	16
LAKE UNION DRY DOCK CO	1515 FAIRVIEW AV E	3	17
DANIEL BOONE PAINT CO INC SEAT	1401 DEXTER AVE N	7	25
SCOTTS H & A AUTOMOTIVE	1225 DEXTER AVE N	10	29
MACAULAY AUTOMOTIVE CORP	1207 DEXTER N	11	30
AMERICAN METER MACHINE	1001 WESTLAKE N	12	31
YALE ST LANDING	1001 FAIRVIEW AVE N	14	36
JARVIE PAINT MFG CO	760 ALOHA ST	16	37
YELLOW CAB	912 DEXTER AV N	16	41
KORRY ELECTRONICS SEATTLE	801 DEXTER AVE N	17	43
MARYATT INDUSTRIES CINTAS CORP	773 VALLEY ST	17	44
SEATTLE SCHOOL DIST 1 FACILITI	810 DEXTER AVE N	17	48
AUTO HOUND DKB ENTERPRISES INC	835 8TH AVE N	17	49
TUBE ART DISPLAYS INC SEATTLE	808 ALOHA ST	17	49
USN RESERVE READINESS C	845 TERRY AVE N	19	51
USN COOPMINERON ELEVEN	860 TERRY AVE N	19	51
ACCURATE SAFE LOCK CO	815 5TH AVE N	21	53
CS AUTO REBUILD INC	807 AURORA AVE N	22	53
VAN DE KAMPS DUTCH BAKERY	823 YALE AVE N	23	54
CRAFTSMAN PRESS	1155 VALLEY ST	25	56
SEATTLE MOTOR SPORTS	701 9TH AVE N	26	57
FRANK KENNEY TOYOTA VOLVO	715 9TH AVE	26	57
FAIRVIEW	800 FAIRVIEW AVE	27	58
MARRIOTT RESIDENCE INN LAKE UN	800 FAIRVIEW AVE N	27	59
USWCOM FAIRVIEW	800 FAIRVIEW	27	59
SEATTLE CITY PARKS NW SEAPORT	1002 VALLEY	28	60
UNOCAL SS NO TM0255	700 QUEEN ANNE AVE N	29	61
WERNERS CRASH SHOP INC	710 TAYLOR AV N	30	63
QUEENS CLEANERS	716 TAYLOR AVE N	30	63
AUTO SERVICE EUROPA INC	717 DEXTER AVE N	31	67
PACIFIC LINCOLN MERCURY NISSAN	601 WESTLAKE AVE N	35	74
ZIG ZAG	620 AURORA AVE N	36	79
PACIFIC RIM DIESEL INC MERCER	570 MERCER ST	37	81
QUIK SIGN INC	601 DEXTER AVE N	40	83
SEATTLE CITY DEPT OF ADMIN SEA	630 BOREN AVE N	41	87
PSE MERCER OFFICE	815 MERCER ST	43	89
CARL ZAPFFE INC	513 DEXTER AVE N	45	96
SIGNS TODAY INC	524 DEXTER AVE N	45	96
MERCER BUS BARN SEATTLE CENTER	520 5TH AVE N	46	100
COLOR SERVICE INC	509 FAIRVIEW AVE N	48	104
WASHINGTON TRADE PRESS INC	1015 REPUBLICAN ST	49	105
TERRY DRUM	500 TERRY AVE N	49	108
UNIVERSITY OF WA ROSEN BLDG	960 REPUBLICAN ST	49	108
ANTIQUE LIQUIDATORS	503 WESTLAKE N	49	111
INTERSTATE BRANDS CORP HOSTESS	434 AURORA AVE N	52	113
METAL ARTS GROUP LTD	406 DEXTER AVE N	53	113
HAUGE HASSAIN INC	416 DEXTER AVE N	53	114
RATELCO COMMUNICATION SERVICES	430 DEXTER AVE N	53	114
IVEY SERIGHT INTERNATIONAL INC	427 9TH AVE N	54	115
IVEY SERIGHT INTL INC	424 8TH AVE N	55	116

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Site	Address	Map ID	Page
SEATTLE SCHOOL DIST 1 SCH SUPP	1255 HARRISON ST	56	117
FIRESTONE TIRE & RUBBER CO	400 WESTLAKE AVE N	57	121
SCANNER GRAPHICS INC SEATTLE F LEE SITE	405 FAIRVIEW AVE N 505 HARRISON ST	60 61	127 127
SEATTLE SCHOOL DIST 1 MEMORIAL ARNIE DAHL FORD	401 5TH AVE N 603 HARRISON ST	61 62	128 128
FAT CITY INC SEATTLE	777 THOMAS ST	63	129
RUBY PRESS ALOHA GRAPHICS	766 THOMAS ST	63	130
WILDERMAN REFRIGERATION CO	300 DEXTER AVE N	63	130
KING TV	333 DEXTER AVE N	63	130
BH STORDAHL & SONS INC	901 THOMAS ST	64	131
UNITED ELECTRIC MOTOR INC	308 9TH AVE N	64	131
VAGABOND INN	325 AURORA AVE N	66	134
CORPORATE EXPRESS INC	306 WESTLAKE AVE N	67	135
FOLEY ENTERPRISES	318 WESTLAKE AVE N	67	136
FORDE MOTION PICTURE LABS	306 FAIRVIEW AVE N	68	136
SEATTLE TIMES CO FAIRVIEW AVE	311 FAIRVIEW AVE N	68	137
GENETIC SYSTEMS CORP SDP SEATT	1000 THOMAS ST	71	139
SEATTLE TIMES BOREN BLDG	301 THRU 309 BOREN AVE	71	140
PPG INDUSTRIES INC LOC 180	234 DEXTER AVE	74	142
BERNARD IMPORT BODYWORKS	223 8TH AVE N	77	148
BUNGE FOODS SEATTLE TOPPINGS & 975 JOHN ST OFFICE BLDG	1001 JOHN ST 975 JOHN ST	78 78	149 150
RELOCATION SVC INC DBA UNITED	219 TERRY AVE N	78	150
HAUGE & HASSAIN INC	207 6TH AVE N	79	150
GRAPHICS WEST TYPELINE	217 6TH AVE N	79	151
IGEN INC	130 5TH AVE N	83	158
LANDROVER OF SEATTLE	2223 9TH AVE	84	158
DENNY BLDG 1000	1000 DENNY WAY	84	159
GM WESTLAKE BUICK DEALERSHIP	101 WESTLAKE N	84	162
FREDERICK GROUP COLLISION CENT	114 WESTLAKE AVE N	84	164
GREYHOUND LINES INC SEATTLE 78	1250 DENNY WAY	90	173
UNOCAL SS NO 0355	159 DENNY WAY	92	201
ALPHA CINE LABORATORY	1001 LENORA ST	95	210
QUINTON INSTRUMENT CO SEA	2121 TERRY AVE	95	210
SEATTLE CHIROPRACTIC HEALTH CT	2004 FAIRVIEW AVE	96	211
DENDREON CORP	3005 1ST AVE	100	215
FREDERICK PONTIAC BUICK	2300 7TH AVE	103	219
GROSVENOR HOUSE	500 WALL ST STE 100	104	219
SEATTLE POST INTELLIGENCER	521 WALL ST	104	220
PUGET SOUND INSTITUTE OF PATHO	2600 4TH AVE	105	222
CITY MINI STORAGE	2000 TERRY AVE	108	226
IHLER AUTOMOTIVE	2101 9TH AVE	110	227
RITE AID 5218	2603 3RD AVE	112	230
WITS INC DBA WITS AIR FREIGHT	333 VINE ST	112	231
SEATTLE CITY USED OIL COLLECT	2229 7TH AVE	113	231
TOYOTA OF SEATTLE	2121 8TH AVE	114	232
CD STIMSON CO	821 LENORA ST	114	232
PARSON SEATRUST PARTNERSHIP	2500 4TH AVE	115	233
ARCTIC MARINE FREIGHTERS	4TH & BATTERY	116	235
FREDERICK CADILLAC	2301 6TH AVE	117	236
ANGES FRENCH CLEANERS INC	2000 9TH AVE	118	237
US WEST COMMUNICATIONS INC W00	1915 TERRY AVE RM 112	120	240
SEATTLE LABOR TEMPLE ASSOC PAR	2801 1ST AVE	122	242
CROWLEY MARINE SERVICES INC 4T	2401 4TH AVE	123	242
PACIFIC ALASKA LINS	2401 4TH AVE	123	243

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Site	Address	Map ID	Page
COLUMBIA MARINE LINES SEATTLE	2401 4TH AVE	123	243
HAWAIIAN MARINE LINES INC	2401 4TH AVE	123	244
PUGET SOUND TUG BARGE	2401 4TH AVE 12TH FL	123	244
BLANCHARD PLAZA	2201 6TH AVE STE 100	124	247
WESTLAKE CHEVEROLET	2030 8TH AVE	125	247
SEA COAST TOWING INC HOME OFFI	2701 1ST AVE	126	248
SEATTLE FIRE DEPT STA	2318 4TH AVE	127	249
STERLING ENGRAVING CO	2218 5TH AVE E	129	251
HONDA OF SEATTLE	1015 OLIVE WAY	133	256
LOVE BUILDING	1925 8TH AVE	134	257
WILSON ENGRAVING CO INC	314 BELL ST	135	257
2ND AVE BELL DRUMS	2408 2ND AVE	136	258
WASHINGTON TRANSIT ADVERTISING	2600 WESTERN AVE	139	259
NORTHWEST PROTECTIVE SERVICE I	2700 ELLIOTT AVE	144	265
OLIVE WAY ON RAMP	OLIVE WAY I5 ON RAMP NO	145	267
IMPORT DOCTORS	211 BELL ST	146	268
HOLMAN BODY & FENDER	2324 2ND AVE	146	269
1ST AVE S BARRELS	UNDER 1ST AVE S BRG ON	147	270
ROSSMAN INDUSTRIAL SUPPLY CO	2500 WESTERN AVE	147	270
OENING CO 81 VINE	2518 WESTERN AVE	147	271
SYMETRIX INC SEATTLE	109 BELL ST	155	278
VOGUE DRY CLEANERS	616 OLIVE WAY	158	282
MEDICAL DENTAL BLDG	509 OLIVE WAY STE 1062	159	283
WESTIN HOTEL SEATTLE	1900 5TH AVE	159	284
SUPERIOR REPROGRAPHICS INC SEA	1925 5TH AVE	159	285
EDELSTEIN ASSOC ADVERTISING BE	50 BELL ST	160	286
BELLTOWN LOFTS	66 BELL ST	160	286
CONSOLIDATED PRESS PRINTING CO	2228 1ST AVE	161	288
GEM EAST CORP	2124 2ND AVE	162	289
FOUNTAINHEAD SVCS INC	1904 4TH AVE	163	291
SUPERIOR REPROGRAPHICS INC	1918 4TH AVE	163	291
HABIT FRENCH CLEANERS	312 VIRGINIA ST	165	292
I MAGNIN INC	601 PINE ST	166	293
GARYS DOWNTOWN AUTO CARE	1614 6TH AVE	166	293
DAMES & MOORE INC	2025 1ST AVE STE 500	168	296
US WEST COMMUNICATIONS INC W00	120 LENORA ST	169	298
CLISE AGENCY INC	1904 3RD AVE	171	300
BARG FRENCH CLEANERS	1929 3RD AVE	171	300
SABEY CORP	5TH & PINE	172	301
KITS CAMERAS 1030	400 PINE ST STE 210	175	304
GOODYEAR BON TIRE CENTRE 8848	1619 3RD AVE	176	306
TWO UNION SQUARE	601 UNION ST	178	308
SHERATON SEATTLE HOTEL & TOWER	1400 6TH AVE RECEIVING	178	309
GREAT NORTHERN ANNUITY	601 UNION ST STE 5600	178	309
TURNER CONSTRUCTION CO	600 UNIVERSITY	183	313
WASHINGTON ATHLETIC CLUB	1325 6TH AVE	183	314
UNICO PROPERTIES INC	1325 4TH AVE	187	316
BENAROYA CAPITAL CO LLC	1200 6TH AVE	188	316
PAYLESS 2932	1401 2ND AVE	189	318
NEWMARK BUILDING OWNERS ASSOC	1415 2ND AVE	189	319
SEATTLE CITY BENAROYA HALL MUS	1301 3RD AVE	190	319
SEATTLE CITY JONES BLDG	1331 3RD AVE	190	320
AGFA SEMINAR	1113 6TH AVE CROWNE PLZ	192	321
SOUTH ARCADE	98 UNION ST	193	322
PUGET SOUND AIR POLLUTION CONT	110 UNION ST STE 500	193	322
METAL LAUNDRY INCORPORATED	614 12TH	194	323

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Site	Address	Map ID	Page
APPLIED TECHNOLOGY CORP	411 SENECA RM 211	195	324
SEATTLE OLYMPIC GARAGE	415 SENECA	195	325
1101 2ND AVE LTD PARTNERSHIP	1191 2ND AVE	196	327
SEATTLE ART MUSEUM	1301 2ND AVE ARCADE BLD	196	329
ARCADE PLAZA C O MARTIN SMITH	1321 2ND AVE	196	329
KENNEDY HOTEL	1100 5TH AVE	197	329
US WEST COMMUNICATIONS INC W00	1200 3RD AVE	198	330
SEATTLE TOWER	1218 3RD AVE 1100	198	331
HARBOR DEVELOPMENT CO	1301 1ST AVE	199	332
NIKKO MEDIA CTR	1305 1ST AVE	199	332
USWCOM SEATTLE 4TH	1101 4TH AVE	200	333
US COURT HOUSE SEATTLE	1010 5TH AVE	201	334
NORTHERN LIFE INSURANCE CO	1110 3RD AVE	203	339
WRIGHT RUNSTAD 1111 3RD AVE	1111 3RD AVE	203	340
AT&T CORP	1122 3RD AVE AT&T	203	340
NORTH PACIFIC CORP	1001 4TH AVE PLZ STE 41	205	343
HARBOR STEPS LIMITED PARTNERS	1201 1ST AVE	206	343
SEATTLE CITY PARKS RECREAT PIE	1401 ALASKAN WAY PIER 5	207	345
SECURITY PACIFIC BANK	1100 2ND AVE	208	345
RITE AID CORP	802 3RD AVE	209	345
CENTRAL BLDG	810 3RD AVE	209	346
FIRST INTERSTATE CENTER	999 3RD AVE STE 1010	209	348
1001 4TH AVE PLAZA GARAGE	310 MADISON ST	209	349
THIRD AVE CLEANUP 1015 3RD AVE	1015 3RD AVE	209	350
FRED RAPHAEL CHEVRON	914 JAMES ST	210	352
SEAFIRST BANK GRAPHIC SERVICES	800 5TH AVE PLAZA BLDG	214	356
FEDERAL RESERVE BANK OF SAN FR	1015 2ND AVE	215	378
RYAN JERRY	708 6TH & PINE BLDG	216	379
CUSHMAN WAKEFIELD	700 5TH AVE STE 3975	219	380
CEI SERVICES INC	701 5TH AVE 2200 COLUMB	219	381
NORTHSHORE CONTRACTORS INC	701 5TH AVE	219	381
MARITIME ASSOC	911 WESTERN AVE MARITIM	220	382
US DOC CUSTOMS SVC SEATTLE	909 1ST AVE	222	384
US GSA SEATTLE OLD FEDERAL OFF	909 1ST AVE	222	385
ROBERT EPA BAYLEY CONST CO IN	205 COLUMBIA ST	223	386
SEA TRUST BLDG 2ND AVE	804 2ND AVE	223	386
THRIFTY PAYLESS 2908	802 THIRD AVE	223	387
SEATTLE CITY FIRE DEPT UTILIT	622 5TH AVE	224	389
SEATTLE CITY ENG DEPT RECORDS	600 4TH AVE RM 510	228	392
SEATTLE CITY ENG DEPT METER SH	600 4TH AVE RM 224 GARA	228	392
PIONEER TITLE BLDG	719 2ND AVE	229	393
KING CNTY CORRECTION FACILITY	500 5TH AV	230	395
COMMUTER CENTRE PARKING	801 WESTERN AVE	231	395
SEATTLE CITY DEPT OF ADMIN	610 3RD AVE	232	399
KING CNTY FACILITIES MANAGEMEN	500 3RD AVE	234	401
KING CNTY COURTHOUSE E	500 3RD AVE KING CO COU	234	401
KING CNTY COURTHOUSE	516 3RD AV SITE A	234	401
KING CNTY POLICE	516 3RD AVE	234	402
USWCOM BUCKLEY CO	350 JEFFERSON ST	234	403
SEATTLE PORT TERM 48	101 ALASKAN WAY S TERM	235	404
1ST CHERRY MINI STORAGE WHSE	626 POST AVE	235	405
WA DOT FERRIES COLMAN DOCK PIE	801 ALASKAN WAY	236	408
CORONA BUILDING THE	606 2ND AVE	237	409
SMITH TOWER BLDG	506 2ND AVE	239	410
NORTHLAND SERVICES INC	110 PREFONTAINE PL S ST	240	411
WA UW PIONEER SQUARE	206 3RD AVE S RM 5	242	412

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Site	Address	Map ID	Page
METRO KING CNTY DOT TRAN DIV T	306 S WASHINGTON COR YE	242	413
BIOCOLL LABS	562 1ST AVE S STE 600	244	414
IMMUNODIAGNOSTICS INC	562 1ST AVE S 7TH FL	244	414
HEARTWOOD INC 1ST AVE	562 1ST AVE S	244	414
NORTH AMERICAN POST INC	215 5TH AVE S	245	415
NEMCO ELECTRIC CO	307 S MAIN ST	247	416
SEATTLE PORT TERMINAL 46	401 ALASKAN WY S TERMIN	248	419
BRIX MARITIME BARGING INC ALAS	353 ALASKAN WAY S	248	419
301 DRUM	301 2ND S	249	420
OLD SEATTLE PARKING GARAGE	74 S JACKSON ST	251	420
ANNA DRYCLEANERS ALTERATION	657 S JACKSON ST	255	429
NF CORP 1ST AVE S	526 1ST AVE S	257	431
SEATTLE TECHNICAL FINISHING IN	1005 S KING	260	435
TRUCK CENTER CORP	600 5TH AVE S	262	437
IMMIGRATION & NATURALIZATION S	815 AIRPORT WAY S	264	438
SPIC N SPAN CLEANERS INC	652 S DEARBORN ST	266	445
METRO KING CNTY DOT TRANSIT DI	802 S DEARBORN ST	267	448
SEATTLE CITY HEALTH DEPT	705 S CHARLES ST	271	456
TRANSMATE	902 1ST AVE S	273	457
SALVATION ARMY	1000 4TH AVE S	274	460
ALLIED BATTERY CO INC	1031 6TH AVE S	276	462
JAMES G MURPHY CO	1001 6TH AVE	276	462
OLYMPIC REPROGRAPHICS	1016 1ST AVE S	278	466
PALMER BUILDING THE	1000 1ST AVE S	278	466
LOWE PARKER CORP	1234 6TH AVE S	280	468
PRINCETON PACKAGING INC SEATTL	1263 6TH S	280	468
WA DOT SEATTLE S SPOKANE ST	450 S SPOKANE ST	280	471
ATKINSON DILLINGHAM	500 ROYAL BROUGHAM WAY	284	475
SAYBOLT INC SEATTLE	1225 4TH AVE S STE I	285	476
US DOT CG POLAR STAR	PIER 37 USCG SUPPORT CT	287	482
US GSA	1555 ALASKAN WAY S	288	483
US DOT CG CUTTER BOUTWELL WHEC	1519 ALASKAN WAY S	288	488
US DOT CG MELLON WHEC 717	1519 ALASKAN WAY S PIER	288	488
US DOJ DEA ALASKAN WAY S SEATT	1500 ALASKAN WAY S	288	489
BEMIS CO INC 4TH	55 S ATLANTIC ST	289	489
COAST CRANE CO OF WA	1531 UTAH AVE S	290	490
FRYE ART MUSEUM	1507 6TH AVE S	291	493
WASHINGTON IRON WORKS INC	1500 6TH AV S	291	495
MUSIC VEND DIST CO	1550 4TH AVE S	293	512
SEAFIRST COMPUTER SVCS CORP	1535 4TH AVE S STE C	293	514
FISHER BAG CO	1560 1ST AVE S	294	514
SEA BAY TRANSPORTATION INC	9 S MASSACHUSETTS	298	520
TOSCO GATX SEATTLE TERM TANK S	1733 ALASKAN WAY S	300	521
GATX FACILITY	1733 ALASKAN WAY S	300	523
FIRST RECOVERY SEATTLE	1733 ALASKAN WAY S SITE	300	525
CAL INK DIVISION FLINT INK COR	1727 ALASKAN WAY S	300	525
SEATTLE PORT TERM 34	19 S MASSACHUSETTS ST T	300	527
CONTAINER CARE OF SEATTLE INC	51 S MASSACHUSETTS ST	301	527
STANDARD BRANDS DROP	1702 4TH AVE S	302	529
GANS INK & SUPPLY CO	1701 4TH AVE S	302	530
MAUST TERMINAL	1762 6TH AVE S	303	530
PARAMOUNT SUPPLY CO	1717 6TH AVE S	303	531
US WEST COMMUNICATIONS INC W00	1709 AIRPORT WAY	304	536
AMTRAK W KING ST YARD MATERIAL	1739 3RD AVE S	305	537
BURLINGTON NORTHERN SANTA FE R	1735 3RD AVE S	305	537
BINKS MANUFACTURING CO	1749 1ST AVE S	306	538

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Site	Address	Map ID	Page
GUARDIAN SECURITY SYSTEMS INC	1743 1ST AVE S	306	538
CHEVRON USA INC SEATTLE TERMIN	1911 E MARGINAL WAY	307	539
AMTRAK W KING ST YARD HOLGATE	187 HOLGATE ST S BLDG A	309	543
CORK INSULATION SALES CO INC	1943 1ST AVE S	314	548
LUNDWICK BROWN FLOOR CO INC	1921 1ST AVE S	314	549
PACIFIC IRON & METALS	2230 4TH AV S	319	559
FLAJOLE BROTHERS INC	2201 4TH AVE S	319	562
MILLWORK SUPPLY CO	2225 1ST AVE S	320	569
ARCTIC ALASKA SEAFOODS	2715 E MARGINAL WAY PIE	323	571
USPS VEHICLE MAINT PARKING F	400 S STACY ST	327	581
SYSTEM TRANSFER & STORAGE CO	2400 6TH AVE S	329	594
UNIVERSAL PAINT PRODUCTS INC	2442 1ST AVE S	330	597
INDUSTRIAL WAREHOUSE	2450 6TH AVE S	333	606
COMMERCIAL STACK HEAT TREATERS	2447 6TH AVE S	333	606
ELEPHANT CAR WASH	2763 4TH AVE S	334	607
SEAFAB METALS CO	2700 16TH AVE SW	335	612
SEARS 1009	2759 UTAH S	336	620
HOME DEPOT 4702	2701 UTAH AVE S	336	623
TUBE ART DISPLAY INC	2730 OCCIDENTAL AVE S	337	624
STACK STEEL SUPPLY CO	500 S LANDER	338	625
FRICTION SVCS INC	555 S LANDER ST	339	626
SMITH KLINE BIOSCIENCE LABS	2603 3RD AVE S	342	638
6TH AVE S LANDFILL 2752 6TH AV	2752 6TH AVE S	344	643
GRAY LINE OF SEATTLE	720 S FOREST ST	346	647
ICI DULUX PAINTS	2925 4TH AVE S	347	648
SEATTLE SOLID WSTE UTIL OIL CO	2915 4TH AVE S	347	649
PERFORMANCE ABATEMENT SERVICES	422 S FOREST ST	347	650
LOCKHEED SHIPBLDG CO YARD 1	2929 16TH AV SW	348	650
FRANZ SEATTLE BAKERY	2901 6TH AVE S	349	655
NORTHWEST MOTOR REPAIR	2930 6TH AVE S	349	656
WEST SEATTLE TRANSMISSION	2920 6TH AVE S	349	657
RABANCO RECYCLING CO	2733 3RD AVE S	350	658
SEATTLE IRON METALS CORP	2955 11TH AVE SW	354	663
ODOM CORP	26 S HANFORD ST	355	667
ANDYS DINER INC	3201 4TH AVE S	356	672
TRAVENOL CHEMOTHERAPY SVCS	270 S HANFORD ST STE 20	358	673
YOUNG CORP SEATTLE	3231 UTAH AVE S	360	676
RABANCO RECYCLING HIGH GRADE	66 S HANFORD ST	360	679
VALUE PLATING & METAL POL	3207 11TH AV SW	361	682
WIDGET MFG	3220 1ST AVE S	364	688
SEATTLE PORT MARINE MAINTENANC	25 S HORTON ST	366	693
PSF INDUSTRIES INC HORTON ST	65 S HORTON ST	367	694
WESTERN STEEL CASTING CO	145 S HORTON ST	368	694
NEMCO ELECTRIC CO INC	207 S HORTON ST	369	697
PARAMOUNT SERVICES INC	423 S HORTON ST	370	698
ROADWAY EXPRESS INC	3300 6TH AVE S	371	700
TRANSPORT EQUIPMENT CO	3400 6TH AVE S	373	700
UNOCAL SS NO 5472	3460 1ST AVE S	374	704
ROGERS OLYMPIC CORP	3422 1ST AVE S	374	712
OBERT MARINE SUPPLY INC	3441 2ND AVE S	375	713
SEATTLE CITY TRANSPORTATION DE	3RD AVE S AT S HINDS CT	375	713
ACME INTERCITY FREIGHT	3414 2ND AVE S	375	714
MATSON TERMINAL 25	3225 E MARGINAL WAY S	376	716
NEWSOM DUININCK	3454 4TH AVE S	377	717
CRAIN NW INC	3434 4TH AVE S	377	718
BEI CHEMPRO FIELD SVCS PS	3400 E MARGINAL WAY S	379	723

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<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
COMMERCIAL WAREHOUSE CO	3623 6TH AVE S	380	724
DEVOE COATINGS CO	3623 6TH AVE S SOUTHERN	380	725
TRADE MARX SIGN & DISPLAY CORP	3614 6TH AVE S	380	725
AK MEDIA NW	3601 6TH AVE S	380	725
EPSTEIN ARTHUR O	620 S SPOKANE ST	380	726
ALLIED CONSTRUCTION	5TH & S SPOKANE ST	381	727
SEATTLE CITY DAS S SPOKANE ST	255 S SPOKANE ST	383	736
PACIFIC TRUCKING SEATTLE	300 S SPOKANE ST	383	739
NELSON IRON WORKS	45 S SPOKANE ST	384	741
AO SMITH WATER PRODUCTS SEATTL	60 S SPOKANE ST	384	745
ASH GROVE CEMENT WEST INC	3801 E MARGINAL WAY S	385	746
NICHOLSON MFG CO	3670 E MARGINAL WAY S	385	747
LINDMARK MACHINE WORKS INC	3626 E MARGINAL WAY	385	749
PRAXAIR DISTRIBUTION INC	3623 E MARGINAL WY S	385	751
ASAHIPEN AMERICA INC	1128 SW SPOKANE ST	387	754
PMC DISTRIBUTORS INC	3625 1ST AVE S	389	759
DIRECT CONTAINER LINE	3629 DUWAMISH AVE S SIT	390	762
BIG RIVER ZINC CORP	3620 DUWAMISH AVE S	390	762
SUN CHEMICAL COMMERCIAL WAREHO	3823 6TH AVE S	392	763
WALTS RADIATOR & MUFFLER 4TH A	3838 4TH AVE S	394	766
MACMILLAN PIPER INC SECOND AVE	3857 2ND AVE S	395	768
INX INTERNATIONAL INK CO SEATT	4029 1ST AVE S	398	770
NORTHWEST PLATING	825 S DAKOTA	407	782
GOLDEN GRAIN SEATTLE DISTRIBUT	4100 4TH AVE S	408	786
WASHINGTON TRUCKING ASSOC	4101 4TH AVE S	408	788
BRY'S AUTO WRECKING	4017 W MARGINAL WAY SW	409	790
SEAFIRST BANK CENTRAL SVCS	4201 W MARGINAL WAY SW	412	795

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 08/08/2000 has revealed that there are 38 ERNS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
2411 4TH AVE, 2ND FLR, N WING	2411 4TH AVE, 2ND FLR,	123	247
NORTH OF 1ST AVE BR.W.OF HWY99	NORTH OF 1ST AVE BR.W.O	147	270
2121 3RD AVE	2121 3RD AVE	156	279
2300 ELLIOT AVE	2300 ELLIOT AVE	160	286
3RD AVE AND VIRGINIA	3RD AVE AND VIRGINIA	168	298
2ND AVE & UNION ST	2ND AVE & UNION ST	189	318
1519 ALASKAN WAY	1519 ALASKAN WAY	191	321
1302 ALASKAN WAY	1302 ALASKAN WAY	207	345
83 SOUTH KING STREET ALIVE.COM	83 SOUTH KING STREET AL	257	431
562 OCCIDENTAL AVE	562 OCCIDENTAL AVE	261	437
562 1ST AVE. S.	562 1ST AVE. S.	263	437
801 1ST AVE SOUTH	801 1ST AVE SOUTH	273	458
1519 ALASKAN WAY SOUTH PIER 36	1519 ALASKAN WAY SOUTH	288	485
1519 ALASKAN WAY SOUTH PIER 36	1519 ALASKAN WAY SOUTH	288	485
1519 ALASKAN WAY SOUTH PIER 36	1519 ALASKAN WAY SOUTH	288	485
1519 ALASKAN WAY SOUTH	1519 ALASKAN WAY SOUTH	288	486
1519 ALASKAN WAY SOUTH	1519 ALASKAN WAY SOUTH	288	486
1741 1ST AVE S.	1741 1ST AVE S.	306	539

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<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
2431 EAST MARGINAL WAY S PIER	2431 EAST MARGINAL WAY	318	553
2460 4TH AVE SOUTH PARKING GAR	2460 4TH AVE SOUTH PARK	328	584
3215 4TH AVE SOUTH	3215 4TH AVE SOUTH	356	672
270 S. HANFORD STE 103	270 S. HANFORD STE 103	357	673
3414 2TH AVE SOUTH	3414 2TH AVE SOUTH	375	714
3225 EAST MARGINAL WAY SO	3225 EAST MARGINAL WAY	376	717
3225 E MARGINAL WAY SOUTH TERM	3225 E MARGINAL WAY SOU	376	717
RAINIER PETROLEUM PIER 15 HARB	RAINIER PETROLEUM PIER	385	753
RAINIER PETROLEUM HARBOR ISLAN	RAINIER PETROLEUM HARBO	385	753
REINEER PETROLEUM PIER 15	REINEER PETROLEUM PIER	385	753
RANIER PETROLEUM PIER 14	RANIER PETROLEUM PIER 1	385	753
RANIER PETROLEUM FACILITY PIER	RANIER PETROLEUM FACILI	385	753
RANIER PETROLEUM PIER 15	RANIER PETROLEUM PIER 1	385	753
RAINIER PETROLEUM CORP PIER	RAINIER PETROLEUM CORP	385	754
SEATTLE HARBOR PIER 15 RANIER	SEATTLE HARBOR PIER 15	385	754
RANIER PETROLEUM COMPANY PIER	RANIER PETROLEUM COMPAN	385	754
RAINEER PETROLEUM HARBOR ISLAN	RAINEER PETROLEUM HARBO	385	754
RAINIER BEACH,LK WASHINGTON	RAINIER BEACH,LK WASHIN	385	754
RAINIER PETROLEUM PIER 15 HARB	RAINIER PETROLEUM PIER	385	754
RAINIER PETROLEUM PIER 15	RAINIER PETROLEUM PIER	385	754

STATE ASTM STANDARD

CSCSL: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Ecology's Confirmed & Suspected Contaminated Sites List.

A review of the CSCSL list, as provided by EDR, has revealed that there are 113 CSCSL sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
HAUG CORP PROPERTY	1801 FAIRVIEW AVE E	1	14
BIRD JOHNSON CO	1608 FAIRVIEW AVE E	2	16
LAKE UNION DRY DOCK CO	1515 FAIRVIEW AV E	3	17
FRED HUTCHINSON CTR LK UNION	EASTLAKE AVE E / FAIR	5	22
LAKE UNION STEAM PLANT	1179 EASTLAKE AV E	8	27
YELLOW CAB	912 DEXTER AV N	16	41
MARYATT INDUSTRIES	771 VALLEY ST	17	45
USN COOPMINERON ELEVEN	860 TERRY AVE N	19	51
UNOCAL SS NO TM0255	700 QUEEN ANNE AVE N	29	61
MONTEREY APARTMENTS SITE	622 1ST AVE W / QUEEN	34	69
AUTO SERVICE COMPANY	630 WESTLAKE AVE N	35	78
SEATTLE CITY SEATTLE CTR PROP	601-615 MERCER ST	37	80
MERCER BUS BARN SEATTLE CENTER	520 5TH AVE N	46	100
IVAR S COMMISSARY	500 TERRY AVE N	49	105
UNIVERSITY OF WA ROSEN BLDG	960 REPUBLICAN ST	49	108
401 ELLIOTT BUILDING SITE	401 ELLIOTT AVE W	58	122
MASTERCRAFT METAL FINISHING IN	1175 HARRISON ST	60	125
COLEMAN CREOSOTING WORKS	333 ELLIOTT AVE W	65	132

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<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
VAGABOND INN	325 AURORA AVE N	66	134
133 QUEEN ANNE AV N PROPERTY	133 QUEEN ANNE AV N	82	157
UNOCAL SS NO 0355	159 DENNY WAY	92	201
IVARS SEAFOOD BAR	3101 1ST AVE	93	206
IVARS SEAFOOD BAR	3101 1ST AVE	93	207
EDWARDS ON 5TH BLDG	2619 5TH AVE	94	209
UNOCAL ELLIOTT AV N OF BAY ST	3131 ELLIOTT AV	98	212
DENDREON CORP	3005 1ST AVE	100	215
MARTIN SELIG PROPERTY	2601 4TH AVE	105	221
UNOCAL SEATTLE MARKET UPLAND	BN WESTERN AV / ELLIO	107	223
TRITELL LLC PARKING LOT	1821-1823 MINOR AVE	111	228
UNOCAL SEATTLE MARKET ELLIOTT	ELLIOTT AV BN BAY / B	119	237
UNOCAL SEATTLE MARKET LOWER	BN ELLIOTT RR BAY / B	119	238
UNOCAL MYRTLE EDWARDS PARK	3130 ALASKAN WAY W	121	241
FOUNTAIN COURT APARTMENTS	2400 4TH AVE	123	245
ELLIOT & BROAD	10 BROAD ST	132	255
BMW OF SEATTLE	714 E PIKE	142	261
UNOCAL SEATTLE MARKET OFF SITE	BN RR ALASKAN WAY / E	143	263
UNOCAL SEATTLE MARKET SED	ALASKAN WAY / ELLIOTT	143	264
MELROSE APARTMENTS	1520 MELROSE AVENUE	148	271
BELLTOWN PEA PATCH	ELLIOTT AVE / VINE ST	151	274
BELLTOWN PEA PATCH	ELLIOTT AVE / VINE ST	151	275
BELLTOWN PEA PATCH	ELLIOTT AVE / VINE ST	151	275
LEWISTON HOTEL	2201 1ST AVE	161	286
BARG FRENCH CLEANERS	1929 3RD AVE	171	300
UNOCAL SS 5919 FORMER	1100 BROADWAY	173	302
METAL LAUNDRY INCORPORATED	614 12TH	194	323
SEATTLE STEAM CO WESTERN AV	1319 WESTERN AV	202	335
JEFFERSON ST BUS BARN	1398 E JEFFERSON ST	204	341
1001 FOURTH AV PLAZA	1001 4TH AVE	205	342
CENTRAL SEATTLE WATERFRONT	PIERS 53-58 ALASKAN WAY	207	344
DEAN STRALEYS 9TH & JAMES BP	914 JAMES ST	210	352
CENTRAL DISTRICT YMCA	909 4TH AVE	212	355
TD AUTO BODY & REPAIR	1209 E FIR ST	233	399
SEATTLE STEAM CO POST AV	700 POST AV	235	406
COLMAN DOCK SEDIMENTS	801 ALASKAN WY	236	407
UNION STATION SITE	JACKSON ST / 4TH AV	253	426
SEATTLE TECHNICAL FINISHING IN	1005 S KING	260	435
SPIC N SPAN CLEANERS INC	652 S DEARBORN ST	266	445
SEATTLE CITY FIRE GARAGE	815 S DEARBORN ST	267	448
METRO KING CNTY DOT TRANSIT DI	802 S DEARBORN ST	267	448
RALPHS CONCRETE	800 POPLAR PLACE S	268	451
RALPHS CONCRETE	800 POPLAR PLACE S	268	452
RALPHS CONCRETE	800 POPLAR PLACE S	268	453
METRO CENTRAL OPERATING BASE	1333 AIRPORT WY S	286	480
US GSA	1555 ALASKAN WAY S	288	483
EMERALD PETROLEUM SERVICES INC	1500 AIRPORT WY S	292	511
SHELL OLD TERM 18 PORT OF SEAT	TERMINAL 18	297	516
GATX FACILITY	1733 ALASKAN WAY S	300	523
TODD SHIPYARDS	1801 16TH SW	308	539
METRO PDH	2255 4TH AV S	319	557
PACIFIC IRON & METALS	2230 4TH AV S	319	559
PARK 90/5	2203 AIRPORT WAY S	321	569
PORT OF SEATTLE TERM 30	2715 E MARGINAL WAY S	323	572
EQUILON ENTERPRISES LLC	2555 13TH AVE SW	325	575
INDUSTRIAL PLATING CORP	2411 6TH S	329	591

EXECUTIVE SUMMARY

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
ARCO TANK FARM	1652 SW LANDER ST	332	601
SEAFAB METALS CO	2700 16TH AVE SW	335	612
SEAFAB METAL SURFACE IMPOUNDME	2700 16TH AVE SW	335	619
GATX HARBOR ISLAND TERMINAL	2720 13TH AVE SW	340	627
HARBOR ISLAND PLANT	2720 13TH AVE SW	340	629
SEATTLE PUBLIC UTILITIES OPERA	2700 AIRPORT WY S	341	634
GENERAL TRANSPORT CO 13TH AVE	2937 13TH AVE SW	345	643
NON FERROUS METALS INC	2905 13TH AV SW	345	645
LOCKHEED SHIPBLDG CO YARD 1	2929 16TH AV SW	348	650
PORT OF SEATTLE LECKENBY CO	11TH AVE SW TERMINAL 18	352	659
RAINIER BREWERY	3100 AIRPORT WAY S	353	662
SEATTLE IRON METALS CORP	2955 11TH AVE SW	354	663
ALASKA COPPER & BRASS	3200 6TH AVE S	359	675
WEYERHAEUSER SEATTLE LAB-UNDEV	3233 11TH ST SW	361	680
VALUE PLATING & METAL POL	3207 11TH AV SW	361	682
PACIFIC MOLASSES COMPANY	3200 11TH AVE SW	361	685
UNOCAL SS NO 5472	3460 1ST AVE S	374	704
ACME INTERCITY FREIGHT	3414 2ND AVE S	375	714
INDUSTRIAL OFFICE COMPLEX	3400 11TH AVE SW	378	720
RICCHIAZZI INDUSTRIAL PROPERTY	4424 / 4500 4TH AVE S	382	727
SEATTLE CITY LIGHT MRWF	3613 4TH AV S	382	733
PACIFIC TRUCKING SEATTLE	300 S SPOKANE ST	383	739
NELSON IRON WORKS	45 S SPOKANE ST	384	741
MC TERMINALS	40 S SPOKANE ST	385	752
ASAHIPEN AMERICA INC	1128 SW SPOKANE ST	387	754
PORT OF SEATTLE TERMINAL 106W	3629 DUWAMISH AV S	390	760
SEATTLE CITY LIGHT 4TH AVE S	3814 4TH AVE S	394	767
SEATTLE CITY LIGHT 4TH AVE S	3814 4TH AVE S	394	767
VOPAK USA INC 1ST AVE S	4000 1ST AV S	398	770
SPEAR TRUSTS WHSE	4001 6TH AV S	400	773
CITY COMMERCE PARK	4115 1ST AVE S	404	778
STRUTZ PROPERTY	4201 16TH SW	405	779
NORTHWEST PLATING	825 S DAKOTA	407	782
WASHINGTON TRUCKING ASSOC	4101 4TH AVE S	408	788
BRY'S AUTO WRECKING	4017 W MARGINAL WAY SW	409	790
SEAFIRST BANK CENTRAL SVCS	4201 W MARGINAL WAY SW	412	795
CHEVRON SEATTLE TERMINAL 4097	4525 DIAGONAL AVE S	413	797
SEATTLE BARREL & COOPERAGE	7TH AV S / S SNOQUALM	414	799
SAMIS LAND CO SITE	647 S ALASKA ST	415	801

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Ecology's Solid Waste Facilities Handbook.

A review of the SWF/LF list, as provided by EDR, has revealed that there are 7 SWF/LF sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
SOUTH SERVICE CENTER - MRW FAC	1015 THIRD AVENUE	209	347
NEWHALEM SERVICE CENTER / MRW	700 FIFTH AVENUE STE 33	219	382
CEDAR HILLS LANDFILL	201 SOUTH JACKSON, SUIT	252	421
FACTORIA TRANSFER STATION	201 SOUTH JACKSON, SUIT	252	422
BOW LAKE TRANSFER STATION	201 SOUTH JACKSON, SUIT	252	422
VASHON TRANSFER STATION	201 SOUTH JACKSON, SUIT	252	423

EXECUTIVE SUMMARY

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
ALGONA TRANSFER STATION	201 SOUTH JACKSON, SUIT	252	424

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Ecology's Leaking Underground Storage Tanks Site List.

A review of the LUST list, as provided by EDR, and dated 06/08/2001 has revealed that there are 203 LUST sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
PROPOSED SUMMIT APARTMENTS	16-1700 DEXTER N	4	21
DANIEL BOONE PAINT CO INC SEAT	1401 DEXTER AVE N	7	25
LAKE UNION AIR SERVICE INC.	1100 WESTLAKE AVE N	9	28
LO'S DELI 213	1108 AURORA AVENUE NORT	11	30
MINOR SOC 070328	900 MINOR	14	33
900 FAIRVIEW 070C47	900 FAIRVIEW	14	34
YALE STREET LANDING	1001 FAIRVIEW AVENUE NO	14	35
ALOHA/9TH AVE N SITES	800-900 ALOHA / 753 9	15	36
SEATTLE SCHOOL DIST 1 FACILITI	810 DEXTER AVE N	17	48
KIEWIT CONSTRUCTION COMPANY	1300 ALOHA STREET	18	49
MUZAK BUILDING	915 YALE AVE N	18	50
NAVAL RESERVE READINESS CENTER	860 TERRY AVE N	19	51
VAN DE KAMP BAKERY	823 YALE AVE N	23	53
FAIRVIEW WAREHOUSE 070299	800-820 FAIRVIEW	27	59
ABC TOWING - RYDER TRUCK	707 TAYLOR	30	62
PLAID PANTRY NO. 309	720 TAYLOR AVE N	30	64
POWER CONTROL CENTER	157 ROY	32	67
TOSCO CORPORATION SITE #255353	600 WESTLAKE NORTH	35	75
SEA.CTY WESTLAKE SITE	630 WESTLAKE AVE	35	79
PCY CORP	601 6TH AVE N	37	81
MYLES STANDISH	420 MERCER ST	38	82
TEXACO STATION #63-232-0400	601 BOREN AVE N	41	86
WILLIAM ARNOLD	150 MERCER	42	88
PUGET SOUND ENERGY	815 MERCER STREET	43	89
RATELCO HEADQUARTERS	1260 MERCER ST	44	92
MERCER OPERATING BASE	520 5TH AVE N	46	97
HUGHES REVOCABLE INTERVIVOS TR	1220 REPUBLICAN	47	103
IVAR S COMMISSARY	500 TERRY AVE N	49	105
H & A INVESTMENTS PROPERTY	960 REPUBLICAN ST	49	110
REPUBLICAN ST SITE	1265 REPUBLICAN	50	112
SEATTLE SCHOOL DIST 1 SCH SUPP	1255 HARRISON ST	56	117
TOMLINSON INC	420 PONTIUS AVE N	56	118
BASIL LEE PROPERTY	505 HARRISON ST.	61	127
YALE ST PARKING GARAGE	310 YALE AVE	69	138
WRIGHT'S RESTAURANT FORMER	101 AURORA AVE S	73	141
LEAVITT, SHAY DEXTER PROPERTY	203 DEXTER AVE N	74	142
NEW RICHMOND LAUNDRY	224 PONTIUS STREET NORT	75	142
PEMCO PROPERTY	221 YALE AVE	76	144
OVERALL LAUNDRY SERVICES INC	222 YALE AVENUE NORTH	76	145
STEVENS-LEA BUILDING	818 JOHN ST	77	148
EWING INVESTMENTS PROPERTY (RE	711 W JOHN ST	80	152
SEATTLE TIMES	1120 JOHN ST	81	152
WESTERN VAN LINES INC	964 DENNY WAY	84	159

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Site	Address	Map ID	Page
GENERAL MOTORS CORP/SEATTLE CO	101 WESTLAKE AVENUE NOR	84	162
KENNEY PROPERTY	100 WESTLAKE	84	164
JAPANESE AUTO CLINIC	600 DENNY WAY	86	166
RED CARPET CAR WASH	1164 DENNY WAY	87	168
DAVID COLWELL BUILDING (FORMER	1300 STEWART ST	89	173
GREYHOUND LINES, INC.	1250 DENNY WAY	90	194
FROL BLDG	204 DENNY WY	91	197
355	159 DENNY WAY	92	198
EDWARDS ON FIFTH BUILDING	2619 5TH AVE.	94	208
QUINTON INSTRUMENT CO SEA	2121 TERRY AVE	95	210
BILL BAILEY FOR TIMES OF SEATT	2701 FOURTH AVE SO.	97	212
ONCOGEN	3005 1ST AVE	100	215
ELEPHANT CAR WASH	616 BATTERY ST	102	217
OLD BRITISH MOTORCAR	7TH / BELL	103	219
STONECLIFF APTS	2602 4TH AVE	105	222
GOODYEAR ASC 8841	1105 STEWART ST	109	226
CENTENNIAL COURT	2500 3RD AVE	112	230
FOUNTAIN COURT APARTMENTS	2400 4TH AVE	123	245
PHOM PROPERTY	2301 4TH AVE.	127	248
SEATTLE FIRE STATION 2	2334 4TH AVE	127	249
SMITH-GANDY BUILDING	1100 OLIVE WAY	128	250
NEUFFER CONSTRUCTION COMPANY	5TH / BLANCHARD	129	251
XEROX BUILDING (FORMER)	2115 6TH AVE	130	252
BUDGET RENT-A-CAR OF WASHINGTO	2001 WESTLAKE AVE	131	253
LARNED HOTEL	2030 7TH AVE	131	254
HONDA OF SEATTLE	1015 OLIVE WAY	133	256
1800 9TH AVE CONSTRUCTION	1800 9TH AVE	137	258
SAILOR'S UNION OF THE PACIFIC	2505 1ST AVE	140	261
NORTHWEST PROTECTIVE SERVICE I	2700 ELLIOTT AVE	144	265
LUXURY AUTOMOTIVE	1915 7TH AVE	145	267
HOLMAN BODY AND FENDER	2324 2ND AVE	146	269
DOUGLAS HOTEL (FORMER)	1ST & BELL	155	278
REXLAND CO INC	2126 3RD AVENUE	156	279
MINIT-LUBE #1113	2025 4TH AVE	157	280
2ND & LENORA PROJECT	211 LENORA ST	162	288
WASHINGTON STATE CONVENTION AN	9TH AVE & PIKE ST	164	291
WA CTC / WS CTC	PIKE ST / 8TH AVE	167	294
FREEWAY GARAGE	1512 8TH AVE	167	294
INTRAWEST CORP	2001 1ST AVE	168	295
ONE PACIFIC TOWER W CONSTR SIT	1ST AVE & VIRGINIA AVE	168	297
HERTZ RENT A CAR	722 PIKE ST	170	299
ROOSEVELT HOTEL PARKING GARAGE	1515 7TH AVE	170	299
BELL ST TERMINAL (PIER 66)	2201 ALASKAN WAY	177	307
WASHINGTON ATHLETIC CLUB	6TH / UNION	178	308
SECOND AND UNION PARKADE	1400 SECOND AVE	189	317
JC PENNEY SITE	2ND / UNION	189	318
JOHN JONES/AMPCO PARKING-JONES	1331 3RD AVE	190	320
SEATTLE OLYMPIC GARAGE	415 SENECA	195	325
1200 THIRD AVE CO 070294	1200 THIRD AVE	196	327
KENNEDY HOTEL	1100 5TH AVE	197	329
SEATTLE STEAM CORPORATION	1319 WESTERN AVENUE	202	338
CENTRAL BUILDING	810 THIRD AVENUE	209	346
1001 4TH AVENUE PLAZA GARAGE	310 MADISON ST	209	348
FRED RAPHAEL CHEVRON	914 JAMES ST	210	352
LASALLE PARTNERS PROPERTY	6TH AVE / CHERRY	216	379
SEATTLE POLICE DEPT 18	612 5TH AVE	224	388

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Site	Address	Map ID	Page
CHERRY STREET GARAGE	BETWEEN 2ND / 3RD & C	225	389
HARBORVIEW MEDICAL CENTER	325 NINTH AVENUE	226	390
KING COUNTY GARAGE	5TH & JEFFERSON	230	394
COMMUTER CENTRE PARKING	801 WESTERN AVE	231	395
TURNER & PEASE CO	815 WESTERN AVE	231	398
KING COUNTY FACILITIES	500 4TH AVE	234	403
BUTLER GARAGE	114 JAMES ST	238	410
SEATTLE FIRE STATION 10	301 2ND AVE S	246	415
TERMINAL 46	401 ALASKAN WAY S	248	417
OLD SEATTLE PARKING GARAGE	74 S JACKSON ST	251	420
KING STREET CENTER	201 S JACKSON	252	426
PUROLATOR COURIER CORP	923 S JACKSON	256	429
KINGDOME	201 S KING ST	258	432
REX HOTEL	657 S KING ST	259	434
TEXACO STAR MART	511 DEARBORN ST	264	443
PACIFIC FISH COMPANY	617 S DEARBORN	265	445
FACILITY MAINTENANCE HEADQUART	802 S DEARBORN ST	267	450
CITY OF SEATTLE	705 CHARLES ST. EAST	270	454
SEATTLE CITY HEALTH DEPT	705 S CHARLES ST	271	456
TRIANGLE PROPERTY	901 MAYNARD AVE S	272	457
UNION PACIFIC RR/CLOSED	801 1ST AVE SOUTH	273	458
THE SALVATION ARMY A.R.C.	1000 4 AVE S. PO BOX 37	274	459
KEN STATION	1030 7TH AVE S	275	460
KINGDOME STATION	1046 1ST AVE S	278	463
LEAVITT SHAY INDUSTRIAL BLDG	1217 6TH AVE S	280	470
WA DOT SEATTLE S SPOKANE ST	450 S SPOKANE ST	280	471
MAJOR LEAGUE STADIUM PUBLIC FA	3RD S & S ROYAL BROUGH	281	471
TERMINAL 37	1201 ALASKAN WAY S	283	473
RYERSON OPERATING BASE	1220 4TH AVE S	285	476
FEDERAL WAREHOUSE	1555 ALASKAN WAY SO	288	484
USCG SUPPORT CENTER SEATTLE	1519 ALASKAN WAY S	288	487
COAST CRANE CO. OF WASHINGTON	1531 UTAH AVE. SO.	290	492
MUSIC-VEND DISTRIBUTING CO	1550 4TH AVENUE SOUTH	293	513
EMERALD CITY DISPOSAL	9 SOUTH MASSACHUSETTS	298	519
FLINT INK BLDG	1727 ALASKAN WAY S	300	526
ATLAS SUPPLY	1736 4TH AV S	302	529
MAUST TRANSFER CO	1762 6TH AVE SOUTH PO B	303	531
VECA ELECTRIC CO INC	1762 AIRPORT WAY SO	304	533
AIRPORT RD SOC 070307	1709 AIRPORT WAY SO	304	535
STAR RENTALS & SALES	1919 4TH AVE S	310	543
JACK IN THE BOX 4TH & HOLGATE	1907 4TH AVE S	310	544
TAYLOR EDWARDS INC	1930 6TH AVE S	312	546
FOOD SERVICE INTERNATIONAL	801 SOUTH HOLGATE	313	548
MACK TRUCK SALES & SERVICE	2025 AIRPORT WAY S.	315	550
OBERTO SAUSAGE COMPANY	2005 AIRPORT WAY SO	315	551
BUDGET RENT-A-CAR OF WASHINGTO	1961-4TH AVE SOUTH	316	551
TERMINAL 30	2431 E MARGINAL WAY S	318	554
POWER DISTRIBUTION HEADQUARTER	2255 4TH AVE S	319	555
ALASKA TRAFFIC CONSULTANTS INC	2214 FOURTH AVE S	319	561
LEON CHRISTIAN DRUMS	5020 PORTLAND AVE	319	565
FLAJOLE BROTHERS INC	2201 4TH SO	319	567
STACEY ST SOC 070B83	2203 AIRPORT WAY S	321	570
EQUILON ENTERPRISES LLC	2555 13TH AVE SW	325	575
TEXACO STATION #63-232-0043	2461 4TH AVE S	328	584
EXXON 7-9532/CLOSED	2401 4TH AVE SO	328	590
BOEING COMPANY PLANT 2	7755 E MARGINAL WAY S	331	598

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<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
PUBLIX FRUIT & PRODUCE CO INC	2415 AIRPORT WAY S	331	601
HOEHNE INC.	2763 4TH AVE SO.	334	606
WESTERN PETROLEUM	2739 4TH AVE S	334	609
NEWELL PROPERTIES	2730 FOURTH AVE S	334	609
SEARS AUTOMOTIVE CENTER	2753 UTAH SOUTH	336	621
SEATTLE WA. LINE SEG 51 PRINT	2700 OCCIDENTAL ST S	337	625
FRICITION SVCS INC	555 S LANDER ST	339	626
HARBOR ISLAND PLANT	2720 13TH AVE SW	340	629
CITY OF SEATTLE WATER DEPARTME	2700 AIRPORT WAY S	341	636
GROWING GREEN INTERIORS	2959 FIRST AVE S	343	639
CHEVRON 2740 1ST S	2740 1ST AVE S	343	641
EVERGREEN TRAILS INC/LUST	720 SOUTH FOREST STREET	346	646
SCHUCKS AUTO SUPPLY	2905 4TH AVE S	347	649
UNITED STATES BAKERY DBA UNITE	2901 6TH AVE S	349	655
NORTHWEST MOTOR REPAIR	2930 6TH AVE S	349	656
G HEILEMAN BREWING CO	3100 AIRPORT WAY SO	353	661
SEATTLE IRON METALS CORP	2955 11TH AVE SW	354	663
CRESCENT FOODS WAREHOUSE	25 S HANFORD ST	355	668
SEATTLE FIRE STATION 14	3224 4TH AVE S	356	669
PACIFIC EXPRESS	3215 4TH AVE S	356	671
ANDYS DINER INC	3201 4TH AVE S	356	672
SCALZO CO	3211 AIRPORT WY S	363	688
PORT OF SEATTLE	25 S HORTON ST	366	691
REI WOODWORKING FORMER	3314 4TH AVE S	370	697
BURGER KING SITE	3301 4TH AVE S	370	699
CASCADE COMMERCIAL COMPANY	3825 FIRST AVE S	374	702
UNOCAL 5472	3460 1ST AVE SO	374	702
PENSKE TRUCK LEASING CO., L.P.	3443 FIRST AVE S	374	710
TERMINAL 25	3225 E MARGINAL WAY SOU	376	715
3433 4TH S PROPERTY	3433 4TH AVE S	377	719
ACKERLEY COMMUNICATIONS OF THE	3601 6TH AVENUE SOUTH	380	726
SOUTH SERVICE CENTER	3613 4TH AVE S	382	730
SPOKANE STREET SITE	450 SOUTH SPOKANE STREE	382	735
PACIFIC LEASING COMPANY	300 S. SPOKANE ST	383	737
AO SMITH WATER PRODUCTS SEATTL	60 S SPOKANE ST	384	745
PIONEER CONSTRUCTION MATERIALS	910 SPOKANE STREET	388	758
WESTERN PETERBILT	3707 AIRPORT WAY SOUTH	391	762
WALT'S RADIATOR 3838 4TH S	3838 4TH AVE S	394	765
SIGNALS BRANCH 7HDQ SITE	3700 9TH AVE S	396	768
BURLINGTON NORTHERN SANTA FE	2943 COLORADO AVE S	399	772
CAMCAL CO INC	4000 AIRPORT WAY S.	402	775
PACIFIC FRUIT AND PRODUCE	4103 2ND AVE SOUTH	403	776
SEATTLE SCHOOL FACILITIES	4141 4TH AVE S	408	784
4TH SOUTH GULL #219	4115 4TH AVENUE SOUTH	408	786
GOLDEN GRAIN SEATTLE DISTRIBUT	4100 4TH AVE S	408	786
WASHINGTON TRUCKING ASSOCIATIO	4101 4TH AVENUE	408	788
GRIFFIN ENVELOPE INC	4301 E MARGINAL WY S/P	410	792
TERMINAL 106 WEST	44 SOUTH NEVADA ST	411	794

EXECUTIVE SUMMARY

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Ecology's Statewide UST Site/Tank Report.

A review of the UST list, as provided by EDR, and dated 06/08/2001 has revealed that there are 333 UST sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
WESTLAKE BUILDING	1219 WESTLAKE AVE N	6	25
DANIEL BOONE PAINT CO INC SEAT	1401 DEXTER AVE N	7	25
LAKE UNION AIR SERVICE INC.	1100 WESTLAKE AVE N	9	28
LO'S DELI 213	1108 AURORA AVENUE NORT	11	30
LAKESHORE INVESTMENTS	1114 AURORA AVENUE NORT	11	31
KENMORE AIR HARBOR, INC.	950 WESTLAKE AVE N	13	32
MINOR SOC 070328	900 MINOR	14	33
900 FAIRVIEW 070C47	900 FAIRVIEW	14	34
YALE STREET LANDING	1001 FAIRVIEW AVENUE NO	14	35
JARVIE PAINT MFG CO	760 ALOHA ST	16	37
KORRY ELECTRONICS CO.-TENANT	901 DEXTER AVENUE NORTH	16	41
DIAMOND TANK TRANSPORT	912 DEXTER AVE N	16	41
MARYATT INDUSTRIES	771 VALLEY ST	17	45
SEATTLE SCHOOL DIST 1 FACILITI	810 DEXTER AVE N	17	48
KIEWIT CONSTRUCTION COMPANY	1300 ALOHA STREET	18	49
BELIEU LITHOGRAPH	825 TAYLOR AVE NORTH	20	53
VAN DE KAMPS DUTCH BAKERY	823 YALE AVE N	23	54
FRANK KENNEY TOYOTA VOLVO	731 WESTLAKE AVE NORTH	24	55
CRAFTSMAN PRESS	1155 VALLEY ST	25	56
BAYSIDE VOLVO	753 9TH AVE NORTH	26	58
FAIRVIEW WAREHOUSE 070299	800-820 FAIRVIEW	27	59
ABC TOWING -- RYDER TRUCK	707 TAYLOR	30	62
PLAID PANTRY NO. 309	720 TAYLOR AVE N	30	64
COMPLETE AUTOMOTIVE INC	717 DEXTER AVE N	31	67
POWER CONTROL CENTER	157 ROY	32	67
ROY ST SHOPS #89	802 ROY ST	33	68
TOSCO CORPORATION SITE #255353	600 WESTLAKE NORTH	35	75
SEA.CTY WESTLAKE SITE	630 WESTLAKE AVE	35	77
PCY CORP	601 6TH AVE N	37	81
MYLES STANDISH	420 MERCER ST	38	82
TEXACO STATION #63-232-0400	601 BOREN AVE N	41	86
WILLIAM ARNOLD	150 MERCER	42	88
PUGET SOUND ENERGY	815 MERCER STREET	43	89
RATELCO HEADQUARTERS	1260 MERCER ST	44	92
MERCER OPERATING BASE	520 5TH AVE N	46	97
HUGHES REVOCABLE INTERVIVOS TR	1220 REPUBLICAN	47	103
LOWIT LOWIT & RODDY	414-BUREN AVE N	49	104
IVAR S COMMISSARY	500 TERRY AVE N	49	105
H & A INVESTMENTS PROPERTY	960 REPUBLICAN ST	49	111
INTERSTATE BRANDS CORP HOSTESS	434 AURORA AVE N	52	113
THE KAUFER COMPANY	901 HARRISON ST	54	115
SEATTLE SCHOOL DIST 1 SCH SUPP	1255 HARRISON ST	56	117
TOMLINSON INC	420 PONTIUS AVE N	56	118
FIRESTONE STORE#31A9	400 WESTLAKE AVE N	57	120
WESTLAKE ELECTRONIC SUPPLY CO.	415 WESTLAKE AVE. NO PO	57	121
KING COUNTY LIBRARY SYSTEM	300 8TH AVENUE NORTH	63	129
KING BROADCASTING COMPANY	333 DEXTER AVE N	63	131
TROY LAUNDRY	311 FAIRVIEW AVENUE NOR	68	137
GROUP HEALTH BUILDING	223 TAYLOR AVE N	70	138
BROAD STREET SUBSTATION	319 SIXTH AVENUE N	70	138

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WRIGHT'S RESTAURANT FORMER	101 AURORA AVE S	73	141
NEW RICHMOND LAUNDRY	224 PONTIUS STREET NORT	75	142
OVERALL LAUNDRY SERVICES INC	222 YALE AVENUE NORTH	76	145
STEVENS-LEA BUILDING	818 JOHN ST	77	147
ROGERS PROPERTY	TERRY & JOHN ST	78	149
FRED ROGERS BUILDING	200 TERRY AVE N	78	149
EWING INVESTMENTS PROPERTY (RE	711 W JOHN ST	80	151
DAVE'S AUTO ELECTRIC	701 JOHN ST	80	152
SEATTLE TIMES	1120 JOHN ST	81	152
EARL SCHEIB AUTO PAINTING	508 DENNY WAY	83	157
BUDGET RENT-A-CAR OF WASHINGTO	2205-9TH AVENUE	84	158
WESTERN VAN LINES INC	964 DENNY WAY	84	159
KENNEY PROPERTY	100 WESTLAKE	84	160
GENERAL MOTORS CORP/SEATTLE CO	101 WESTLAKE AVENUE NOR	84	162
THE FAMOUS PACIFIC DESSERT COM	420 DENNY WAY	85	164
KOMO RADIO & TV	100 4TH AVE N	85	165
JAPANESE AUTO CLINIC	600 DENNY WAY	86	166
STADIUM MARKET SHELL	620 DENNY WAY	86	167
RED CARPET CAR WASH	1164 DENNY WAY	87	168
DAVID COLWELL BUILDING (FORMER	1300 STEWART ST	89	172
GREYHOUND LINES, INC.	1250 DENNY WAY	90	194
FROL BLDG	204 DENNY WY	91	197
355	159 DENNY WAY	92	198
GROSVENOR HOUSE	505 VINE STREET	94	208
QUINTON INSTRUMENT CO SEA	2121 TERRY AVE	95	210
BILL BAILEY FOR TIMES OF SEATT	2701 FOURTH AVE SO.	97	212
KIRO, INC.	2807 3RD AVE	101	217
ELEPHANT CAR WASH	616 BATTERY ST	102	217
OLD BRITISH MOTORCAR	7TH & BELL	103	218
PRECISION TUNE	2331 7TH AVE	103	219
STONECLIFF APTS	2602 4TH AVE	105	222
THIRD AVENUE PRODUCTIONS	2720 3RD AVE	106	223
GOODYEAR ASC 8841	1105 STEWART ST	109	226
CENTENNIAL COURT	2500 3RD AVE	112	229
U S POSTAL SERVICE	2445 THIRD AVENUE	112	230
THRIFTY PARK	9TH AND LENORA	114	232
KEY LOCK PARKING LOT	2500 FOURTH AVE	115	235
FREDERICK CADILLAC, LTD.	2301 6TH AVE	117	236
TAB 070311	1915 TERRY AVE	120	239
FOUNTAIN COURT APARTMENTS	2400 4TH AVE	123	245
CITY OF SEATTLE	810 VIRGINIA ST	125	247
SEATTLE FIRE STATION 2	2334 4TH AVE	127	249
XEROX BUILDING (FORMER)	2115 6TH AVE	130	252
BUDGET RENT-A-CAR OF WASHINGTO	2001 WESTLAKE AVE	131	253
LARNED HOTEL	2030 7TH AVE	131	254
ALASKA USA FEDERAL CREDIT UNIO	2333 3RD AVENUE	135	257
LEE COURT	2133 5TH AVE	138	258
CEDAR DEVELOPMENT L.L.C.	2627 WESTERN AVENUE	139	260
SAILOR'S UNION OF THE PACIFIC	2505 1ST AVE	140	260
UNITED AIRLINES RESERVATION CE	2033 6TH AVENUE	141	261
NORTHWEST PROTECTIVE SERVICE I	2700 ELLIOTT AVE	144	265
VANCE HOTEL	620 STEWART ST.	145	266
DOLLAR RENT A CAR	701 STEWART	145	267
LUXURY AUTOMOTIVE	1915 7TH AVE	145	267
HOLMAN BODY AND FENDER	2324 2ND AVE	146	269
NATIONAL CAR RENTAL SYSTEM, IN	1942 WESTLAKE	150	274

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DOUGLAS HOTEL (FORMER)	1ST & BELL	155	278
REXLAND CO INC	2126 3RD AVENUE	156	279
MINIT-LUBE #1113	2025 4TH AVE	157	280
GARAGE SYSTEM GARAGE	6TH & OLIVE	158	280
KEY BANK BUILDING	1810 6TH AVENUE	158	281
MEDICAL DENTAL BUILDING	509 OLIVE WAY SUITE 1	159	283
PARKING LOT	1901 5TH AVE	159	284
AVIS RENT A CAR SYSTEM, INC.	1919 5TH AVE	159	285
2ND & LENORA PROJECT	211 LENORA ST	162	289
WASHINGTON STATE CONVENTION AN	9TH AVE & PIKE ST	164	291
FREEWAY GARAGE	1512 8TH AVE	167	294
INTRAWEST CORP	2001 1ST AVE	168	296
ONE PACIFIC TOWER W CONSTR SIT	1ST AVE & VIRGINIA AVE	168	297
BELL CENTER 070A80	120 LENORA	169	298
PARKING LOT	2120 FIRST AVE	169	299
HERTZ RENT A CAR	722 PIKE ST	170	299
AUTOPARK USA, INC	1915 2ND AVE	174	303
FEDERATED DEPT STORES INC DBA	THIRD & STEWART	174	304
FEDERATED DEPT STORES INC DBA	THIRD & PINE	176	305
BELL ST TERMINAL (PIER 66)	2201 ALASKAN WAY	177	307
AMPCO PARKING ONE UNION SQUARE	623 UNION ST	178	309
UNITED PARKING	1ST & STEWART	179	311
ATWATER CO 070322	1503 3RD AVE	182	312
AMPCO PARKING HILTON HOTEL GAR	1305 6TH AVE	183	313
AMPCO PARKING WASHINGTON BLDG	315 UNION ST	185	315
AMPCO PARKING IBM	507 UNIVERSITY	186	315
SECOND AND UNION PARKADE	1400 SECOND AVE	189	317
JC PENNEY SITE	2ND & UNION	189	318
JOHN JONES/AMPCO PARKING-JONES	1331 3RD AVE	190	320
HELIPARKER GARAGE	95 UNION STREET SW CORN	193	321
SEATTLE OLYMPIC GARAGE	415 SENECA	195	325
APCOA CORPORATION	212 SENECA ST	196	327
1200 THIRD AVE CO 070294	1200 THIRD AVE	196	327
KENNEDY HOTEL	1100 5TH AVE	197	329
HARBOR PROPERTIES INC	85 UNIVERSITY STREET	199	331
1101 4TH AVE CO 070139	1101 4TH	200	333
COLLEGE CLUB OF SEATTLE	505 MADISON	201	333
SEATTLE STEAM CORPORATION	1319 WESTERN AVENUE	202	338
MAIN CO 070319	1122 3RD AVE	203	341
CENTRAL BUILDING	810 THIRD AVENUE	209	346
PACIFIC HOTEL	317 MARION	209	347
1001 4TH AVENUE PLAZA GARAGE	310 MADISON ST	209	348
CITY OF SEATTLE, CITY LIGHT DE	1015 3RD AVE	209	351
FRED RAPHAEL CHEVRON	914 JAMES ST	210	352
YMCA OF GREATER SEATTLE	909 FOURTH AVE	212	355
SEAFIRST FIFTY AVE PLAZA BLDG	800 5TH AVE	214	356
FEDERAL RESERVE BANK OF SAN FR	1015 2ND AVE	215	378
JERRY A COSTACOS	801 4TH AVE	217	379
SEAFOOD ENTERPRISES INC	PIER 54	218	380
4TH & COLUMBIA PARKING	723 4TH AVE	221	383
FEDERAL OFFICE BUILDING	909 1ST AVE	222	384
NORTHWEST BUILDING CORPORATION	801 2ND AVENUE	223	385
TRUCK CENTER CORPORATION	600-22 S. FIFTH	224	387
SEATTLE POLICE DEPT 18	612 5TH AVE	224	388
HARBORVIEW MEDICAL CENTER	325 NINTH AVENUE	226	390

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MARTIN SELIG REAL ESTATE CO	115 COLUMBIA STREET	227	391
MUNI BUILDING	600 4TH AVE	228	391
KC DEPT OF CONST	500 5TH AVE	230	393
KING COUNTY GARAGE	5TH & JEFFERSON	230	394
COMMUTER CENTRE PARKING	801 WESTERN AVE	231	395
TURNER & PEASE CO	809 WESTERN	231	397
TURNER & PEASE CO	815 WESTERN AVE	231	398
KING COUNTY COURHOUSE	516 3RD AVE	234	402
KING COUNTY FACILITIES	500 4TH AVE	234	403
ACE NOVELTY	621/625 WESTERN AVENUE	235	404
SEATTLE STEAM CORPORATION	633 POST STREET	235	405
BUTLER GARAGE	114 JAMES ST	238	410
TOSHIRO/KAPLAN BUILDING	119 PREFONTAINE PLACE S	240	411
TASHIRO/KAPLAN BUILDING	119 PREFONTAINE PLACE S	240	411
YESLER BUILDING KING CO	400 YESLER WAY	240	412
ARSR FORT LAWTON LONG RANGE RA	654 WASHINGTON ST	243	413
FORT LAWTON ARSR	654 WASHINGTON ST	243	413
SEATTLE FIRE STATION 10	301 2ND AVE S	246	415
TERMINAL 46	401 ALASKAN WAY S	248	417
OLD SEATTLE PARKING GARAGE	74 S JACKSON ST	251	420
KING STREET CENTER	201 S JACKSON	252	426
5475 (UNOCAL)	500 SO JACKSON	254	428
PURULATOR COURIER CORP	923 S JACKSON	256	429
83 KING STREET BUILDING	83 KING STREET	257	431
KINGDOME	201 S KING ST	258	432
BURLINGTON NORHTERN SANTA FE	201 S KING STREET	258	433
REX HOTEL	657 S KING ST	259	434
IMMIGRATION NATIONAL SERVICE	815 AIRPORT WAY	264	438
UWAJIMAYA VILLAGE DEVELOPMENT	514 DEARBORN ST	264	438
TEXACO STAR MART	511 DEARBORN ST	264	443
PACIFIC FISH COMPANY	617 S DEARBORN	265	445
SPIC N SPAN CLEANERS INC	652 S DEARBORN ST	266	445
FACILITY MAINTENANCE HEADQUART	802 S DEARBORN ST	267	450
CITY OF SEATTLE	705 CHARLES ST. EAST	270	454
UNION PACIFIC RR/CLOSED	801 1ST AVE SOUTH	273	458
THE SALVATION ARMY A.R.C.	1000 4 AVE S. PO BOX 37	274	459
KEN STATION	1030 7TH AVE S	275	460
KINGDOME STATION	1046 1ST AVE S	278	463
ROMAINE ELECTRIC	1101 AIRPORT WAY SOUTH	279	467
LEAVITT SHAY INDUSTRIAL BLDG	1217 6TH AVE S	280	469
E J BARTELLS	1212 6TH AVENUE SOUTH	280	470
WDOT	1205 6TH AVE S	280	470
MAJOR LEAGUE STADIUM PUBLIC FA	3RD S & S ROYAL BROUGHA	281	471
SERVICE STATION	1200 1ST AVE SOUTH	282	472
TERMINAL 37	1201 ALASKAN WAY S	283	473
RYERSON OPERATING BASE	1220 4TH AVE S	285	476
FEDERAL WAREHOUSE	1555 ALASKAN WAY SO	288	484
USCG SUPPORT CENTER SEATTLE	1519 ALASKAN WAY S	288	487
COAST CRANE CO. OF WASHINGTON	1531 UTAH AVE. SO.	290	492
FORTUNE	84 SOUTH ATLANTIC	290	493
PRINCETON PACKAGING INC	1505 6TH AVE S	291	494
GOLDEN PENN OIL CO OF SEATTLE	13614 129 PL NE	292	495
MUSIC-VEND DISTRIBUTING CO	1550 4TH AVENUE SOUTH	293	513
SID ELAND INC	1565 6TH AVE SO	296	516
EMERALD CITY DISPOSAL	9 SOUTH MASSACHUSETTS	298	519
FLINT INK BLDG	1727 ALASKAN WAY S	300	526

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CASCADE OIL COMPANY	1741 - 4TH AVE S.	302	528
ATLAS SUPPLY	1736 4TH AV S	302	529
MAUST TRANSFER CO	1762 6TH AVE SOUTH PO B	303	531
CENTRAL BASE MAINTENANCE FAC	640 S MASSACHUSETTE	303	532
VECA ELECTRIC CO INC	1762 AIRPORT WAY SO	304	533
AIRPORT RD SOC 070307	1709 AIRPORT WAY SO	304	535
AMTRAK MATERIAL CONTROL FACILI	1739 THIRD AVE S	305	537
STAR RENTALS & SALES	1919 4TH AVE S	310	543
R H BROWN CO.	1900 4TH AVE. S.	310	545
SHULTZ DISTRIBUTING INC.	465 S HOLGATE ST	311	545
TAYLOR EDWARDS INC	1930 6TH AVE S	312	546
TAYLOR EDWARDS	615 HOLGATE STREET	312	547
FOOD SERVICE INTERNATIONAL	801 SOUTH HOLGATE	313	548
OBERTO SAUSAGE COMPANY	2005 AIRPORT WAY SO	315	551
BUDGET RENT-A-CAR OF WASHINGTO	1961-4TH AVE SOUTH	316	551
TAYLOR EDWARDS WHSE. & TRANS.	1926 6 SO. PO BOX 24767	317	552
TERMINAL 30	2431 E MARGINAL WAY S	318	554
POWER DISTRIBUTION HEADQUARTER	2255 4TH AVE S	319	555
PACIFIC IRON & METALS	2230 4TH AV S	319	559
ALASKA TRAFFIC CONSULTANTS INC	2214 FOURTH AVE S	319	561
ARCO 4090	2200 4TH AVE S	319	566
FLAJOLE BROTHERS INC	2201 4TH SO	319	567
PACIFIC NORTHWEST WAREHOUSE IN	2250 1ST AVE S	320	568
OLYMPIC COLD STORAGE	2200 1ST AVE SOUTH	320	569
STACEY ST SOC 070B83	2203 AIRPORT WAY S	321	570
PIER 27 SEATTLE	2901 E MARGINAL WAY SOU	323	571
BURLINGTON N ELECTRICAL SHOP	2400 OCCIDENTAL AVE S	324	574
EQUILON ENTERPRISES LLC	2555 13TH AVE SW	325	575
U.S. POSTAL SERVICE	2401-2445 3RD AVE S	327	583
TEXACO STATION #63-232-0043	2461 4TH AVE S	328	584
USPS VEHICLE MAINTENANCE FACIL	2460 4TH AVE S	328	589
EXXON 7-9532/CLOSED	2401 4TH AVE SO	328	590
SYSTEM TRANSFER & STORAGE COMP	2400 6TH AVENUE SOUTH	329	594
FIRST & UTAH STREET ASSOCIATES	2465 1ST AVENUE S	330	595
BOEING COMPANY PLANT 2	7755 E MARGINAL WAY S	331	598
PUBLIX FRUIT & PRODUCE CO INC	2415 AIRPORT WAY S	331	601
INDUSTRIAL TRANSFER & STORAGE	2450 SIXTH AVENUE SOUTH	333	605
HOEHNE INC.	2763 4TH AVE SO.	334	606
J & B MOBILE REPAIR INC	2747 4TH AVE SOUTH	334	608
WESTERN PETROLEUM	2739 4TH AVE S	334	608
NEWELL PROPERTIES	2730 FOURTH AVE S	334	609
SEAFAB METALS CO	2700 16TH AVE SW	335	612
SEARS AUTOMOTIVE CENTER	2753 UTAH SOUTH	336	621
SEATTLE WA. LINE SEG 51 PRINT	2700 OCCIDENTAL ST S	337	625
FRICTION SVCS INC	555 S LANDER ST	339	626
GATX HARBOR ISLAND TERMINAL	2720 13TH AVE SW	340	627
HARBOR ISLAND PLANT	2720 13TH AVE SW	340	629
CITY OF SEATTLE WATER DEPARTME	2700 AIRPORT WAY S	341	636
GROWING GREEN INTERIORS	2959 FIRST AVE S	343	639
SEARS AUTO CENTER	2759 1ST AVE S	343	639
CHEVRON 2740 1ST S	2740 1ST AVE S	343	640
EVERGREEN TRAILS INC/LUST	720 SOUTH FOREST STREET	346	646
SCHUCKS AUTO SUPPLY	2905 4TH AVE S	347	649
UNITED STATES BAKERY DBA UNITE	2901 6TH AVE S	349	655
NORTHWEST MOTOR REPAIR	2930 6TH AVE S	349	656
GROWING GREEN INTERIORS	2959 UTAH AVE S	351	658

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WASHINGTON CHAIN & SUPPLY INC	2935 UTAH AVE S	351	659
<i>G HEILEMAN BREWING CO</i>	<i>3100 AIRPORT WAY SO</i>	<i>353</i>	<i>661</i>
<i>SEATTLE IRON METALS CORP</i>	<i>2955 11TH AVE SW</i>	<i>354</i>	<i>663</i>
ODOM CORPORATION	26 SOUTH HANFORD ST PO	355	668
<i>SEATTLE FIRE STATION 14</i>	<i>3224 4TH AVE S</i>	<i>356</i>	<i>669</i>
<i>PACIFIC EXPRESS</i>	<i>3215 4TH AVE S</i>	<i>356</i>	<i>671</i>
<i>ANDYS DINER INC</i>	<i>3201 4TH AVE S</i>	<i>356</i>	<i>672</i>
<i>PACIFIC MOLASSES COMPANY</i>	<i>3200 11TH AVE SW</i>	<i>361</i>	<i>685</i>
CALIFORNIA & HAWAIIAN SUGAR CO	2 SOUTH HORTON ST	365	689
<i>PORT OF SEATTLE</i>	<i>25 S HORTON ST</i>	<i>366</i>	<i>691</i>
<i>PSF INDUSTRIES INC HORTON ST</i>	<i>65 S HORTON ST</i>	<i>367</i>	<i>694</i>
<i>WESTERN STEEL CASTING CO</i>	<i>145 S HORTON ST</i>	<i>368</i>	<i>694</i>
ROGERS OLYMPIC CORP	151 S HORTON	368	696
<i>REI WOODWORKING FORMER</i>	<i>3314 4TH AVE S</i>	<i>370</i>	<i>697</i>
BURGER KING SITE	3301 4TH AVE S	370	699
D W CLOSE COMPANY INC	3317 THIRD AVE SOUTH	372	700
<i>TRANSPORT EQUIPMENT CO</i>	<i>3400 6TH AVE S</i>	<i>373</i>	<i>700</i>
TRANSPORT EQUIPMENT COMPANY	3400 SIXTH AVENUE SOUTH	373	701
<i>CASCADE COMMERCIAL COMPANY</i>	<i>3825 FIRST AVE S</i>	<i>374</i>	<i>702</i>
<i>UNOCAL 5472</i>	<i>3460 1ST AVE SO</i>	<i>374</i>	<i>702</i>
<i>PENSKE TRUCK LEASING CO., L.P.</i>	<i>3443 FIRST AVE S</i>	<i>374</i>	<i>710</i>
<i>OBERT MARINE SUPPLY INC</i>	<i>3441 2ND AVE S</i>	<i>375</i>	<i>713</i>
PACKAGE SERVICE, INC.	3414 2ND AVE S	375	713
<i>TERMINAL 25</i>	<i>3225 E MARGINAL WAY SOU</i>	<i>376</i>	<i>715</i>
SEACON TERMINALS INC.	3225 E MARGINAL WAY SOU	376	716
NORTHWEST CARPET PAD	3434 4TH AVE SO	377	717
BLOOMS AUTO ELECTRIC	3423 FOURTH AVE S	377	719
TERMINAL 106 NORTH	3440 E MARGINAL WAY S.	379	723
OWL TRANSFER & STORAGE CO., IN	3623-6TH AVE SOUTH	380	724
<i>ACKERLEY COMMUNICATIONS OF THE</i>	<i>3601 6TH AVENUE SOUTH</i>	<i>380</i>	<i>726</i>
PUGET SOUND ELECTRIC SUPPLY, I	640 SO. SPOKANE ST.	380	727
<i>SOUTH SERVICE CENTER</i>	<i>3613 4TH AVE S</i>	<i>382</i>	<i>730</i>
<i>SPOKANE STREET SITE</i>	<i>450 SOUTH SPOKANE STREE</i>	<i>382</i>	<i>735</i>
<i>PACIFIC LEASING COMPANY</i>	<i>300 S. SPOKANE ST</i>	<i>383</i>	<i>737</i>
ARATEX SERVICES INC	55 S SPOKANE ST	384	744
<i>AO SMITH WATER PRODUCTS SEATTL</i>	<i>60 S SPOKANE ST</i>	<i>384</i>	<i>745</i>
ANDREWS MACHINERY OF WASHINGTO	3633 E MARGINAL WAY S	385	749
<i>PRAXAIR DISTRIBUTION INC</i>	<i>3623 E MARGINAL WY S</i>	<i>385</i>	<i>751</i>
COMPTON LUMBER COMPANY	3847 FIRST S / PO BOX 8	386	754
<i>ASAHIPEN AMERICA INC</i>	<i>1128 SW SPOKANE ST</i>	<i>387</i>	<i>754</i>
<i>PIONEER CONSTRUCTION MATERIALS</i>	<i>910 SPOKANE STREET</i>	<i>388</i>	<i>758</i>
ESCO CORPORATION	3844 1ST AVENUE SOUTH	389	759
WESTERN UNION TEL CO	3663 1ST AVE SOUTH	389	759
<i>WESTERN PETERBILT</i>	<i>3707 AIRPORT WAY SOUTH</i>	<i>391</i>	<i>762</i>
F M HIGGINS	660 SO CHARLESTOWN ST	392	763
CANTEEN SERVICE INC	660 S CHARLESTOWN ST	392	764
WALT'S RADIATOR 3838 4TH S	3838 4TH AVE S	394	765
<i>SIGNALS BRANCH 7HDQ SITE</i>	<i>3700 9TH AVE S</i>	<i>396</i>	<i>768</i>
E & E FOODS BUILDING	3922 6TH AVE S	397	769
<i>BURLINGTON NORTHERN SANTA FE</i>	<i>2943 COLORADO AVE S</i>	<i>399</i>	<i>772</i>
<i>SINCLAIR AND VALENTINE CO INC</i>	<i>655 SOUTH ANDOVER STREE</i>	<i>401</i>	<i>774</i>
<i>CAMCAL CO INC</i>	<i>4000 AIRPORT WAY S.</i>	<i>402</i>	<i>775</i>
<i>PACIFIC FRUIT AND PRODUCE</i>	<i>4103 2ND AVE SOUTH</i>	<i>403</i>	<i>776</i>
<i>NORTHWEST PLATING</i>	<i>825 S DAKOTA</i>	<i>407</i>	<i>782</i>
<i>4TH SOUTH GULL #219</i>	<i>4115 4TH AVENUE SOUTH</i>	<i>408</i>	<i>786</i>
<i>GOLDEN GRAIN SEATTLE DISTRIBUT</i>	<i>4100 4TH AVE S</i>	<i>408</i>	<i>786</i>

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WASHINGTON TRUCKING ASSOC	4101 4TH AVE S	408	788
GRIFFIN ENVELOPE INC	4301 E MARGINAL WY S /P	410	792
TERMINAL 106 WEST	44 SOUTH NEVADA ST	411	794

FEDERAL ASTM SUPPLEMENTAL

RODS: Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid the cleanup.

A review of the ROD list, as provided by EDR, has revealed that there is 1 ROD site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
HARBOR ISLAND (LEAD)	MOUTH OF DUWAMISH RIVER	0	11

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 07/07/2000 has revealed that there are 405 FINDS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
BIRD JOHNSON CO	1608 FAIRVIEW AVE E	2	16
LAKE UNION DRY DOCK CO	1515 FAIRVIEW AV E	3	17
DANIEL BOONE PAINT CO INC SEAT	1401 DEXTER AVE N	7	25
SCOTTS H & A AUTOMOTIVE	1225 DEXTER AVE N	10	29
MACAULAY AUTOMOTIVE CORP	1207 DEXTER N	11	30
AMERICAN METER MACHINE	1001 WESTLAKE N	12	31
YALE ST LANDING	1001 FAIRVIEW AVE N	14	36
JARVIE PAINT MFG CO	760 ALOHA ST	16	37
YELLOW CAB	912 DEXTER AV N	16	41
KORRY ELECTRONICS SEATTLE	801 DEXTER AVE N	17	43
MARYATT INDUSTRIES CINTAS CORP	773 VALLEY ST	17	44
SEATTLE SCHOOL DIST 1 FACILITI	810 DEXTER AVE N	17	48
AUTO HOUND DKB ENTERPRISES INC	835 8TH AVE N	17	49
TUBE ART DISPLAYS INC SEATTLE	808 ALOHA ST	17	49
USN RESERVE READINESS C	845 TERRY AVE N	19	51
USN COOPMINERON ELEVEN	860 TERRY AVE N	19	51
ACCURATE SAFE LOCK CO	815 5TH AVE N	21	53
CS AUTO REBUILD INC	807 AURORA AVE N	22	53
VAN DE KAMPS DUTCH BAKERY	823 YALE AVE N	23	54
CRAFTSMAN PRESS	1155 VALLEY ST	25	56

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SEATTLE MOTOR SPORTS	701 9TH AVE N	26	57
FRANK KENNEY TOYOTA VOLVO	715 9TH AVE	26	57
FAIRVIEW	800 FAIRVIEW AVE	27	58
USWCOM FAIRVIEW	800 FAIRVIEW	27	59
SEATTLE CITY PARKS NW SEAPORT	1002 VALLEY	28	60
UNOCAL SS NO TM0255	700 QUEEN ANNE AVE N	29	61
WERNERS CRASH SHOP INC	710 TAYLOR AV N	30	63
QUEENS CLEANERS	716 TAYLOR AVE N	30	63
AUTO SERVICE EUROPA INC	717 DEXTER AVE N	31	67
SEATTLE CITY ROY STREET FACILI	802 ROY ST	33	68
PACIFIC LINCOLN MERCURY NISSAN	601 WESTLAKE AVE N	35	74
ZIG ZAG	620 AURORA AVE N	36	79
PACIFIC RIM DIESEL INC MERCER	570 MERCER ST	37	81
QUIK SIGN INC	601 DEXTER AVE N	40	83
SEATTLE CITY DEPT OF ADMIN SEA	630 BOREN AVE N	41	87
PSE MERCER OFFICE	815 MERCER ST	43	89
WESCOR GRAPHICS CORP	500 DEXTER AVE N	45	93
CARL ZAPFFE INC	513 DEXTER AVE N	45	96
SIGNS TODAY INC	524 DEXTER AVE N	45	96
MERCER BUS BARN SEATTLE CENTER	520 5TH AVE N	46	100
COLOR SERVICE INC	509 FAIRVIEW AVE N	48	104
WASHINGTON TRADE PRESS INC	1015 REPUBLICAN ST	49	105
TERRY DRUM	500 TERRY AVE N	49	108
UNIVERSITY OF WA ROSEN BLDG	960 REPUBLICAN ST	49	108
ANTIQUE LIQUIDATORS	503 WESTLAKE N	49	111
INTERSTATE BRANDS CORP HOSTESS	434 AURORA AVE N	52	113
METAL ARTS GROUP LTD	406 DEXTER AVE N	53	113
HAUGE HASSAIN INC	416 DEXTER AVE N	53	114
RATELCO COMMUNICATION SERVICES	430 DEXTER AVE N	53	114
ARI 400 BUILDING	400 9TH AVE N	54	115
IVEY SERIGHT INTERNATIONAL INC	427 9TH AVE N	54	115
IVEY SERIGHT INTL INC	424 8TH AVE N	55	116
SEATTLE SCHOOL DIST 1 SCH SUPP	1255 HARRISON ST	56	117
FIRESTONE TIRE & RUBBER CO	400 WESTLAKE AVE N	57	121
SEATTLE CENTER	305 HARRISON ST	59	123
SCANNER GRAPHICS INC SEATTLE F	405 FAIRVIEW AVE N	60	127
LEE SITE	505 HARRISON ST	61	127
SEATTLE SCHOOL DIST 1 MEMORIAL	401 5TH AVE N	61	128
ARNIE DAHL FORD	603 HARRISON ST	62	128
FAT CITY INC SEATTLE	777 THOMAS ST	63	129
RUBY PRESS ALOHA GRAPHICS	766 THOMAS ST	63	130
WILDERMAN REFRIGERATION CO	300 DEXTER AVE N	63	130
KING TV	333 DEXTER AVE N	63	130
BH STORDAHL & SONS INC	901 THOMAS ST	64	131
UNITED ELECTRIC MOTOR INC	308 9TH AVE N	64	131
ANALYTICAL RESOURCES INC 333 B	333 9TH AVE N	64	132
VAGABOND INN	325 AURORA AVE N	66	134
CORPORATE EXPRESS INC	306 WESTLAKE AVE N	67	135
FOLEY ENTERPRISES	318 WESTLAKE AVE N	67	136
FORDE MOTION PICTURE LABS	306 FAIRVIEW AVE N	68	136
SEATTLE TIMES CO FAIRVIEW AVE	311 FAIRVIEW AVE N	68	137
GENETIC SYSTEMS CORP SDP SEATT	1000 THOMAS ST	71	139
SEATTLE TIMES BOREN BLDG	301 THRU 309 BOREN AVE	71	140
SPACE NEEDLE CORP	219 4TH AVE N	72	141
PPG INDUSTRIES INC LOC 180	234 DEXTER AVE	74	142
BERNARD IMPORT BODYWORKS	223 8TH AVE N	77	148

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BUNGE FOODS SEATTLE TOPPINGS & 975 JOHN ST OFFICE BLDG	1001 JOHN ST	78	149
RELOCATION SVC INC DBA UNITED	975 JOHN ST	78	150
HAUGE & HASSAIN INC	219 TERRY AVE N	78	150
GRAPHICS WEST TYPELINE	207 6TH AVE N	79	150
SEATTLE TIMES	217 6TH AVE N	79	151
IGEN INC	1120 JOHN ST	81	152
LANDROVER OF SEATTLE	130 5TH AVE N	83	158
DENNY BLDG 1000	2223 9TH AVE	84	158
GM WESTLAKE BUICK DEALERSHIP	1000 DENNY WAY	84	159
FREDERICK GROUP COLLISION CENT	101 WESTLAKE N	84	162
GREYHOUND LINES INC SEATTLE 78	114 WESTLAKE AVE N	84	164
UNOCAL SS NO 0355	1250 DENNY WAY	90	173
ALPHA CINE LABORATORY	159 DENNY WAY	92	201
QUINTON INSTRUMENT CO SEA	1001 LENORA ST	95	210
SEATTLE CHIROPRACTIC HEALTH CT	2121 TERRY AVE	95	210
DENDREON CORP	2004 FAIRVIEW AVE	96	211
FREDERICK PONTIAC BUICK	3005 1ST AVE	100	215
GROSVENOR HOUSE	2300 7TH AVE	103	219
SEATTLE POST INTELLIGENCER	500 WALL ST STE 100	104	219
PUGET SOUND INSTITUTE OF PATHO	521 WALL ST	104	220
CITY MINI STORAGE	2600 4TH AVE	105	222
IHLER AUTOMOTIVE	2000 TERRY AVE	108	226
RITE AID 5218	2101 9TH AVE	110	227
WITS INC DBA WITS AIR FREIGHT	2603 3RD AVE	112	230
SEATTLE CITY USED OIL COLLECT	333 VINE ST	112	231
TOYOTA OF SEATTLE	2229 7TH AVE	113	231
CD STIMSON CO	2121 8TH AVE	114	232
PARSON SEATRUST PARTNERSHIP	821 LENORA ST	114	232
ARCTIC MARINE FREIGHTERS	2500 4TH AVE	115	233
FREDERICK CADILLAC	4TH & BATTERY	116	235
ANGES FRENCH CLEANERS INC	2301 6TH AVE	117	236
US WEST COMMUNICATIONS INC W00	2000 9TH AVE	118	237
SEATTLE LABOR TEMPLE ASSOC PAR	1915 TERRY AVE RM 112	120	240
CROWLEY MARINE SERVICES INC 4T	2801 1ST AVE	122	242
PACIFIC ALASKA LINS	2401 4TH AVE	123	242
COLUMBIA MARINE LINES SEATTLE	2401 4TH AVE	123	243
HAWAIIAN MARINE LINES INC	2401 4TH AVE	123	244
PUGET SOUND TUG BARGE	2401 4TH AVE 12TH FL	123	244
BLANCHARD PLAZA	2201 6TH AVE STE 100	124	247
WESTLAKE CHEVEROLET	2030 8TH AVE	125	247
SEA COAST TOWING INC HOME OFFI	2701 1ST AVE	126	248
SEATTLE FIRE DEPT STA	2318 4TH AVE	127	249
STERLING ENGRAVING CO	2218 5TH AVE E	129	251
HONDA OF SEATTLE	1015 OLIVE WAY	133	256
WILSON ENGRAVING CO INC	314 BELL ST	135	257
2ND AVE BELL DRUMS	2408 2ND AVE	136	258
WASHINGTON TRANSIT ADVERTISING	2600 WESTERN AVE	139	259
NORTHWEST PROTECTIVE SERVICE I	2700 ELLIOTT AVE	144	265
OLIVE WAY ON RAMP	OLIVE WAY I5 ON RAMP NO	145	267
IMPORT DOCTORS	211 BELL ST	146	268
HOLMAN BODY & FENDER	2324 2ND AVE	146	269
1ST AVE S BARRELS	UNDER 1ST AVE S BRG ON	147	270
ROSSMAN INDUSTRIAL SUPPLY CO	2500 WESTERN AVE	147	270
OENING CO 81 VINE	2518 WESTERN AVE	147	271
HUGH CORBETT BUILDING	1942 WESTLAKE AVE	150	273

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CINERAMA	2100 4TH AVE	152	276
WARWICK HOTEL, THE	LENORA & 4TH AVENUE	152	276
SYMETRIX INC SEATTLE	109 BELL ST	155	278
VOGUE DRY CLEANERS	616 OLIVE WAY	158	282
MEDICAL DENTAL BLDG	509 OLIVE WAY STE 1062	159	283
WESTIN HOTEL SEATTLE	1900 5TH AVE	159	284
SUPERIOR REPROGRAPHICS INC SEA	1925 5TH AVE	159	285
EDELSTEIN ASSOC ADVERTISING BE	50 BELL ST	160	286
BELLTOWN LOFTS	66 BELL ST	160	286
CONSOLIDATED PRESS PRINTING CO	2228 1ST AVE	161	288
GEM EAST CORP	2124 2ND AVE	162	289
FOUNTAINHEAD SVCS INC	1904 4TH AVE	163	291
SUPERIOR REPROGRAPHICS INC	1918 4TH AVE	163	291
HABIT FRENCH CLEANERS	312 VIRGINIA ST	165	292
I MAGNIN INC	601 PINE ST	166	293
GARYS DOWNTOWN AUTO CARE	1614 6TH AVE	166	293
DAMES & MOORE INC	2025 1ST AVE STE 500	168	296
US WEST COMMUNICATIONS INC W00	120 LENORA ST	169	298
CLISE AGENCY INC	1904 3RD AVE	171	300
BARG FRENCH CLEANERS	1929 3RD AVE	171	300
SABEY CORP	5TH & PINE	172	301
KITS CAMERAS 1030	400 PINE ST STE 210	175	304
GOODYEAR BON TIRE CENTRE 8848	1619 3RD AVE	176	306
TWO UNION SQUARE	601 UNION ST	178	308
SHERATON SEATTLE HOTEL & TOWER	1400 6TH AVE RECEIVING	178	309
GREAT NORTHERN ANNUITY	601 UNION ST STE 5600	178	309
TURNER CONSTRUCTION CO	600 UNIVERSITY	183	313
WASHINGTON ATHLETIC CLUB	1325 6TH AVE	183	314
UNICO PROPERTIES INC	1325 4TH AVE	187	316
BENAROYA CAPITAL CO LLC	1200 6TH AVE	188	316
PAYLESS 2932	1401 2ND AVE	189	318
NEWMARK BUILDING OWNERS ASSOC	1415 2ND AVE	189	319
SEATTLE CITY BENAROYA HALL MUS	1301 3RD AVE	190	319
SEATTLE CITY JONES BLDG	1331 3RD AVE	190	320
AGFA SEMINAR	1113 6TH AVE CROWNE PLZ	192	321
SOUTH ARCADE	98 UNION ST	193	322
PUGET SOUND AIR POLLUTION CONT	110 UNION ST STE 500	193	322
METAL LAUNDRY INCORPORATED	614 12TH	194	323
APPLIED TECHNOLOGY CORP	411 SENECA RM 211	195	324
SEATTLE OLYMPIC GARAGE	415 SENECA	195	325
1101 2ND AVE LTD PARTNERSHIP	1191 2ND AVE	196	327
SEATTLE ART MUSEUM	1301 2ND AVE ARCADE BLD	196	329
ARCADE PLAZA C O MARTIN SMITH	1321 2ND AVE	196	329
KENNEDY HOTEL	1100 5TH AVE	197	329
US WEST COMMUNICATIONS INC W00	1200 3RD AVE	198	330
SEATTLE TOWER	1218 3RD AVE 1100	198	331
SEATTLE ART MUSEUM	100 UNIVERSITY ST	199	332
HARBOR DEVELOPMENT CO	1301 1ST AVE	199	332
NIKKO MEDIA CTR	1305 1ST AVE	199	332
USWCOM SEATTLE 4TH	1101 4TH AVE	200	333
US COURT HOUSE SEATTLE	1010 5TH AVE	201	334
IMMUNEX CORP SEATTLE	51 UNIVERSITY ST	202	334
SEATTLE STEAM COMPANY	1319 WESTERN AVE	202	337
NORTHERN LIFE INSURANCE CO	1110 3RD AVE	203	339
ABE LINCOLN/FBI BUILDING	1111 - 3RD AVE	203	340
WESTERN ALASKA FISHERIES, INC.	1111 3RD AVE	203	340

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WRIGHT RUNSTAD 1111 3RD AVE	1111 3RD AVE	203	340
AT&T CORP	1122 3RD AVE AT&T	203	340
NORTH PACIFIC CORP	1001 4TH AVE PLZ STE 41	205	343
HARBOR STEPS LIMITED PARTNERS	1201 1ST AVE	206	343
SEATTLE CITY PARKS RECREAT PIE	1401 ALASKAN WAY PIER 5	207	345
SECURITY PACIFIC BANK	1100 2ND AVE	208	345
RITE AID CORP	802 3RD AVE	209	345
CENTRAL BLDG	810 3RD AVE	209	346
FIRST INTERSTATE CENTER	999 3RD AVE STE 1010	209	348
1001 4TH AVE PLAZA GARAGE	310 MADISON ST	209	349
EXPEDITORS INTERNATIONAL	1015 3RD AVE, SUITE 12	209	350
SEATTLE CITY LIGHT HAROLD HOLM	1015 3RD AVE	209	350
THIRD AVE CLEANUP 1015 3RD AVE	1015 3RD AVE	209	350
FRED RAPHAEL CHEVRON	914 JAMES ST	210	352
CENTRAL DISTRICT YMCA	909 4TH AVE	212	355
LEASE CRUTCHER LEWIS	107 SPRING ST	213	356
SEAFIRST BANK GRAPHIC SERVICES	800 5TH AVE PLAZA BLDG	214	356
US CUSTOMS PORT OF SEATTLE (AL	1000 2ND AVE	215	373
FEDERAL RESERVE BANK OF SAN FR	1015 2ND AVE	215	378
RYAN JERRY	708 6TH & PINE BLDG	216	379
CUSHMAN WAKEFIELD	700 5TH AVE STE 3975	219	380
CEI SERVICES INC	701 5TH AVE 2200 COLUMB	219	381
NORTHSHORE CONTRACTORS INC	701 5TH AVE	219	381
MARITIME ASSOC	911 WESTERN AVE MARITIM	220	382
US DOC CUSTOMS SVC SEATTLE	909 1ST AVE	222	384
US GSA SEATTLE OLD FEDERAL OFF	909 1ST AVE	222	385
B R ANDERSON & CO	801 2ND AVE	223	385
VAN WATERS & ROGERS INC SEATTL	801 2ND AVE	223	386
ROBERT EPA BAYLEY CONST CO IN	205 COLUMBIA ST	223	386
SEA TRUST BLDG 2ND AVE	804 2ND AVE	223	386
METRO HQ	821 2ND AVE	223	387
SEATTLE CITY FIRE DEPT UTILIT	622 5TH AVE	224	389
CITY OF SEATTLE	700 3RD AVE.	225	389
COLMAN BUILDING	811 - 1ST AVE	227	391
SEATTLE CITY ENG DEPT RECORDS	600 4TH AVE RM 510	228	392
SEATTLE CITY ENG DEPT METER SH	600 4TH AVE RM 224 GARA	228	392
DEXTER HORTON BLDG	710 2ND AV	229	393
PIONEER TITLE BLDG	719 2ND AVE	229	393
KING CNTY CORRECTION FACILITY	500 5TH AV	230	395
COMMUTER CENTRE PARKING	801 WESTERN AVE	231	395
SEATTLE CITY DEPT OF ADMIN	610 3RD AVE	232	399
KING CNTY FACILITIES MANAGEMEN	500 3RD AVE	234	401
KING CNTY COURTHOUSE E	500 3RD AVE KING CO COU	234	401
KING CNTY COURTHOUSE	516 3RD AV SITE A	234	401
KING CNTY POLICE	516 3RD AVE	234	402
USWCOM BUCKLEY CO	350 JEFFERSON ST	234	403
SEATTLE PORT TERM 48	101 ALASKAN WAY S TERM	235	404
1ST CHERRY MINI STORAGE WHSE	626 POST AVE	235	405
WA DOT FERRIES COLMAN DOCK PIE	801 ALASKAN WAY	236	408
CORONA BUILDING THE	606 2ND AVE	237	409
SMITH TOWER BLDG	506 2ND AVE	239	410
NORTHLAND SERVICES INC	110 PREFONTAINE PL S ST	240	411
WA UW PIONEER SQUARE	206 3RD AVE S RM 5	242	412
METRO KING CNTY DOT TRAN DIV T	306 S WASHINGTON COR YE	242	413
BIOCOLL LABS	562 1ST AVE S STE 600	244	414
IMMUNODIAGNOSTICS INC	562 1ST AVE S 7TH FL	244	414

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HEARTWOOD INC 1ST AVE	562 1ST AVE S	244	414
NORTH AMERICAN POST INC	215 5TH AVE S	245	415
NEMCO ELECTRIC CO	307 S MAIN ST	247	416
SEATTLE PORT TERMINAL 46	401 ALASKAN WY S TERMIN	248	419
BRIX MARITIME BARGING INC ALAS 301 DRUM	353 ALASKAN WAY S 301 2ND S	248 249	419 420
OLD SEATTLE PARKING GARAGE	74 S JACKSON ST	251	420
COURT IN THE SQUARE	401 - 2ND AVE, S	252	422
KING STREET CENTER	201 S. JACKSON ST	252	423
ANNA DRYCLEANERS ALTERATION	657 S JACKSON ST	255	429
NF CORP 1ST AVE S	526 1ST AVE S	257	431
KING CO STADIUM KINGDOME	201 S KING ST	258	433
SEATTLE TECHNICAL FINISHING IN TRUCK CENTER CORP	1005 S KING 600 5TH AVE S	260 262	435 437
IMMIGRATION & NATURALIZATION S	815 AIRPORT WAY S	264	438
SPIC N SPAN CLEANERS INC	652 S DEARBORN ST	266	445
METRO KING CNTY DOT TRANSIT DI	802 S DEARBORN ST	267	448
SEATTLE PORT OF TERMINAL 42	901 ALASKAN WAY S TERMI	269	453
SEATTLE CITY HEALTH DEPT	705 S CHARLES ST	271	456
TRANSMATE	902 1ST AVE S	273	457
SALVATION ARMY	1000 4TH AVE S	274	460
ALLIED BATTERY CO INC	1031 6TH AVE S	276	462
JAMES G MURPHY CO	1001 6TH AVE	276	462
ROMAC INDUSTRIES INC	1064 4TH AVE S	277	463
OLYMPIC REPROGRAPHICS	1016 1ST AVE S	278	466
PALMER BUILDING THE	1000 1ST AVE S	278	466
LOWE PARKER CORP	1234 6TH AVE S	280	468
PRINCETON PACKAGING INC SEATTL	1263 6TH S	280	468
WA DOT SEATTLE S SPOKANE ST	450 S SPOKANE ST	280	471
ATKINSON DILLINGHAM	500 ROYAL BROUGHAM WAY	284	475
SAYBOLT INC SEATTLE	1225 4TH AVE S STE I	285	476
US DOT CG POLAR STAR	PIER 37 USCG SUPPORT CT	287	482
US GSA	1555 ALASKAN WAY S	288	483
USCG INTEGRATED SUPPORT COMMAN	1519 ALASKAN WAY S	288	486
US DOT CG CUTTER BOUTWELL WHEC	1519 ALASKAN WAY S	288	488
US DOT CG MELLON WHEC 717	1519 ALASKAN WAY S PIER	288	488
US DOJ DEA ALASKAN WAY S SEATT	1500 ALASKAN WAY S	288	489
BEMIS CO INC 4TH	55 S ATLANTIC ST	289	489
COAST CRANE CO OF WA	1531 UTAH AVE S	290	490
FRYE ART MUSEUM	1507 6TH AVE S	291	493
WASHINGTON IRON WORKS INC	1500 6TH AV S	291	495
GOLDEN PENN OIL CO OF SEATTLE	13614 129 PL NE	292	495
MUSIC VEND DIST CO	1550 4TH AVE S	293	512
SEAFIRST COMPUTER SVCS CORP	1535 4TH AVE S STE C	293	514
FISHER BAG CO	1560 1ST AVE S	294	514
SEA BAY TRANSPORTATION INC	9 S MASSACHUSETTS	298	520
TOSCO GATX SEATTLE TERM TANK S	1733 ALASKAN WAY S	300	521
GATX FACILITY	1733 ALASKAN WAY S	300	523
FIRST RECOVERY SEATTLE	1733 ALASKAN WAY S SITE	300	525
CAL INK DIVISION FLINT INK COR	1727 ALASKAN WAY S	300	525
SEATTLE PORT TERM 34	19 S MASSACHUSETTS ST T	300	527
CONTAINER CARE OF SEATTLE INC	51 S MASSACHUSETTS ST	301	527
STANDARD BRANDS DROP	1702 4TH AVE S	302	529
GANS INK & SUPPLY CO	1701 4TH AVE S	302	530
MAUST TERMINAL	1762 6TH AVE S	303	530
PARAMOUNT SUPPLY CO	1717 6TH AVE S	303	531

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US WEST COMMUNICATIONS INC W00	1709 AIRPORT WAY	304	536
AMTRAK W KING ST YARD MATERIAL	1739 3RD AVE S	305	537
BURLINGTON NORTHERN SANTA FE R	1735 3RD AVE S	305	537
BINKS MANUFACTURING CO	1749 1ST AVE S	306	538
GUARDIAN SECURITY SYSTEMS INC	1743 1ST AVE S	306	538
CHEVRON USA INC SEATTLE TERMIN	1911 E MARGINAL WAY	307	539
TODD SHIPYARDS	1801 16TH SW	308	539
MACMILLAN PIPER	185 S HORGATE ST	309	542
AMTRAK W KING ST YARD HORGATE	187 HORGATE ST S BLDG A	309	543
CORK INSULATION SALES CO INC	1943 1ST AVE S	314	548
SEATTLE RADIATOR WORKS	1936 1ST AVE S	314	549
LUNDWICK BROWN FLOOR CO INC	1921 1ST AVE S	314	549
PACIFIC IRON & METALS	2230 4TH AV S	319	559
FLAJOLE BROTHERS INC	2201 4TH AVE S	319	562
MILLWORK SUPPLY CO	2225 1ST AVE S	320	569
ARCTIC ALASKA SEAFOODS	2715 E MARGINAL WAY PIE	323	571
EQUILON ENTERPRISES LLC	2555 13TH AVE SW	325	575
USPS VEHICLE MAINT PARKING F	400 S STACY ST	327	581
USPS SEATTLE P&DC	2445 3RD AVE S	327	582
USPS SEATTLE VEHICLE MAINT FAC	2401 3RD AVE S	327	583
TEXACO 63232043	2461 4TH AVE S	328	586
INDUSTRIAL PLATING CORP	2411 6TH S	329	591
SYSTEM TRANSFER & STORAGE CO	2400 6TH AVE S	329	594
UNIVERSAL PAINT PRODUCTS INC	2442 1ST AVE S	330	597
ARCO TANK FARM	1652 SW LANDER ST	332	601
INDUSTRIAL WAREHOUSE	2450 6TH AVE S	333	606
COMMERCIAL STACK HEAT TREATERS	2447 6TH AVE S	333	606
ELEPHANT CAR WASH	2763 4TH AVE S	334	607
KAPLAN PAPER CO	2700 4TH AVE S	334	611
SEAFAB METALS CO	2700 16TH AVE SW	335	612
SEARS 1009	2759 UTAH S	336	620
HOME DEPOT 4702	2701 UTAH AVE S	336	623
SEARS ROEBUCK DIST CNTR	76 S LANDER ST	336	624
TUBE ART DISPLAY INC	2730 OCCIDENTAL AVE S	337	624
STACK STEEL SUPPLY CO	500 S LANDER	338	625
FRICTION SVCS INC	555 S LANDER ST	339	626
GATX HARBOR ISLAND TERMINAL	2720 13TH AVE SW	340	627
SMITH KLINE BIOSCIENCE LABS	2603 3RD AVE S	342	638
6TH AVE S LANDFILL 2752 6TH AV	2752 6TH AVE S	344	643
GRAY LINE OF SEATTLE	720 S FOREST ST	346	647
ICI DULUX PAINTS	2925 4TH AVE S	347	648
SEATTLE SOLID WSTE UTIL OIL CO	2915 4TH AVE S	347	649
PERFORMANCE ABATEMENT SERVICES	422 S FOREST ST	347	650
LOCKHEED SHIPBLDG CO YARD 1	2929 16TH AV SW	348	650
FRANZ SEATTLE BAKERY	2901 6TH AVE S	349	655
SHERWIN WILLIAMS PAINT CO 6TH	2940 6TH AVE S	349	656
NORTHWEST MOTOR REPAIR	2930 6TH AVE S	349	656
WEST SEATTLE TRANSMISSION	2920 6TH AVE S	349	657
RABANCO RECYCLING CO	2733 3RD AVE S	350	658
SEATTLE IRON METALS CORP	2955 11TH AVE SW	354	663
ODOM CORP	26 S HANFORD ST	355	667
ANDYS DINER INC	3201 4TH AVE S	356	672
TRAVENOL CHEMOTHERAPY SVCS	270 S HANFORD ST STE 20	358	673
ALASKAN COPPER WORKS	3200 6TH AVE S	359	674
YOUNG CORP SEATTLE	3231 UTAH AVE S	360	676
RABANCO RECYCLING HIGH GRADE	66 S HANFORD ST	360	679

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VALUE PLATING & METAL POL	3207 11TH AV SW	361	682
WIDGET MFG	3220 1ST AVE S	364	688
SEATTLE PORT MARINE MAINTENANC	25 S HORTON ST	366	693
PSF INDUSTRIES INC HORTON ST	65 S HORTON ST	367	694
WESTERN STEEL CASTING CO	145 S HORTON ST	368	694
NEMCO ELECTRIC CO INC	207 S HORTON ST	369	697
PARAMOUNT SERVICES INC	423 S HORTON ST	370	698
ROADWAY EXPRESS INC	3300 6TH AVE S	371	700
TRANSPORT EQUIPMENT CO	3400 6TH AVE S	373	700
UNOCAL SS NO 5472	3460 1ST AVE S	374	704
ROGERS OLYMPIC CORP	3422 1ST AVE S	374	712
NORTHWEST CASTINGS	3411 1ST AVE. S.	374	712
OBERT MARINE SUPPLY INC	3441 2ND AVE S	375	713
SEATTLE CITY TRANSPORTATION DE	3RD AVE S AT S HINDS CT	375	713
ACME INTERCITY FREIGHT	3414 2ND AVE S	375	714
MATSON TERMINAL 25	3225 E MARGINAL WAY S	376	716
NEWSOM DUININCK	3454 4TH AVE S	377	717
CRAIN NW INC	3434 4TH AVE S	377	718
BEI CHEMPRO FIELD SVCS PS	3400 E MARGINAL WAY S	379	723
COMMERCIAL WAREHOUSE CO	3623 6TH AVE S	380	724
DEVOE COATINGS CO	3623 6TH AVE S SOUTHERN	380	725
TRADE MARX SIGN & DISPLAY CORP	3614 6TH AVE S	380	725
AK MEDIA NW	3601 6TH AVE S	380	725
EPSTEIN ARTHUR O	620 S SPOKANE ST	380	726
ALLIED CONSTRUCTION	5TH & S SPOKANE ST	381	727
SEATTLE CITY LIGHT SEATTLE MRW	3613 4TH AV S	382	729
SEATTLE CITY DAS S SPOKANE ST	255 S SPOKANE ST	383	736
PACIFIC TRUCKING SEATTLE	300 S SPOKANE ST	383	739
NELSON IRON WORKS	45 S SPOKANE ST	384	741
AO SMITH WATER PRODUCTS SEATTL	60 S SPOKANE ST	384	745
ASH GROVE CEMENT WEST INC	3801 E MARGINAL WAY S	385	746
NICHOLSON MFG CO	3670 E MARGINAL WAY S	385	747
LINDMARK MACHINE WORKS INC	3626 E MARGINAL WAY	385	749
PRAXAIR DISTRIBUTION INC	3623 E MARGINAL WY S	385	751
ASAHIPEN AMERICA INC	1128 SW SPOKANE ST	387	754
MARATHON CERAMICS DIVISION/MSR	3800 1ST AVE S	389	759
PMC DISTRIBUTORS INC	3625 1ST AVE S	389	759
DIRECT CONTAINER LINE	3629 DUWAMISH AVE S SIT	390	762
BIG RIVER ZINC CORP	3620 DUWAMISH AVE S	390	762
SUN CHEMICAL COMMERCIAL WAREHO	3823 6TH AVE S	392	763
WALTS RADIATOR & MUFFLER 4TH A	3838 4TH AVE S	394	766
MACMILLAN PIPER INC SECOND AVE	3857 2ND AVE S	395	768
INX INTERNATIONAL INK CO SEATT	4029 1ST AVE S	398	770
VAN WATERS & ROGERS 1ST AVE S	4000 1ST AV S	398	771
NORTHWEST PLATING	825 S DAKOTA	407	782
GOLDEN GRAIN SEATTLE DISTRIBUT	4100 4TH AVE S	408	786
WASHINGTON TRUCKING ASSOC	4101 4TH AVE S	408	788
BRYN AUTO WRECKING	4017 W MARGINAL WAY SW	409	790
SEAFIRST BANK CENTRAL SVCS	4201 W MARGINAL WAY SW	412	795

EXECUTIVE SUMMARY

HMIRS: The Hazardous Materials Incident Report System contains hazardous material spill incidents reported to the Department of Transportation. The source of this database is the U.S. EPA.

A review of the HMIRS list, as provided by EDR, and dated 12/31/2000 has revealed that there are 3 HMIRS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
Not reported	401 ALASKAN WAY SOUTH	248	416
Not reported	401 ALASKAN WAY SOUTH	248	419
Not reported	44 SOUTH HANFORD	362	688

MLTS: The Material Licensing Tracking System is maintained by the Nuclear Regulatory Commission and contains a list fo approximately 8,100 sites which possess or use radioactive materials and are subject to NRC licensing requirements.

A review of the MLTS list, as provided by EDR, and dated 05/29/2001 has revealed that there are 3 MLTS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
HEALTH & HUMAN SERV., DEPARTME	2201 SIXTH AVENUE, ROOM	117	236
OCEANTRAWL INC.	2025 FIRST AVENUE	168	298
LOCKHEED SHIPBLDG CO YARD 1	2929 16TH AV SW	348	650

PADS: The PCB Activity Database identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the United States Environmental Protection Agency of such activities. The source of this database is the U.S. EPA.

A review of the PADS list, as provided by EDR, and dated 03/30/2001 has revealed that there are 7 PADS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
CROWLEY MARINE SERVICES INC 4T	2401 4TH AVE	123	242
PACIFIC ALASKA LINS	2401 4TH AVE	123	243
HAWAIIAN MARINE LINES INC	2401 4TH AVE	123	244
CEI SERVICES INC	701 5TH AVE 2200 COLUMB	219	381
NORTHLAND SERVICES INC	110 PREFONTAINE PL S ST	240	411
GOLDEN PENN OIL CO OF SEATTLE	13614 129 PL NE	292	495
SEATTLE CITY LIGHT SEATTLE MRW	3613 4TH AV S	382	729

RAATS: The RCRA Administration Action Tracking System contains records based on enforcement actions issued under RCRA and pertaining to major violators. It includes administrative and civil actions brought by the United States Environmental Protection Agency. The source of this database is the U.S. EPA.

A review of the RAATS list, as provided by EDR, and dated 04/17/1995 has revealed that there are 2 RAATS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
GOLDEN PENN OIL CO OF SEATTLE	13614 129 PL NE	292	495

EXECUTIVE SUMMARY

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
SEAFAB METALS CO	2700 16TH AVE SW	335	612

TRIS: The Toxic Chemical Release Inventory System identifies facilities that release toxic chemicals to the air, water, and land in reportable quantities under SARA Title III, Section 313. The source of this database is the U.S. EPA.

A review of the TRIS list, as provided by EDR, and dated 12/31/1998 has revealed that there are 7 TRIS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
WESCOR GRAPHICS CORP	500 DEXTER AVE N	45	93
ROMAC INDUSTRIES INC	1064 4TH AVE S	277	463
TODD SHIPYARDS	1801 16TH SW	308	539
SEAFAB METALS CO	2700 16TH AVE SW	335	612
ALASKAN COPPER WORKS	3200 6TH AVE S	359	674
WESTERN STEEL CASTING CO	145 S HORTON ST	368	694
ASAHIPEN AMERICA INC	1128 SW SPOKANE ST	387	754

TSCA: The Toxic Substances Control Act identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site. The United States Environmental Protection Agency has no current plan to update and/or re-issue this database.

A review of the TSCA list, as provided by EDR, and dated 12/31/1998 has revealed that there is 1 TSCA site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
PSE MERCER OFFICE	815 MERCER ST	43	89

FTTS: FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act) over the previous five years. To maintain currency, EDR contacts the Agency on a quarterly basis.

A review of the FTTS list, as provided by EDR, and dated 08/30/2000 has revealed that there are 82 FTTS sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
BIRD JOHNSON CO	1608 FAIRVIEW AVE E	2	16
WESCOR GRAPHICS CORP	500 DEXTER AVE N	45	93
US CUSTOMS PORT OF SEATTLE PRE	1000 2ND AVE	215	357
US CUSTOMS PORT OF SEATTLE GEN	1000 2ND AVE	215	357
US CUSTOMS PORT OF SEATTLE INT	1000 2ND AVE	215	357
US CUSTOMS PORT OF SEATTLE SHE	1000 2ND AVE	215	358
US CUSTOMS PORT OF SEATTLE BAS	1000 2ND AVE	215	358
US CUSTOMS PORT OF SEATTLE GEN	1000 2ND AVE	215	358
US CUSTOMS PORT OF SEATTLE ALL	1000 2ND AVE	215	359

EXECUTIVE SUMMARY

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
US CUSTOMS PORT OF SEATTLE PT	1000 2ND AVE	215	359
US CUSTOMS PORT OF SEATTLE VAN	1000 2ND AVE	215	359
US CUSTOMS PORT OF SEATTLE SOL	1000 2ND AVE	215	359
US CUSTOMS PORT OF SEATTLE PAC	1000 2ND AVE	215	360
US CUSTOMS PORT OF SEATTLE MAS	1000 2ND AVE	215	360
US CUSTOMS PORT OF SEATTLE ULT	1000 2ND AVE	215	360
US CUSTOMS PORT OF SEATTLE UNI	1000 2ND AVE	215	360
US CUSTOMS PORT OF SEATTLE SAK	1000 2ND AVE	215	361
US CUSTOMS PORT OF SEATTLE SEA	1000 2ND AVE	215	361
US CUSTOMS PORT OF SEATTLE SEA	1000 2ND AVE	215	361
US CUSTOMS PORT OF SEATTLE FLI	1000 2ND AVE	215	362
US CUSTOMS PORT OF SEATTLE PT	1000 2ND AVE	215	362
US CUSTOMS PORT OF SEATTLE KB	1000 2ND AVE	215	362
US CUSTOMS PORT OF SEATTLE TOY	1000 2ND AVE	215	362
US CUSTOMS PORT OF SEATTLE 3M	1000 2ND AVE	215	363
US CUSTOMS PORT OF SEATTLE DAN	1000 2ND AVE	215	363
US CUSTOMS PORT OF SEATTLE TOS	1000 2ND AVE	215	363
US CUSTOMS PORT OF SEATTLE SOL	1000 2ND AVE	215	364
US CUSTOMS PORT OF SEATTLE DIA	1000 2ND AVE	215	364
US CUSTOMS PORT OF SEATTLE ENV	1000 2ND AVE	215	364
US CUSTOMS PORT OF SEATTLE HP	1000 2ND AVE	215	365
US CUSTOMS PORT OF SEATTLE CLE	1000 2ND AVE	215	365
US CUSTOMS PORT OF SEATTLE KAM	1000 2ND AVE	215	365
US CUSTOMS PORT OF SEATTLE ACH	1000 2ND AVE	215	365
US CUSTOMS PORT OF SEATTLE BAS	1000 2ND AVE	215	366
US CUSTOMS PORT OF SEATTLE GEN	1000 2ND AVE	215	366
US CUSTOMS PORT OF SEATTLE ALL	1000 2ND AVE	215	367
US CUSTOMS PORT OF SEATTLE ADV	1000 2ND AVE	215	367
US CUSTOMS PORT OF SEATTLE NIC	1000 2ND AVE	215	367
US CUSTOMS PORT OF SEATTLE WOR	1000 2ND AVE	215	367
US CUSTOMS PORT OF SEATTLE CLE	1000 2ND AVE	215	368
US CUSTOMS PORT OF SEATTLE NIS	1000 2ND AVE	215	368
US CUSTOMS PORT OF SEATTLE CAN	1000 2ND AVE	215	368
US CUSTOMS PORT OF SEATTLE OLY	1000 2ND AVE	215	369
US CUSTOMS PORT OF SEATTLE PAL	1000 2ND AVE	215	369
US CUSTOMS PORT OF SEATTLE SOL	1000 2ND AVE	215	369
US CUSTOMS PORT OF SEATTLE WAL	1000 2ND AVE	215	369
US CUSTOMS PORT OF SEATTLE RUDD	1000 2ND AVE	215	370
US CUSTOMS PORT OF SEATTLE BAS	1000 2ND AVE	215	370
US CUSTOMS PORT OF SEATTLE PT	1000 2ND AVE	215	370
US CUSTOMS PORT OF SEATTLE IND	1000 2ND AVE	215	370
US CUSTOMS PORT OF SEATTLE INF	1000 2ND AVE	215	371
US CUSTOMS PORT OF SEATTLE SNO	1000 2ND AVE	215	371
US CUSTOMS PORT OF SEATTLE UBE	1000 2ND AVE	215	371
US CUSTOMS PORT OF SEATTLE PAC	1000 2ND AVE	215	372
US CUSTOMS PORT OF SEATTLE ROC	1000 2ND AVE	215	372
US CUSTOMS PORT OF SEATTLE TG	1000 2ND AVE	215	372
US CUSTOMS PORT OF SEATTLE PIO	1000 2ND AVE	215	372
US CUSTOMS PORT OF SEATTLE PT	1000 2ND AVE	215	373
US CUSTOMS PORT OF SEATTLE HP	1000 2ND AVE	215	373
US CUSTOMS PORT OF SEATTLE CON	1000 2ND AVE	215	373
US CUSTOMS PORT OF SEATTLE WOR	1000 2ND AVE	215	373
US CUSTOMS PORT OF SEATTLE WOO	1000 2ND AVE	215	374
US CUSTOMS PORT OF SEATTLE WOR	1000 2ND AVE	215	374
US CUSTOMS PORT OF SEATTLE KAI	1000 2ND AVE	215	374
US CUSTOMS PORT OF SEATTLE BAS	1000 2ND AVE	215	375

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<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
US CUSTOMS PORT OF SEATTLE DER	1000 2ND AVE	215	375
US CUSTOMS PORT OF SEATTLE PIN	1000 2ND AVE	215	375
US CUSTOMS PORT OF SEATTLE OLY	1000 2ND AVE	215	375
US CUSTOMS PORT OF SEATTLE ROM	1000 2ND AVE	215	376
US CUSTOMS PORT OF SEATTLE CLE	1000 2ND AVE	215	376
US CUSTOMS PORT OF SEATTLE WOO	1000 2ND AVE	215	376
US CUSTOMS PORT OF SEATTLE SEA	1000 2ND AVE	215	377
US CUSTOMS PORT OF SEATTLE SNO	1000 2ND AVE	215	377
US CUSTOMS PORT OF SEATTLE TOY	1000 2ND AVE	215	377
US CUSTOMS PORT OF SEATTLE SOL	1000 2ND AVE	215	377
US CUSTOMS PORT OF SEATTLE DEE	1000 2ND AVE	215	378
USGSA SEATTLE OLD FEDERAL BLDG	909 1ST AVE	222	384
TURNER CONSTRUCTION	221 S KING ST	258	431
SEATTLE PORT OF TERMINAL 42	901 ALASKAN WAY S TERMI	269	453
MACMILLAN PIPER	185 S HOLGATE ST	309	542
NORTHWEST CASTINGS INC	3411 1ST AVE S	374	712
A O SMITH CORP WATER PRODUCTS	60 S SPOKANE ST	384	744

STATE OR LOCAL ASTM SUPPLEMENTAL

ICR: These are remedial action reports Ecology has received from either the owner or operator of the site. These actions have been conducted without department oversight or approval and are not under an order or decree.

A review of the WA ICR list, as provided by EDR, has revealed that there are 242 WA ICR sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
LAKE UNION DRY DOCK CO	1515 FAIRVIEW AV E	3	17
WESTLAKE BUILDING	1219 WESTLAKE AVE N	6	25
DANIEL BOONE PAINT CO INC SEAT	1401 DEXTER AVE N	7	25
LAKE UNION AIR SERVICE INC.	1100 WESTLAKE AVE N	9	28
US WEST	900 MINOR	14	33
U.S. WEST BUILDING CONSTRUCTIO	900 FAIRVIEW	14	35
YALE ST LANDING	1001 FAIRVIEW AVE N	14	36
ALOHA	800 - 900 ALOHA AND 753	15	36
JARVIE PAINT MFG CO	760 ALOHA ST	16	37
YELLOW CAB	912 DEXTER AV N	16	41
MARYATT INDUSTRIES	771 VALLEY ST	17	45
FRED HUTCHISON CANCER RESEARCH	1300 ALOHA ST.	18	50
VAN DE KAMPS DUTCH BAKERY	823 YALE AVE N	23	54
CRAFTSMAN PRESS (TWO REPORTS)	1155 VALLEY ST.	25	56
CRAFTSMAN PRESS	1155 VALLEY ST	25	56
PLAID PANTRY #309	720 TAYLOR AVE. N.	30	65
POWER CONTROL CENTER	157 ROY	32	67
UNOCAL #5353	600 WESTLAKE N.	35	70
CITY OF SEATTLE - WESTLAKE SIT	630 WESTLAKE AVE. N.	35	76
STANDISH PROPERTY	420 MERCER ST.	38	82
CITY OF SEATTLE-MERCER STREET	5TH AVE. N. / MERCER	39	82
SHELL #23714	601 BOREN AVE. N.	41	83
TEXACO PRO INVESTMENTS	150 MERCER ST.	42	87
WASHINGTON NATURAL GAS/MERCER	815 MERCER	43	91

EXECUTIVE SUMMARY

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
RATELCO HEADQUARTERS	1260 MERCER ST	44	92
SEATTLE CITY SEATTLE CENTER	520 5TH AVE. N.	46	102
HUGHES TRUST BUILDING	1220 REPUBLICAN	47	102
KERNER SCOTT HOUSE	510 MINOR AVE. N.	47	104
IVAR S COMMISSARY	500 TERRY AVE N	49	105
UNIVERSITY OF WA ROSEN BLDG	960 REPUBLICAN ST	49	108
REPUBLICAN STREET SITE	1265 REPUBLICAN ST	50	111
NEW RICHMOND LAUNDRY	420 PONTIUS AVE. N.	56	119
SEATTLE CENTER	305 HARRISON ST	59	123
KING COUNTY LIBRARY SYSTEM	300 8TH AVENUE NORTH	63	129
VAGABOND MOTEL	325 AURORA AVE. N.	66	134
YALE STREET PARKING LOT	310 YALE AVE.	69	137
NEW RICHMOND LAUNDRY	224 PONTIUS STREET NORT	75	142
PEMCO PROPERTY	221 YALE	76	145
OVERALL LAUNDRY SERVICES INC	222 YALE AVENUE NORTH	76	145
STEVENS-LEA BUILDING	818 JOHN ST	77	147
EWING INVESTMENTS PROPERTY	711 W. JOHN ST.	80	151
BMS INVESTMENT	964 DENNY WAY	84	159
MALLORY BUICK	101 WESTLAKE AVE. N.	84	161
JAPANESE AUTO REPAIR	600 DENNY WAY	86	167
RED CARPET CAR WASH	1164 DENNY WAY	87	168
CHEVRON #9 5723 (FOUR REPORTS)	1225 DENNY WAY	88	169
CHEVRON #9 5723	1225 DENNY WAY	88	170
CHEVRON #9 5723 (TWO REPORTS)	1225 DENNY WAY	88	172
DAVID COLWELL BUILDING (FORMER	1300 STEWART ST	89	172
GREYHOUND LINES INC SEATTLE 78	1250 DENNY WAY	90	173
GREYHOUND (TWO REPORTS)	1250 DENNY WAY	90	193
UNOCAL #03555	159 DENNY WAY	92	202
UNOCAL #0355	159 DENNY WAY	92	203
EDWARDS ON FIFTH BUILDING	2619 5TH AVE.	94	208
KING COUNTY/METRO LIGHT POLE	VIRGINIA ST. / BOREN	96	211
METROPOLITAN PARK PROPERTIES	1215 STEWART	99	214
METROPOLITAN PARK PROPERTIES	1215 STEWART	99	214
METROPOLITAN PARK PROPERTIES	1215 STEWART	99	214
BRISTOL MEYERS SQUIBB RESEARCH	3005 1ST AVE.	100	216
ELEPHANT CAR WASH	616 BATTERY ST	102	217
STONECLIFF APARTMENTS	2602 4TH AVE.	105	223
BRISTOL MEYER SQUIBB WESTERN	3018 WESTERN AVE.	107	225
ALEXANDRIA RESEARCH CENTER	3018 WESTERN AVE.	107	225
GRAHAM APARTMENTS	2014 TERRY AVE.	108	226
GOODYEAR ASC 8841	1105 STEWART ST	109	226
BUDGET RENT A CAR	1930 BOREN AVE.	109	227
CENTENNIAL COURT	2500 3RD AVE	112	229
PARSON'S BLOCK/FORMER SELIG PR	2500 4TH AVE.	115	233
PARSON'S BLOCK/FORMER SELIG PR	2500 4TH AVE.	115	234
FOUNTAIN COURT PROJECT	2400 4TH AVE.	123	246
PHOM PROPERTY	2301 4TH AVE.	127	248
SEATTLE FIRE STATION 2	2334 4TH AVE	127	249
SMITH GANDY BUILDING	1100 OLIVE WAY	128	250
NEUFFER CONSTRUCTION CO.	5TH / BLANCHARD	129	251
OLD XEROX BUILDING	2115 6TH AVE.	130	252
BUDGET RENT A CAR (TWO REPORTS)	2001 WESTLAKE AVE.	131	254
LARNED HOTEL	2030 7TH AVE	131	254
HONDA OF SEATTLE	1015 OLIVE WAY	133	256
BACKSTROM RESIDENCE	2600 WESTERN AVE.	139	259
WESTERN & VINE HEATING FUEL TA	2600 WESTERN AVE.	139	260

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Site	Address	Map ID	Page
SAILOR'S UNION OF THE PACIFIC	2505 1ST AVE.	140	261
NORTHWEST PROTECTIVE SERVICE I	2700 ELLIOTT AVE	144	265
HUGH CORBETT BUILDING	1915 7TH AVE.	145	268
HOLMAN BODY & FENDER	2324 2ND AVE	146	269
MELROSE APARTMENTS	1520 MELROSE AVENUE	148	271
CORNELIUS APARTMENTS	306 BLANCHARD ST.	149	273
HUGH CORBETT BUILDING	1942 WESTLAKE AVE	150	273
PARAMOUNT THEATRE	911 PINE ST.	154	277
REXLAND CO.	2126 3RD AVE.	156	279
MINIT LUBE #1113	2025 4TH AVE.	157	280
PACIFIC PLACE CONSTRUCTION (SI	6TH / OLIVE	158	281
MEDICAL DENTAL BUILDING (SIX R	509 OLIVE WAY	159	283
MEDICAL DENTAL BUILDING	509 OLIVE WAY SUITE 1	159	283
SECOND & LENORA PROJECT	211 LENORA ST.	162	288
WASHINGTON STATE CONVENTION AN	9TH AVE & PIKE ST	164	291
WA STATE CONVENTION & TRADE (S	PIKE ST. / 8TH AVE.	167	293
FREEWAY GARAGE	1512 8TH AVE	167	294
1 PACIFIC PLACE	1ST / VIRGINIA	168	296
INTRAWEST CORP	2001 1ST AVE	168	296
HERTZ RENT A CAR	722 PIKE ST	170	299
PORT OF SEATTLE PIER 66 (TWO R	2201 ALASKAN WAY	177	306
PORT OF SEATTLE PIER 66	2201 ALASKAN WAY	177	306
WASHINGTON ATHLETIC CLUB	1426 6TH AVE.	178	310
PORT OF SEATTLE, PIER 66	2100 ALASKAN WAY	181	312
US WEST	1503 3RD AVE.	182	313
HILTON HOTEL PARKING GARAGE	1305 6TH AVE.	183	314
PORT OF SEATTLE CENTRAL WATERF	2000-2200 ALASKAN WAY	184	315
PARKADE	1400 2ND AVE.	189	318
AAMPCO/JONES BLDG PARKING	1331 3RD AVE.	190	320
FOUR SEASONS OLYMPIC GARAGE	415 SENECA ST.	195	326
SEATTLE STEAM	1310 WESTERN AVE.	202	335
UNION SUBSTATION/SEATTLE CITY	1312 WESTERN AVE.	202	335
SEATTLE STEAM COMPANY	1319 WESTERN AVE	202	337
FOURTH AVENUE PLAZA	1001 4TH AVE.	205	343
SEAFO, INC. PARKING GARAGE	310 MADISON ST.	209	350
CHEVRON #9 7077	914 JAMES ST.	210	351
CHEVRON #9 7077 (TWO REPORTS)	914 JAMES ST.	210	352
HARBOR STEPS DEVELOPMENT	1201 WESTERN	211	354
WATERFRONT PLACE	1011 WESTERN AVE.	220	383
SEATTLE CHERRY STREET SITE	612 5TH AVE.	224	388
HARBORVIEW HOSPITAL	325 9TH AVE.	226	390
KING COUNTY GARAGE	5TH & JEFFERSON	230	394
COMMUTER CENTRE PARKING	801 WESTERN AVE	231	395
COMMUTER CENTER PARKING FACILI	815 WESTERN AVE.	231	398
KING COUNTY ADM. BUILDING	500 4TH AVE.	234	404
BUTLER GARAGE	114 JAMES ST	238	410
UNOCAL #5919	100 BROADWAY	241	412
SEATTLE FIRE STATION #10	301 2ND AVE. S.	246	415
PORT OF SEATTLE TERMINAL #46	401 ALASKAN WAY S.	248	417
KING STREET CENTER	201 S. JACKSON ST	252	423
PUROLATOR COURIER CORP	923 S JACKSON	256	429
KINGDOME RENOVATION PROJECT	201 S. KING ST.	258	433
EASTERN HOTEL	506 1/2 MAYNARD AVE. S.	259	434
REX HOTEL	657 S. KING ST.	259	434
UWAJIMAYA VILLAGE DEVELOPMENT	514 DEARBORN ST	264	438
SHELL #64819	511 S. DEARBORN ST.	264	439

EXECUTIVE SUMMARY

Site	Address	Map ID	Page
SPIC N SPAN CLEANERS INC	652 S DEARBORN ST	266	445
METRO KING CNTY DOT TRANSIT DI	802 S DEARBORN ST	267	448
CHARLES STREET SITE WEST (TWO	705 S. CHARLES ST.	271	456
CHARLES STREET SITE WEST	705 S. CHARLES ST.	271	457
SQUIRE SHOP WAREHOUSE (FORMER)	826 1ST AVE. S.	273	458
UNION PACIFIC RAILROAD	801 1ST AVE. S.	273	458
SALVATION ARMY	1000 4TH AVE S	274	460
ROMAINE ELECTRIC	1101 AIRPORT WAY SOUTH	279	467
ROMAINE ELECTRIC	1101 AIRPORT WAY S.	279	467
LEAVITT SHAY INDUSTRIAL BUILDI	1217 6TH AVE. S.	280	469
MAJOR LEAGUE STADIUM	3RD / ROYAL BROUGHAM	281	471
PORT OF SEATTLE TERMINAL 37	1201 ALASKAN WAY S.	283	474
METRO RYERSON OPERATING BASE	1220 4TH AVE. S.	285	476
US GSA FEDERAL WAREHOUSE	1555 ALASKAN WAY S.	288	482
US COAST GUARD FACILITY	1519 ALASKAN WAY S.	288	486
SEATTLE CITY LIGHT - MASSACHUS	1555 UTAH AVE. S.	290	490
COAST CRANE CO OF WA	1531 UTAH AVE S	290	490
MUSIC-VEND DISTRIBUTING CO	1550 4TH AVENUE SOUTH	293	513
METRO ATLANTIC BASE	1555 AIRPORT WAY S.	295	515
METRO ATLANTIC BASE (TWO REPOR	1555 AIRPORT WAY S.	295	516
US COAST GUARD - PIER 35	9 SOUTH MASSACHUSETTS	298	520
GATX FACILITY - PIER 34 (THREE	1733 ALASKAN WAY S.	300	521
GATX FACILITY - PIER 34	1733 ALASKAN WAY S.	300	522
GATX FACILITY	1733 ALASKAN WAY S	300	523
CAL INK DIVISION FLINT INK COR	1727 ALASKAN WAY S	300	525
ATLAS SUPPLY	1736 4TH AVE. S.	302	529
VECA ELECTRIC CO INC	1762 AIRPORT WAY SO	304	533
HOLGATE CENTER (FOUR REPORTS)	1737 AIRPORT WAY S.	304	535
US WEST COMMUNICATIONS INC W00	1709 AIRPORT WAY	304	536
TODD SHIPYARDS	1801 16TH SW	308	539
MACMILLAN-PIPER COMPANY (BNRR)	185 S. HOLGATE ST.	309	542
JACK IN THE BOX	1907 4TH AVE. S.	310	544
TAYLOR EDWARDS INC	1930 6TH AVE S	312	546
TAYLOR EDWARDS TRANSFER	615 S. HOLGATE ST.	312	547
FOOD SERVICE INTERNATIONAL	801 S. HOLGATE	313	547
MACK TRUCK SALES & SERVICE	2025 AIRPORT WAY S.	315	550
OBERTO SAUSAGE CO.	2005 AIRPORT WAY S.	315	551
PORT OF SEATTLE TERMINAL 30	2431 E. MARGINAL WAY S.	318	552
PORT OF SEATTLE TERMINAL #30 (2431 E. MARGINAL WAY	318	553
PORT OF SEATTLE TERMINAL #30	2431 E. MARGINAL WAY	318	553
ALASKA TRAFFIC CONSULTANTS INC	2214 FOURTH AVE S	319	561
FLAJOLE BROTHERS INC	2201 4TH AVE S	319	562
ARCO #4090	2200 4TH AVE. S.	319	562
THRIFTY OFFICE FURNITURE	2233 1ST AVE. S.	320	569
MOTOR FREIGHT SERVICES	916 S. COLLEGE ST.	322	570
EQUILON ENTERPRISES LLC	2555 13TH AVE SW	325	575
SEATTLE GENERAL MAIL FACILITY	2445 3RD AVE. S.	327	582
US POSTAL SERVICE TERMINAL STA	2401-2445 3RD AVE. S.	327	582
U.S. POSTAL SERVICE	2401-2445 3RD AVE S	327	583
TEXACO #63 232 0043	2461 4TH AVE. S.	328	586
SEARS SERVICE STATION (FORMER)	2465 1ST AVE. S.	330	595
SEARS SERVICE STATION (FORMER)	2465 1ST AVE. S.	330	595
LEE & ESTES TANK LINES	2418 AIRPORT WAY S.	331	600
NORDSTROM CATERING CORP.	2415 AIRPORT WAY S.	331	601
ARCO TANK FARM	1652 SW LANDER ST	332	601
ELEPHANT CAR WASH	2763 4TH AVE S	334	607

EXECUTIVE SUMMARY

Site	Address	Map ID	Page
NEWELL PROPERTIES	2730 FOURTH AVE S	334	609
TEXACO #0043 (TWO REPORTS)	2641 4TH AVE. S.	334	611
SEARS AUTO SERVICE CENTER	2753 UTAH AVE.	336	620
SEARS AUTO SERVICE CENTER (TWO	2753 UTAH AVE.	336	621
BNR OCCIDENTAL	2700 OCCIDENTAL ST. S.	337	624
SEATTLE WATER OPERATIONS	2700 AIRPORT WAY S.	341	635
CITY OF SEATTLE WATER DEPARTME	2700 AIRPORT WAY S	341	636
CHEVRON #9 9168 (TWO REPORTS)	2751 1ST AVE. S.	343	640
CHEVRON #9 9168	2740 1ST AVE. S.	343	641
GRAY LINE OF SEATTLE	720 S FOREST ST	346	647
ANDY'S DINER	2963 4TH AVE. S.	347	648
SCHUCKS AUTO SUPPLY	2905 4TH AVE S	347	649
LOCKHEED SHIPBLDG CO YARD 1	2929 16TH AV SW	348	650
LANGENDORF BREAD	2901 6TH AVE. S.	349	654
RAINIER BREWING COMPANY	3100 AIRPORT WAY S.	353	660
SEATTLE IRON METALS CORP	2955 11TH AVE SW	354	663
CRESCENT FOODS WAREHOUSE	25 SOUTH HANFORD ST.	355	668
BP/SOUTHCENTER OIL	3215 4TH AVE. S.	356	669
SCALZO COMPANY	3211 AIRPORT WAY S.	363	688
PORT OF SEATTLE	25 S. HORTON ST.	366	689
REI WOODWORKING FORMER	3314 4TH AVE S	370	697
BURGER KING SITE	3301 4TH AVE. S.	370	698
ALASKA COPPER & BRASS	3405 6TH AVE. S.	373	700
UNOCAL #5472 (TWO REPORTS)	3460 1ST AVE. S.	374	704
UNOCAL #5472	3460 1ST AVE. S.	374	706
ROLLINS LEASING CORP	3443 1ST AVE. S.	374	710
BUSINESS PRO COMPUTERS	3433 4TH AVE. S.	377	718
SEATTLE CITY LIGHT (FIVE REPOR	3613 4TH AVE. S.	382	730
SEATTLE CITY LIGHT SOUTH SUBST	4TH AVE. S. / SPOKANE	382	735
WSDOT - SPOKANE ST. MAINTENANC	450 S. SPOKANE ST.	382	736
PACIFIC TRUCKING CO.	300 S. SPOKANE ST.	383	741
NELSON IRON WORKS	45 S SPOKANE ST	384	741
MC TERMINALS	40 S. SPOKANE ST.	385	752
FREEBURG RESIDENCE	3801 7TH AVE.	393	764
JACKSON PROPERTY	3801 7TH AVE. S.	393	764
WALT'S RADIATOR	3838 4TH AVE. S.	394	765
SEATTLE CITY LIGHT	3814 4TH AVE. S.	394	766
E & E FOODS (TWO REPORTS)	3922 6TH AVE. S.	397	769
VAN WATERS & ROGERS 1ST AVE S	4000 1ST AV S	398	771
SINCLAIR AND VALENTINE CO INC	655 SOUTH ANDOVER STREE	401	774
CAMCAL CO., INC.	4000 AIRPORT WAY S.	402	776
UNITED MOTOR FREIGHT	4103 2ND AVE. S.	403	777
WESTERN FLEET SUPPLY	620 S. DAKOTA ST.	406	781
WASHINGTON INDUSTRIES/NORTHWES	825 S. DAKOTA	407	783
SEATTLE SCHOOL FACILITIES	4141 4TH AVE. S.	408	784
GULL #0219	4115 1/2 4TH AVE. S.	408	785
GOLDEN GRAIN SEATTLE DISTRIBUT	4100 4TH AVE S	408	786
WASHINGTON TRUCKING ASSOC	4101 4TH AVE S	408	788
GRIFFIN ENVELOPE INC	4301 E MARGINAL WY S /P	410	792
PORT OF SEATTLE TERMINAL #106	44 S. NEVADA ST.	411	793

EXECUTIVE SUMMARY

CSCSL NFA: The data set contains information about sites previously on the Confirmed and Suspected Contaminated Sites list that have received a No Further Action (NFA) determination. Because it is necessary to maintain historical records of sites that have been investigated and cleaned up, sites are not deleted from the database when cleanup activities are completed. Instead a No Further Action code is entered based upon the type of NFA determination the site received.

A review of the CSCSL NFA list, as provided by EDR, and dated 05/30/2001 has revealed that there are 23 CSCSL NFA sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
JARVIE PAINT MFG CO	760 ALOHA ST	16	37
CRAFTSMAN PRESS	1155 VALLEY ST	25	56
SEATTLE POST INTELLIGENCER	521 WALL ST	104	220
CITY MINI STORAGE	2000 TERRY AVE	108	226
PARSON SEATRUST PARTNERSHIP	2500 4TH AVE	115	233
HUGH CORBETT BUILDING	1942 WESTLAKE AVE	150	273
AUTOPARK USA, INC	1915 2ND AVE	174	303
PACIFIC HOTEL	317 MARION	209	347
TOOMEY PROPERTY SITE	28836 164 SE	220	382
WATERFRONT PLACE	1011 WESTERN AV	220	383
401 2ND AVE S BLDG	401 2ND AVE S	252	422
ROMAINE ELECTRIC	1101 AIRPORT WAY SOUTH	279	467
METZGER FARM	T28N R31E S12	299	521
MOBILE TRUCK SERVICE	2214 4TH AVE S	319	560
LEON CHRISTIAN DRUMS	5020 PORTLAND AVE	319	565
USPS SEATTLE P&DC	2445 3RD AVE S	327	582
SEARS SERVICE STA	2465 1ST AV S	330	597
BOEING COMPANY PLANT 2	7755 E MARGINAL WAY S	331	598
6TH AVE S LANDFILL 2752 6TH AV	2752 6TH AVE S	344	643
FRANZ SEATTLE BAKERY	2901 6TH AVE S	349	655
BUSINESS PRO COMPUTERS	3433 4TH AVE S	377	719
BEI CHEMPRO FIELD SVCS PS	3400 E MARGINAL WAY S	379	723
ASH GROVE CEMENT WEST INC	3801 E MARGINAL WAY S	385	746

Wa Air Emissions: State of Washington, Department of Ecology, Washington Emissions Data System.

A review of the EMI list, as provided by EDR, has revealed that there are 3 EMI sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
SEATTLE STEAM CO (WESTERN AVE)	1319 WESTERN AVE	202	336
SEATTLE STEAM CO (WESTERN AVE)	1319 WESTERN AVE	202	337
ASH GROVE CEMENT WEST INC	3801 E MARGINAL WAY S	385	746

EXECUTIVE SUMMARY

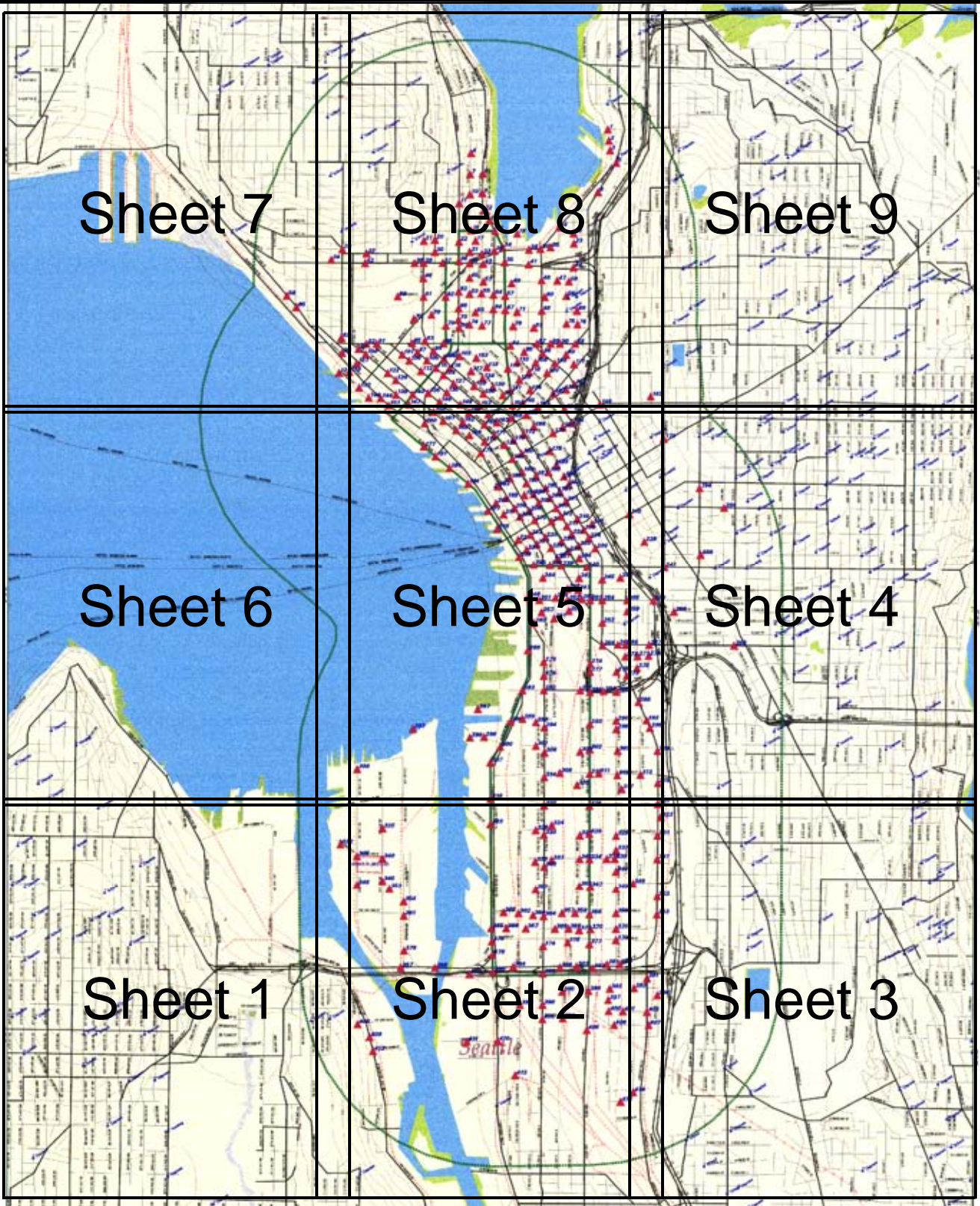
PROPRIETARY DATABASES

Former Manufactured Gas (Coal Gas) Sites:

The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative

A review of the Coal Gas list, as provided by EDR, has revealed that there are 2 Coal Gas sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
SEATTLE LIGHTING CO.	816-822 REPUBLICAN, 501	45	97
SEATTLE GAS LIGHT CO.	424, 425 JACKSON	247	416



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File: I:\Drafting\211\09490-122\21-1-09490-122 fig.dwg Date: 10-15-2003 Author: draftemp



Scale in Miles

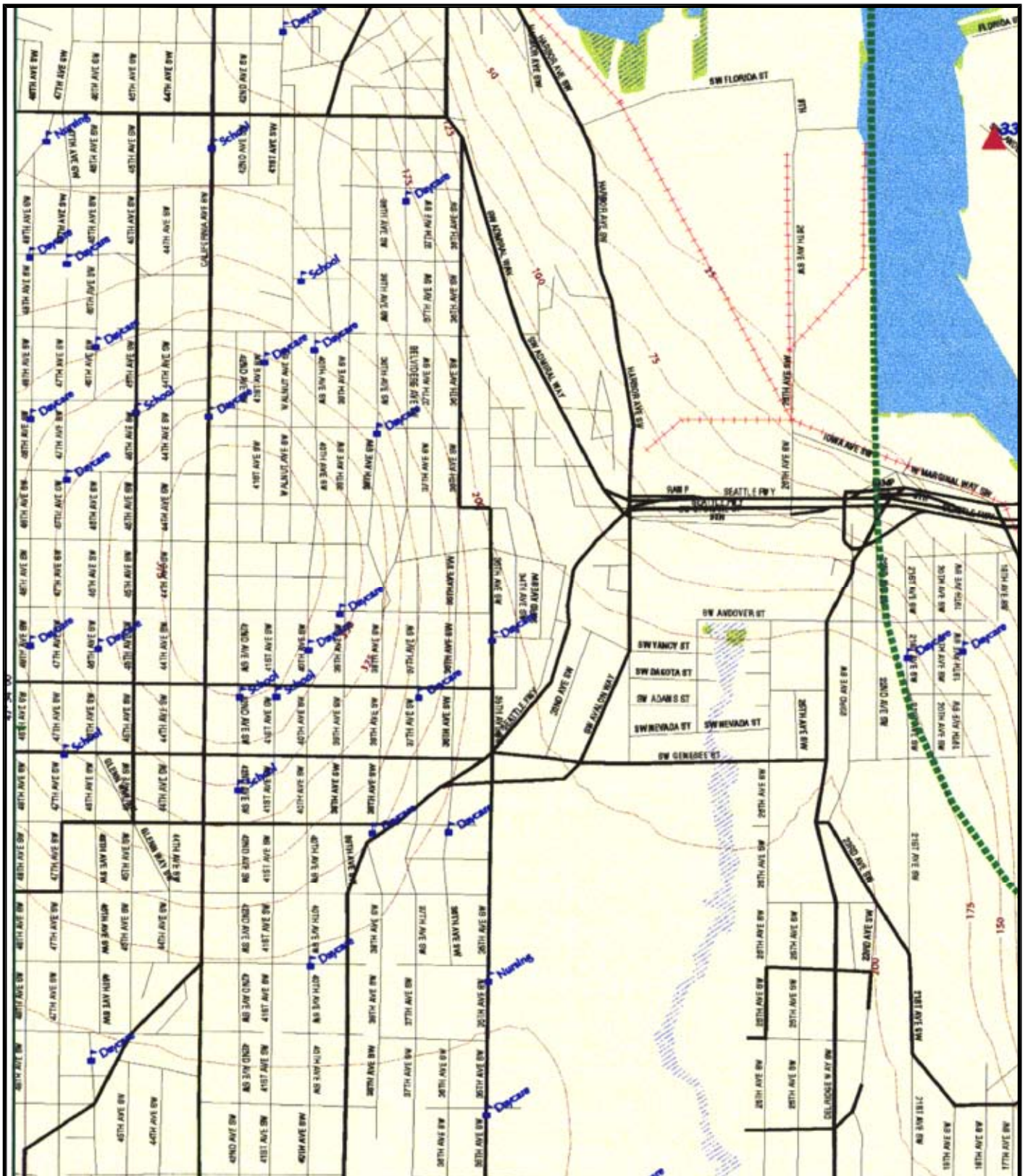
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



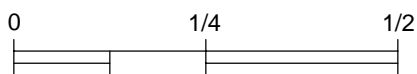
Exhibit A-2
EDR Study Area
Key Sheet
Sheet A

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File: I:\Drafting\211\09490-122\21-1-09490-122 fig.dwg Date: 10-15-2003 Author: draftemp



Scale in Miles

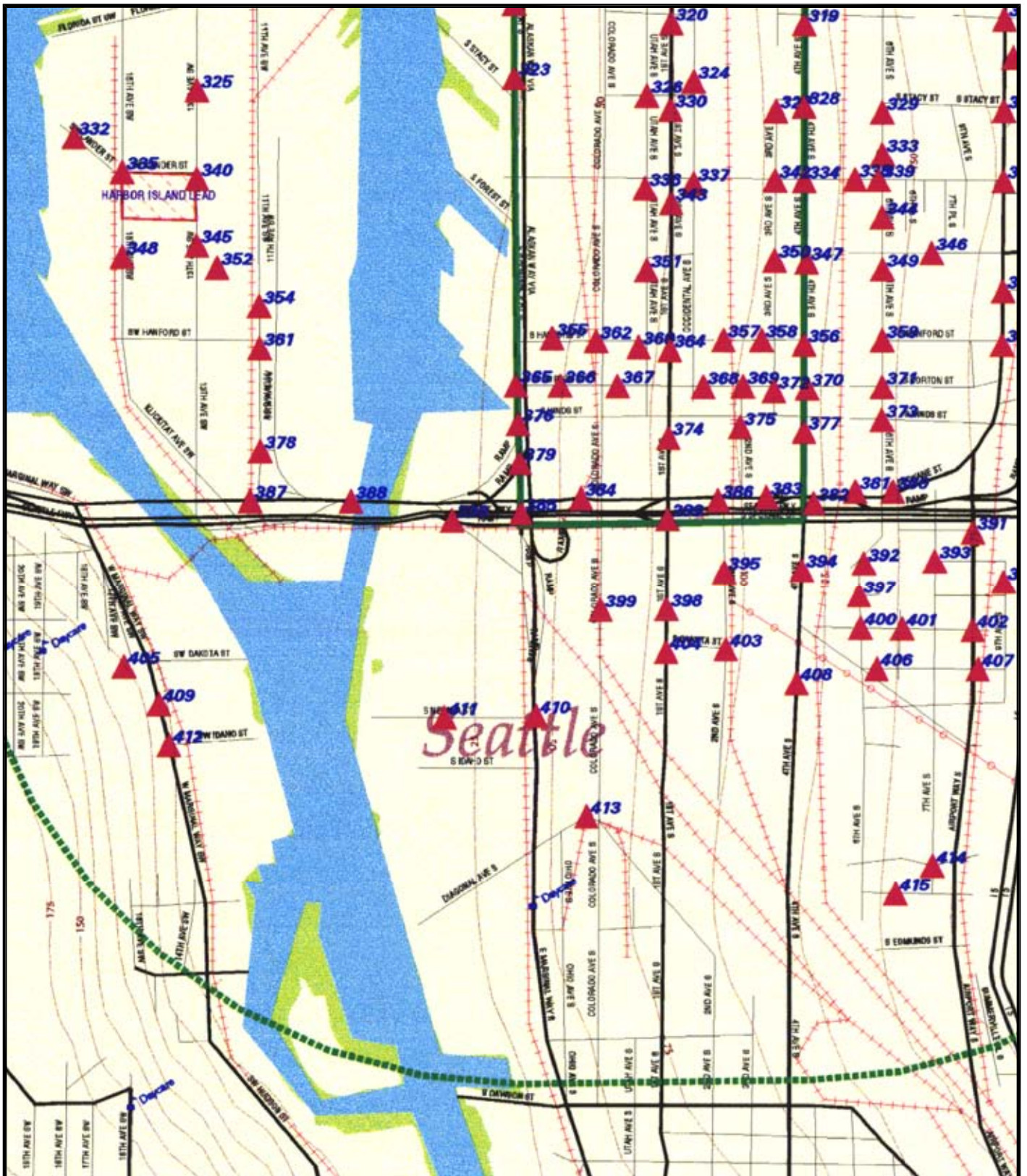
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



Exhibit A-2
EDR Study Area
Sheet 1 of 9

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Scale in Miles

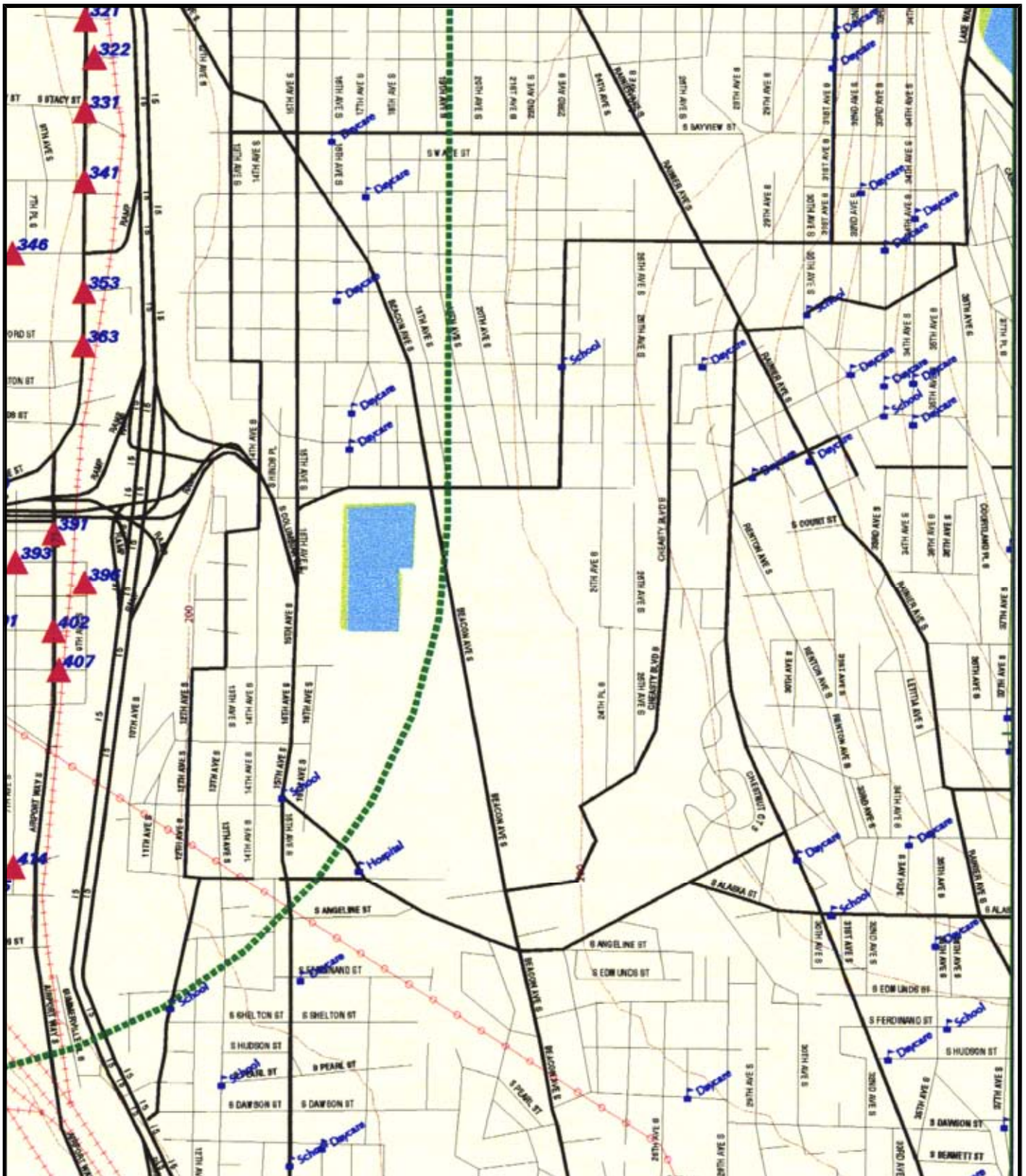
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



Exhibit A-2
EDR Study Area
 Sheet 2 of 9

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Scale in Miles

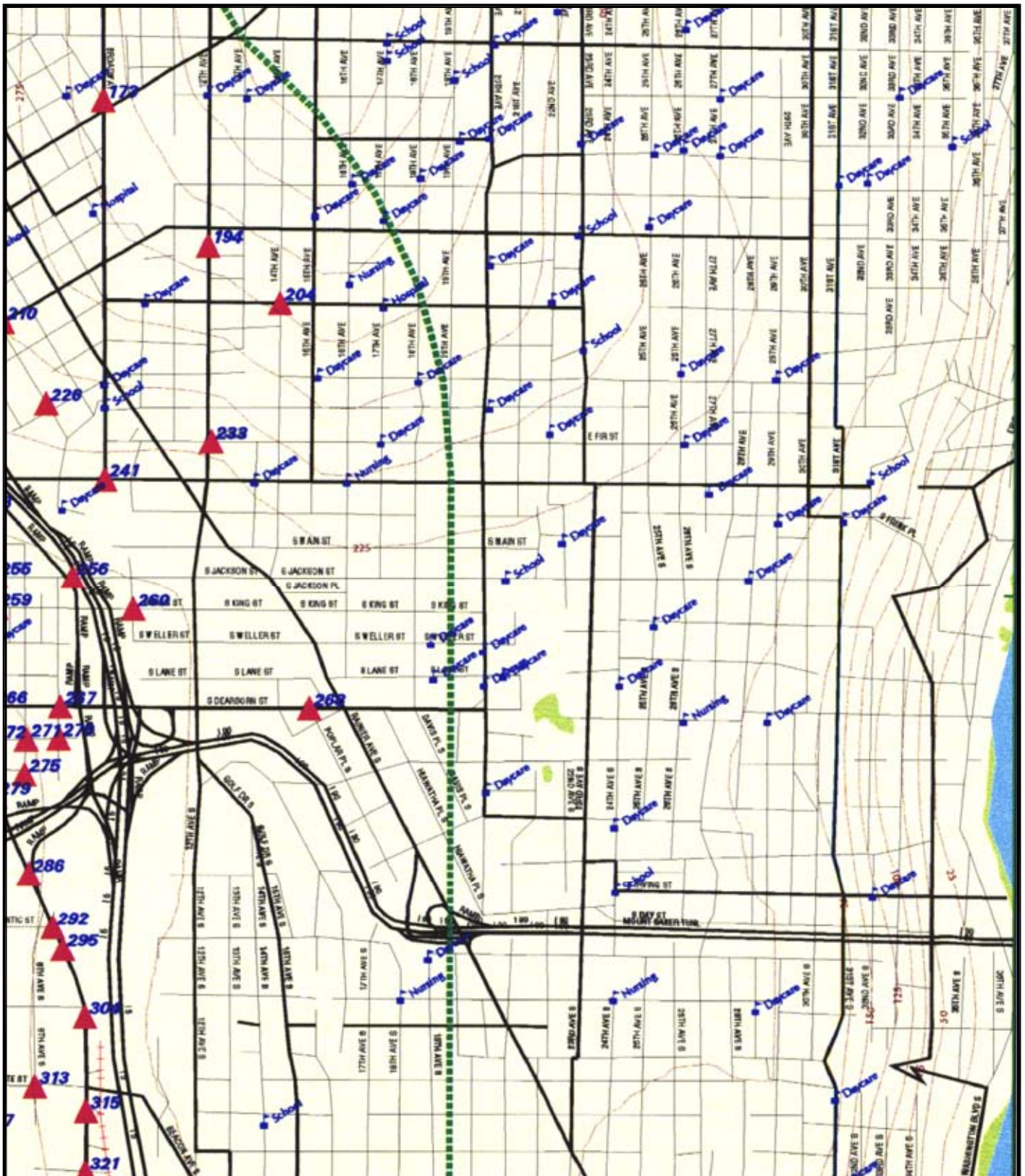
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



Exhibit A-2
EDR Study Area
 Sheet 3 of 9

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File: I:\Drafting\211\09490-122\21-1-09490-122 fig.dwg Date: 10-15-2003 Author: draftemp



Scale in Miles

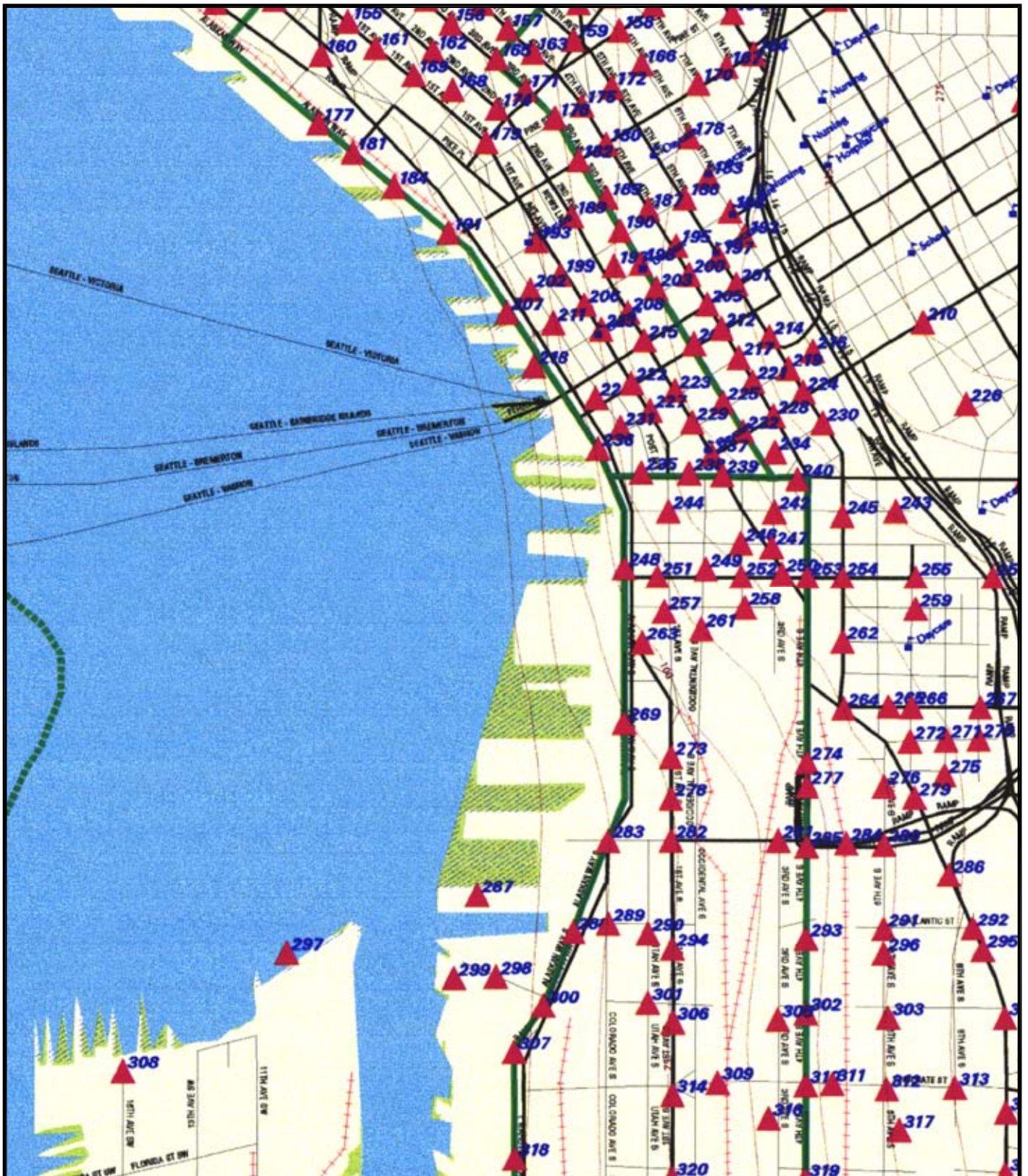
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



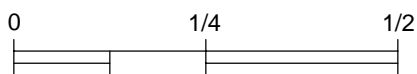
Exhibit A-2
EDR Study Area
 Sheet 4 of 9

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File: I:\Drafting\211\09490-122\21-1-09490-122.fig.dwg Date: 10-15-2003 Author: draftemp



Scale in Miles

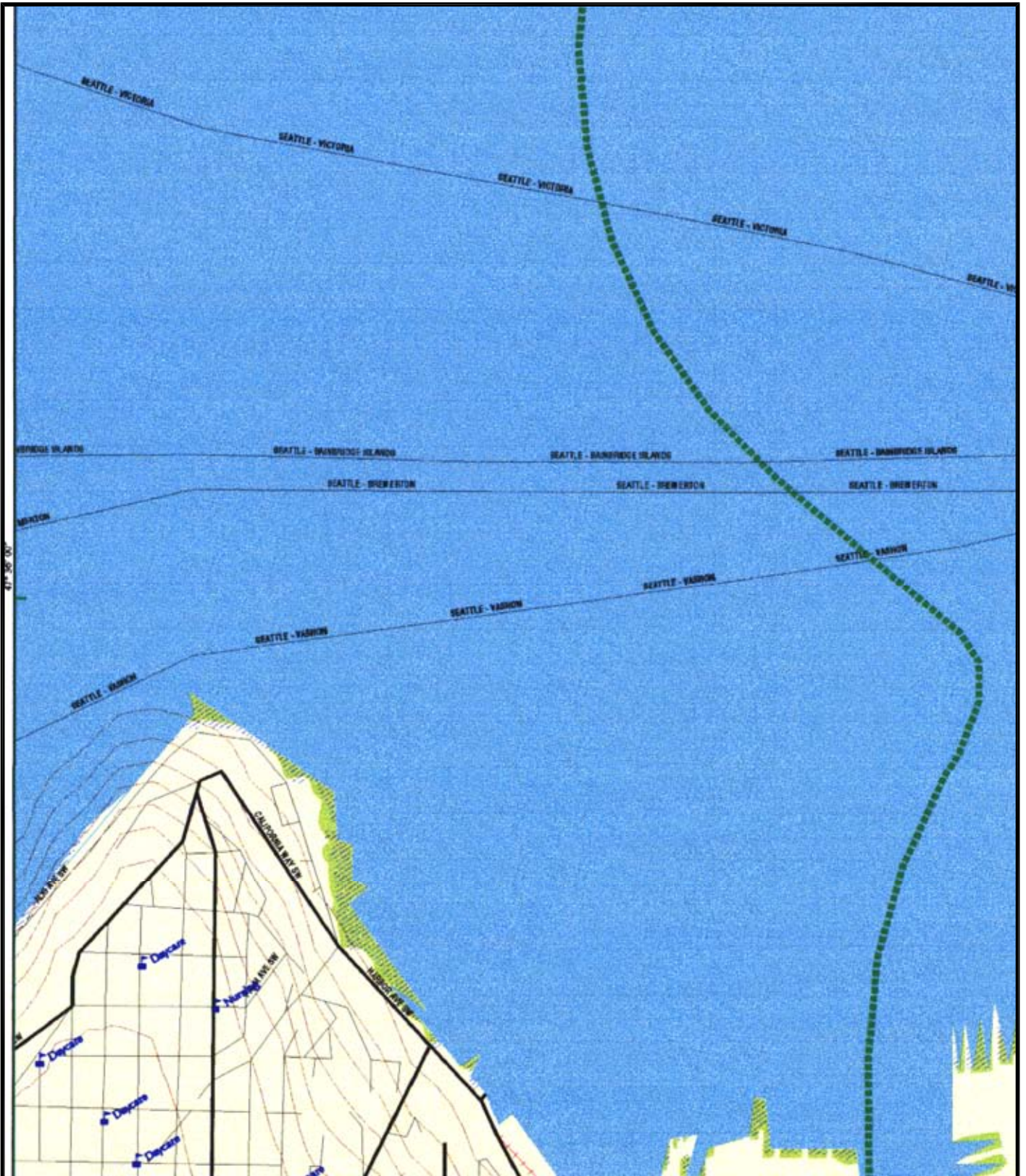
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



Exhibit A-2
EDR Study Area
Sheet 5 of 9

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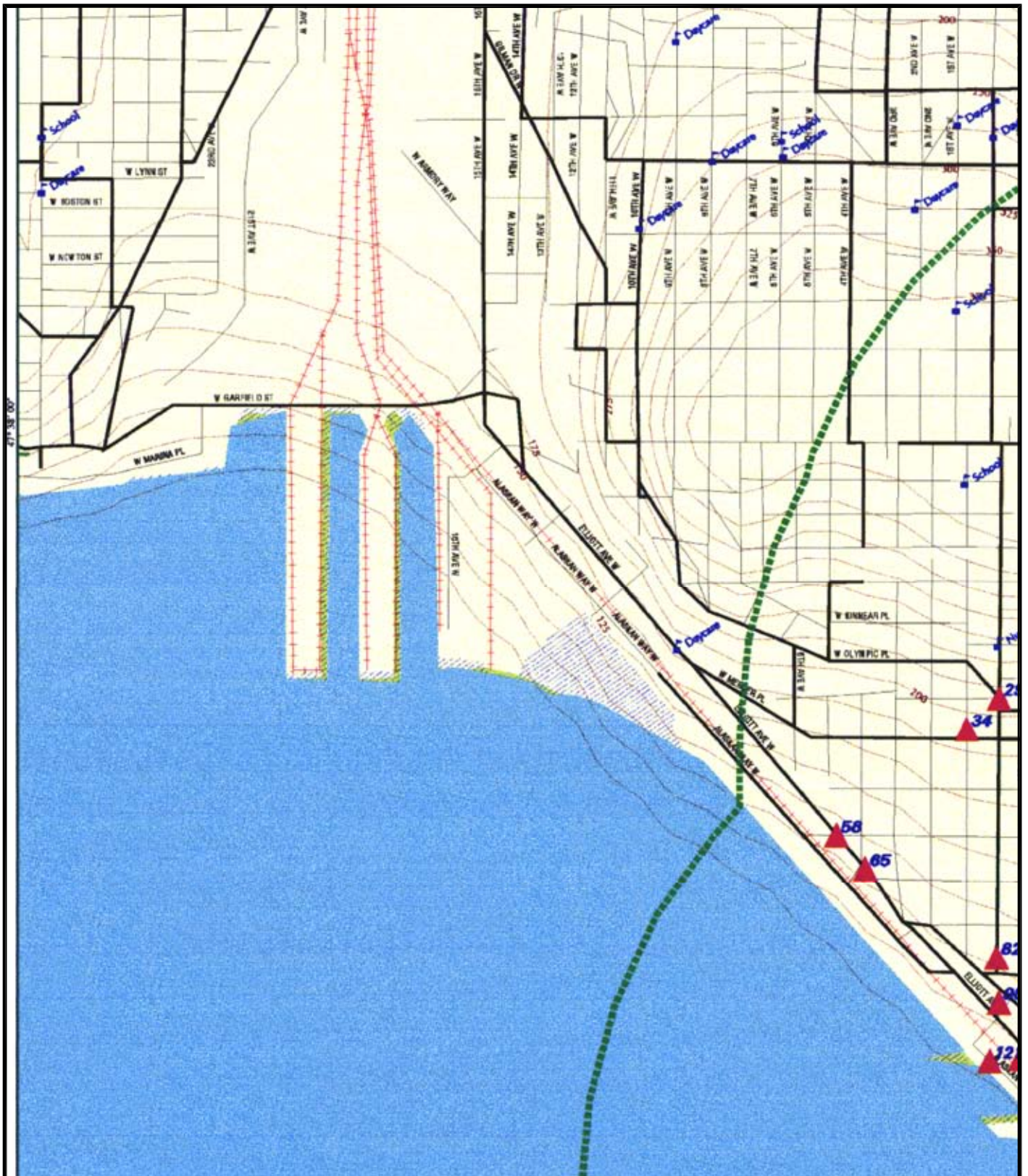
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



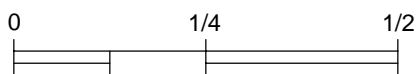
Exhibit A-2
EDR Study Area
Sheet 6 of 9

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File: I:\Drafting\211\09490-122\21-1-09490-122 fig.dwg Date: 10-15-2003 Author: draftemp



Scale in Miles

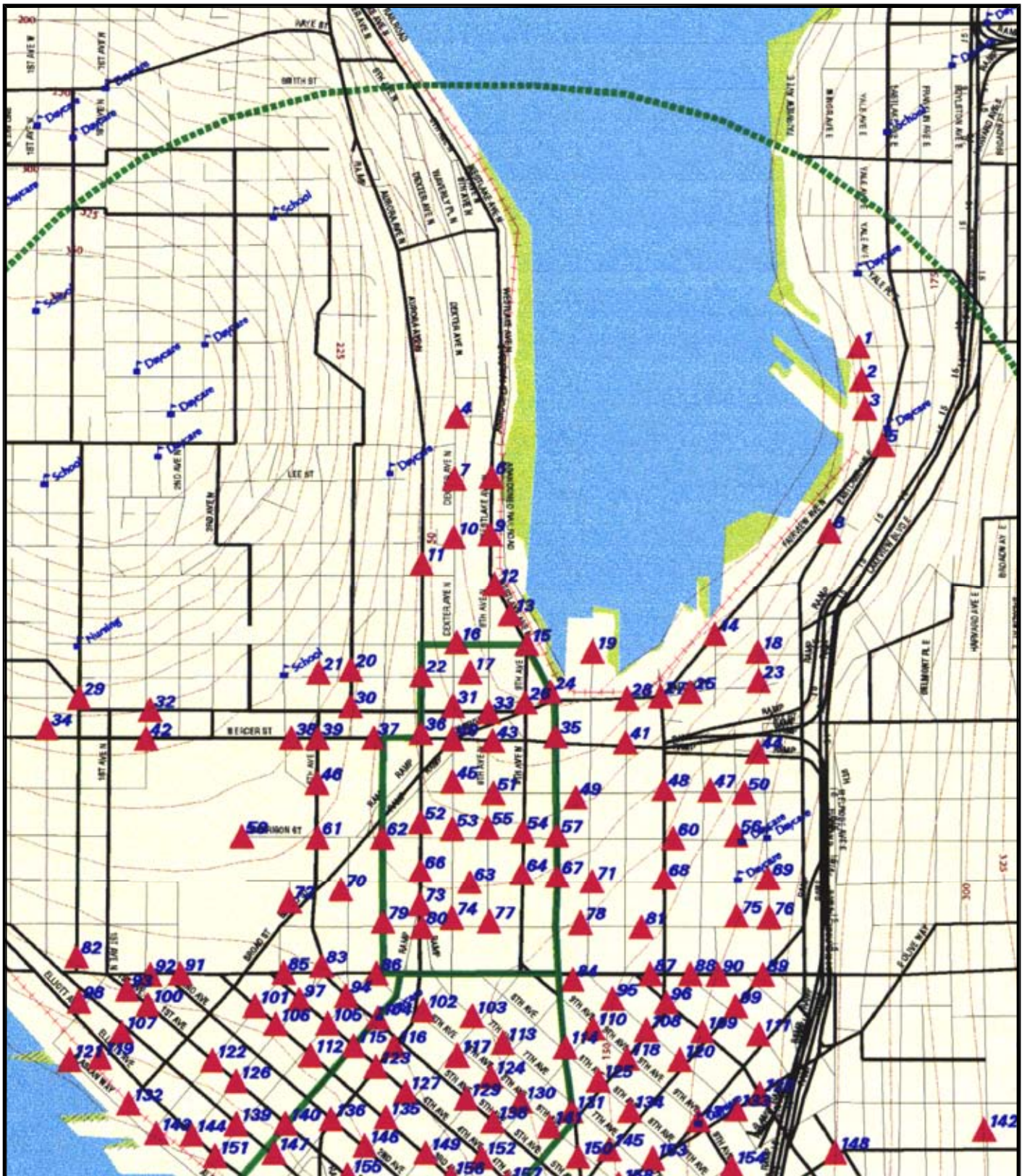
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



Exhibit A-2
EDR Study Area
 Sheet 7 of 9

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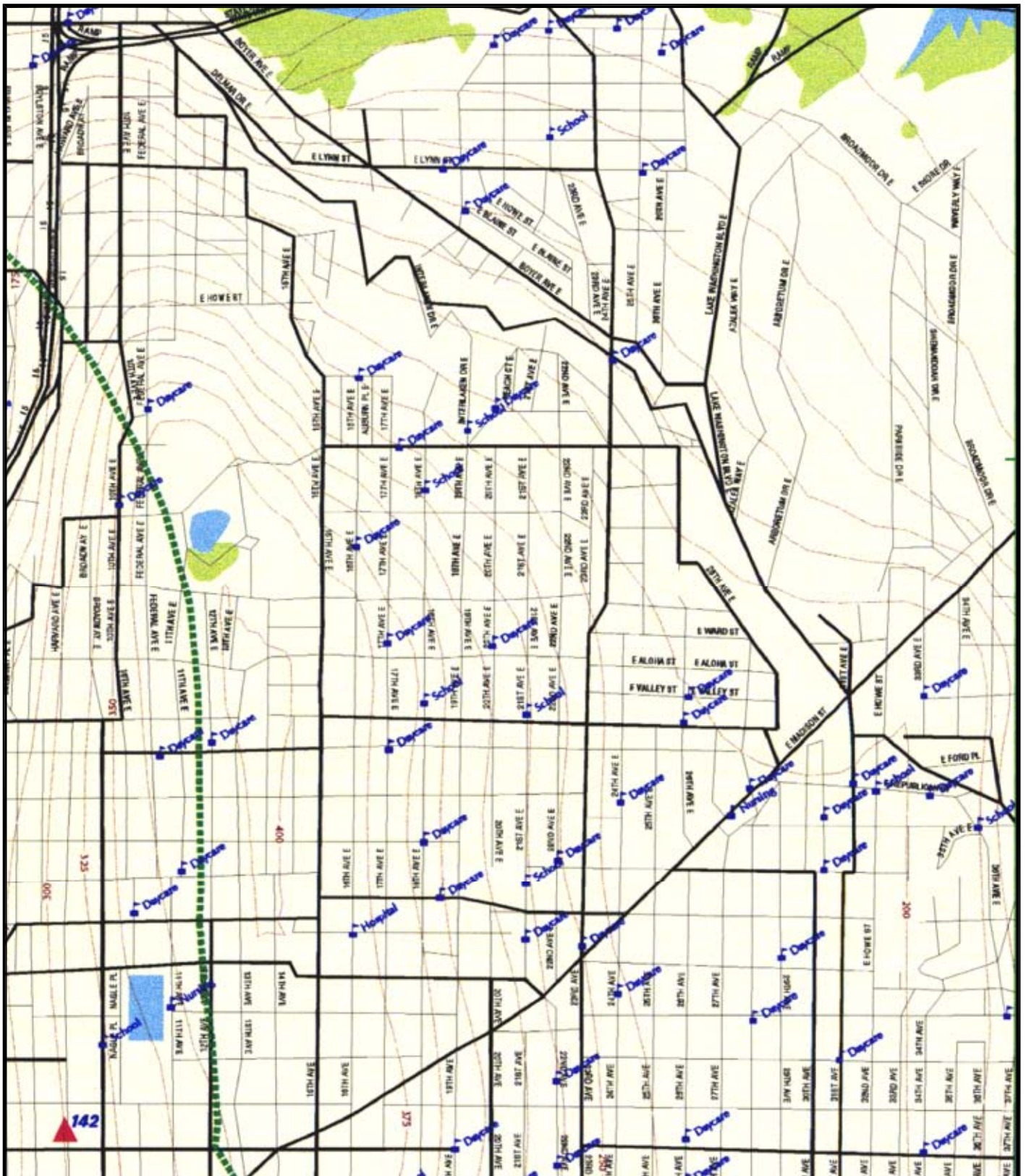
NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



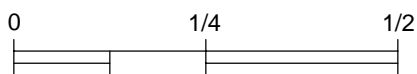
Exhibit A-2
EDR Study Area
 Sheet 8 of 9

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File: I:\Drafting\211\09490-122\21-1-09490-122 fig.dwg Date: 10-15-2003 Author: draftemp



Scale in Miles

NOTE

Figure adapted from drawing "Study Area For Viaduct" by Environmental Data Resources, Inc., dated 9-17-2001.



Exhibit A-2
EDR Study Area
 Sheet 9 of 9

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ATTACHMENT B

Sites Excluded Based on Screening Criteria

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ATTACHMENT B

SITES EXCLUDED BASED ON SCREENING CRITERIA

LIST OF EXHIBITS

Exhibit No.

- | | |
|-----|---|
| B-1 | UST and RCRA Small and Large Quantity Generator Sites (3 pages) |
| B-2 | Emergency Response Notification System (ERNS) Sites |
| B-3 | Oil Heat Only Sites (19 pages) |

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Exhibit B-1. UST and RCRA Small and Large Quantity Generator Sites¹

EDR Site Number	Property Use	UST	RCRA - LOG	RCRA - SQG
11	investments	X		
17	electronics			X
17	auto business			X
22	auto rebuild			X
31	auto repair			X
36	commercial business			X
37	diesel company			X
40	sign business			X
45	commercial business			X
45	sign business			X
45	graphics		X	
53	metal arts			X
53	commercial property			X
53	communication services			X
55	commercial business			X
62	auto sales			X
63	broadcasting company	X		
63	commercial property			X
63	graphics			X
63	refrigeration			X
63	broadcasting			X
70	substation	X		
74	commercial property			X
77	auto body			X
79	commercial property			X
79	graphics			X
86	gas station	X		
94	commercial property	X		
103	auto maintenance	X		
104	commercial property			X
112	air freight			X
113	used oil collection			X
116	freight			X
123	marine services			X
123	marine services			X
123	marine services			X
123	marine services			X
123	marine services			X
127	fire station			X
135	engraving			X
136	drums			X

¹ Sites that have not been identified as a site with known or potential contamination based on former/current land use (sites not included on other tables).

Exhibit B-1. UST and RCRA Small and Large Quantity Generator Sites (cont.)

EDR Site Number	Property Use	UST	RCRA - LQG	RCRA - SQG
139	commercial property	X		
146	auto repair			X
147	industrial supplies			X
147	commercial property			X
155	commercial property			X
160	advertising			X
160	lofts			X
161	printers			X
168	commercial property			X
169	commercial property	X		
169	parking lot	X		
169	phone company			X
189	drug store			X
189	commercial property			X
193	garage	X		
193	arcade			X
193	commercial property			X
196	commercial property			X
196	museum			X
196	arcade			X
199	commercial property			X
199	commercial property			X
202	commercial property		X	
206	commercial property			X
207	commercial property			X
220	commercial property			X
222	commercial property	X		X
222	commercial property			X
222	commercial property			X
235	waterfront property			X
235	storage warehouse			X
244	biology laboratory			X
244	biology laboratory			X
244	commercial property			X
257	commercial property			X
273	commercial property			X
278	graphics			X
278	commercial property			X
288	commercial property			X
289	commercial property			X

Exhibit B-1. UST and RCRA Small and Large Quantity Generator Sites (cont.)

EDR Site Number	Property Use	UST	RCRA - LQG	RCRA - SQG
294	commercial property			X
300	waterfront property			X
301	container property			X
306	manufacturing property			X
306	security systems			X
307	gas station			X
314	radiator business		X	
314	cork insulation			X
314	flooring			X
360	commercial property			X
360	recycling			X

UST = Underground Storage Tank

RCRA = Resource Conservation and Recovery Act

LQG = large quantity generator

SQG = small quantity generator

Exhibit B-2. Emergency Response Notification System (ERNS) Sites

Site/Address	EDR Map ID ²
2400 Block 4th Avenue, 2nd Floor, North Wing	123
North of 1st Avenue Bridge, West of Highway 99	147
2300 Block Elliot Avenue	160
2nd Avenue and Union Street	189
1500 Block Alaskan Way	191
1300 Block Alaskan Way	207
80 Block South King Street	257
500 Block 1st Avenue South	263
800 Block 1st Avenue South	273
1500 Block Alaskan Way South Pier 36	288
1700 Block 1st Avenue South	306
2400 Block East Marginal Way South	318
3200 Block East Marginal Way South	376

² Environmental Data Resources, Inc., 2001, *The EDR Area Study Report: Report prepared by Environmental Data Resources, Inc., Southport, Conn. for Shannon & Wilson, Inc., Seattle, Wash., inquiry number 679391.4s, September.*

Exhibit B-3. Oil Heat Only Sites

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
1.07	Residential	1-story, built 1907, stove, convert to furnace/oil burner - date unknown	not reviewed, not adjacent
1.07	Residential	1-story, built 1900, oil burner	not reviewed, not adjacent
1.07	Residential	1-story, built 1924, oil burner	not reviewed, not adjacent
1.07	Residential	1-story/attic, built 1924, hot air furnace/fuel not noted	not reviewed, not adjacent
1.07	Residential	1-story, built 1924, oil burner	not reviewed, not adjacent
1.07	Residential	1 1/2-story, built 1930, oil burner	not reviewed, not adjacent
1.08	Residential	1-story 2 family, built 1900, remodeled 1921, stove replaced/converted to gas stove	not reviewed, not adjacent
1.08	Residential	1-story, built 1900, stove, moved 1928	not reviewed, not adjacent
1.09	Residential	1-story/attic, built 1905, stove	not reviewed, not adjacent
1.09	Residential	1-story, built 1927, oil burner	not reviewed, not adjacent
1.09	Residential	2-story, built 1907, remodeled 1927, oil burner	not reviewed, not adjacent
1.09	Residential	1-story, built 1916, stove; new 4-story 20 apartments in 1968, electric baseboard heat	not reviewed, not adjacent
1.09	Residential	1-story, built 1909, addition in 1922, oil burner	not reviewed, not adjacent
1.09	Residential	2-story, built 1904, oil burner; new 3-story 8 apartments in 1967	not reviewed, not adjacent
1.09	Residential	3-story-3 family, built 1908, stove, convert to electricity, date unknown	not reviewed, not adjacent
1.09	Residential	2-story, built 1902, stove	not reviewed, not adjacent
1.09	Residential	1-story, built 1903, oil burner; new 3-story 9 apartments in 1968, electric baseboard heat	not reviewed, not adjacent
1.09	Residential	1-story, built 1903, moved 1916, stove, convert to oil burner-date unknown	not reviewed, not adjacent
1.095	Residential	2-story 2 family, built 1902, stove, remodeled 1918, oil burner; new 1-story drive-in restaurant in 1962, gas burner	not reviewed, not adjacent
1.095	Residential	3-story 2 family, built 1901, stove, remodeled 1932, oil burner	not reviewed, not adjacent
1.095	Residential	2-story, built 1901, remodeled 1932, hot air furnace	not reviewed, not adjacent
1.095	Residential, office building	1-story/attic, built 1902, oil burner, moved 1932; 1-story office building, 3 offices, oil burner	not reviewed, not adjacent
1.1	Residential	1-story, built 1895, remodeled 1916, stove	4-story 13-unit condominium, built 1974, heat unknown
1.1	Residential	2-story 2 family, built 1900, remodeled 1922, stove	no building records
1.1	Residential	2-story, built 1900, remodeled 1922, stove	no building records
1.1	Residential	2-story, built 1900, remodeled 1923, stove	no building records
1.1	Printing	2-story printing, built 1950-52, finished 1955, stove	2-story, commercial/retail building, hot water heat
1.1	Residential	2-story-7 apartments, built 1959, gas hot water heat/electric baseboard	3-story, 7-unit apartments, built 1968, electric heat

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
1.1	Residential	2-story, built 1908, stove, replaced in 1959 with 2-story-9 apartments, gas hot water heat/electric baseboard	2-story, 8-unit apartments, built 1959, electric heat
1.1	Residential	2-story 2 family, built 1895, stove; new 4-story-8 apartments in 1968, electric baseboard	no building records
1.1	Residential	1-story, built 1908, stove	1-story residence, built 1908, electric baseboard heat
1.1	Residential	1-story, built 1922, remodeled 1927, pipeless furnace/fuel not noted	1-story residence, built 1922, oil heat
1.2	Office building	2 buildings, built 1948; 1-story testing station, hot water/oil burner, 2-story building, 11 offices, hot water/oil burner	3 commercial buildings, 2 built in 1948, 1 built in 1977, all forced air heat
1.2	Commercial	1-story café, built 1953-54, hot water/oil burner	no building records
10.01	Residential, commercial warehouse	2-story bakery & 2 Apartments then warehouse, built 1920, oil burner	not reviewed, not adjacent
10.01	Residential	1-story, built 1904, stove, remodeled 1937, oil burner	not reviewed, not adjacent
10.01	Residential	1-story 2 family, built 1910, oil burner, stove for basement	not reviewed, not adjacent
10.01	Residential	2-story 6 apartments, built 1910, hot water heat/stoker (?coal) then oil burner	not reviewed, not adjacent
10.01	Residential	1-story, built 1924, stove, remodeled 1932	not reviewed, not adjacent
10.01	Residential	1-story, built 1924, stove, remodeled 1932	not reviewed, not adjacent
10.01	Residential	1-story, built date unknown, stove	not reviewed, not adjacent
10.01	Residential	1-story/attic, built 1902, stove	not reviewed, not adjacent
10.05	Residential, commercial	2-story 2 family, built 1906, stove	1-story residence, built 1906, forced air heat
10.05	Residential	1-story 2 family, built 1900, stove, remodeled basement 1950, oil burner	no building records
10.05	Residential	1-story/attic, no date built, stove	parking lot
10.05	Residential	1-story, built 1900, stove, remodeled 1934, oil burner	parking lot
10.05	Residential	2-story triplex, built 1906, remodeled 1926, oil burner	2-story residence, built 1906, oil heat
10.05	Residential	1-story, built 1891, stove	parking lot
10.05	Residential	1-story, built 1898, stove	parking lot
10.1	tore	1-story store building, built 1904, stove heat, demolished 1947	Lots 1-4, 2-story commercial building, heat pump, light industrial use
10.1	Office and warehouse	1-story office & warehouse, built 1947, oil heat	Lots 1-4, 2-story commercial building, heat pump, light industrial use
10.1	Residential	2-story residence, built 1903, stove heat	Lots 1-4, 2-story commercial building, heat pump, light industrial use
10.1	Office building	1-story office building, built 1945, stove heat, demolished 1956	Lots 5-8, Vacant Land
10.1	Residential	2-story residence, built 1903, stove heat, demolished 1946	Lots 5-8, Vacant Land

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
20.01	Residential	2-story 4 apartments, built 1923, stove; 1-story shed in rear, built 1915, unheated	not reviewed, not adjacent
20.01	Residential	1-story, built 1902, stove	not reviewed, not adjacent
20.01	Residential	2-story 4 apartments., built 1926, hot water/oil burner	not reviewed, not adjacent
20.01	Residential	1-story, built 1908, hot air furnace/oil burner	not reviewed, not adjacent
20.01	Residential	2-story 2 family, built 1900, stove	not reviewed, not adjacent
20.01	Residential	1-story, built 1900, stove	not reviewed, not adjacent
20.01	Residential, commercial	1-story, built 1909, stove	not reviewed, not adjacent
20.05	Residential	2-story, 4 apartments, built 1910, stove	1-story warehouse, built 1982, space heaters
20.05	Residential	2 homes, each is 2-story, built 1900, stove	vacant land
20.05	Residential	1-story, built 1900, stove	vacant land
20.05	Residential	1-story, built 1902, stove; new 2-story motel in 1953, gas heat	2-story commercial building, built 1953, electric heat, used as restaurant
20.05	Residential	2-story 4 apartments, built 1909, stove, remodeled 1968, gas heat	2-story apartment building, built 1909, forced air heat
20.05	Residential	3 homes (2-story 2 family, built 1900, furnace/stoker; 1-story, built 1909, stove; & 1-story, built 1909, stove); new 2-story office building in 1969-70, electric heat	2-story office building, built 1969
20.05	Residential	1-story, built 1923, oil burner, moved 1931	parking lot
20.1	Restaurant	1-story restaurant, built 1932, oil burner	(Lots 1, 2, 7, & 8) 6-story office building, built 1984, heat pump
30.01	Residential	1-story, built 1900, stove	1-story storage warehouse building, built 1981, space heaters
30.01	Residential	1-story, built 1923, stove	1-story storage warehouse building, built 1981, space heaters
30.01	Office buildings	2- 1-story buildings, store (West) & offices (East), built 1952-53, hot water/oil burner in each building	4 buildings: northwest, southwest, southeast, northeast, all 2-story office buildings, built 1952, hot water heat
40.2	Bank	Built in 1946-48, listed single-story bank, with oil burner	1-story building, built 1948, hot water heat
40.2	Office	Built in 1952, listed as single-story office with oil burner.	2-story office building, built 1952, hot water heat
40.2	Office	Built in 1920, listed as a four-story office building with stove.	4-story office building, built 1920, electric heat
40.3	Furniture warehouse	2-story furniture warehouse, built 1926, stove heat	Commercial parking lot
50.05	Office	2-story office, oil burner, built 1956, torn down 1963	no building records
50.2	Bakery factory	Built in 1915, remodeled 1941, listed as two-story factory building/bakery with oil burner.	2-story bakery, built 1900, hot water heat
50.2	Residential	Built in 1890, listed as two-story single family dwelling with stove	no building records

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
50.2	Office and warehouse	Built in 1924, listed as single-story office and warehouse with oil burner	One 2-story office building, built 1924, heat pump
50.3	Sporting goods, clothing, electric and fixtures warehouse	Built in 1946, listed as single-story warehouse and offices with oil burner	not reviewed, not adjacent
50.3	Warehouse	Built in 1946, listed as single-story warehouse with oil burner	not reviewed, not adjacent
60.3	Residential, restaurant	1-story/attic, built 1905, stove; replaced 1962 - black top paving only	1-story restaurant building, built 1964, heat pump
60.3	Residential, store	2-story 2 family building, built 1900, stove; remodeled 1946 as store & apartments; replaced 1962 - black top paving only	1-story restaurant building, built 1964, heat pump
60.3	Residential	2-story 2 family, built 1900, stove	(Lots 7-12) 3-story office building, built 1957, HVAC
60.3	Residential	2-story 4 family, built 1900, stove	(Lots 7-12) 3-story office building, built 1957, HVAC
60.3	Residential	1-story, built 1900, stove	(Lots 7-12) 3-story office building, built 1957, HVAC
60.3	Office building	3-story office building, built 1957, hot water heat/oil burner	(Lots 7-12) 3-story office building, built 1957, HVAC
60.4	Television station and offices	1-story store, built 1947-48, pipe steam heat/oil burner; 1960-63, remodeled as television station & offices	(Entire block) 4-story building, built 1947, heat pump; used as radio and TV studio
60.4	Television studio	television studio, hot water heat/oil burner	(Entire block) 4-story building, built 1947, heat pump; used as radio and TV studio
60.4	Store	1-story store, built 1947-48, hot water heat/oil burner	no building records
60.5	Parking lot, residence	1-story/attic, built 1900, stove, heater/oil; parking lot, 1965	commercial parking lot for library
60.5	Residence, parking lot	1-story, built 1900, stove converted to oil burner; parking lot, 1965	commercial parking lot for library
60.5	Residence, parking lot	2-story 2 family, built 1900, stove/oil; parking lot, 1965	commercial parking lot for library
60.5	Residence, parking lot	1-story/attic, built 1900, stove, heater/oil; parking lot, 1965	commercial parking lot for library
60.5	Residence, parking lot	1-story/attic, built 1900, stove heater/oil; parking lot, 1965	commercial parking lot for library
60.5	Residence, parking lot	1 1/2-story 3 family, built 1900, stove; ; parking lot, 1965	commercial parking lot for library
60.5	Warehouse	1-story warehouse, built 1949, oil burner	2 buildings: 1-story warehouse building, built 1949, space heaters; and a 1-story garage building, built 1991, no heat
60.5	Apartments	2-story 4 apartments, built 1906, stoves	commercial parking lot for broadcasting company
60.5	Residence, parking lot	1-story/attic, built 1890, stove, heater/oil; replaced 1963 by parking lot	commercial parking lot for broadcasting company

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
60.5	Residence, parking lot	1-story/attic, built 1914, stove	commercial parking lot for broadcasting company
70.3	Residence, office building	2-story 2 family, built 1900, stove; replaced by parking lot, constructed 1958; replaced by 2-story restaurant & office building built 1962, hot water convection heat/fuel not specified, remodel 1965 - offices only	2-story office building, built 1962, hot water heat
70.4	Apartment and store	3-story apartment & store building, built 1892, stove	5-story motel building, built 1959, hot water heat
70.4	Motel	4-story motel, built 1958-59, hot water heat/oil burner	5-story motel building, built 1959, hot water heat
70.4	Parking lot and office	Parking lot & 1-story office, built 1952, stove; 1957 records noted "office gone"	4-story motel, built 1959, electric heat
70.4	Office, motel	1-story office building, built 1950-51, hot water heat/oil burner; remodeled as motel, hot water/suspended gas heat	1-story office building, built 1951, hot water heat
70.4	Apartments	2-story 4 family, built 1925, steam then hot water heat/oil burner	2-story apartment building, built 1925, hot water heat
70.5	Apartments	2-story apartment building (16 apartments), built 1946, hot water heat/oil burner	(Lots 2 - 5) 7-story hotel, built 2000, HVAC
70.5	Motel	2-story 2 family, built 1895, stove; replaced by 2-story/basement motel building (café in basement), built 1955, hot water heat/oil burner	(Lots 2 - 5) 7-story hotel, built 2000, HVAC
70.5	Shop, light manufacturing	1-story shop building, built 1952/oil burner	1-story building, built 1952, forced air heat, light manufacturing usage.
70.5	Motel	2-story motel building, built 1949-50, hot water heat/oil burner	(Lots 7 - 11) 3 buildings: 1-story motel, built 1947, hot water heat; 2-story motel, built 1955, hot water heat; 6-story hotel, built 1997, HVAC.
70.6	Church	2-story church, built 1939, oil burner	one two-story church and Sunday school, built 1939, hot water heat
70.6	Salvage co., house wrecking and building materials	1-story office, built 1922, stove heat, torn down 1943	1-story youth shelter, church annex, built 1949, space heaters
70.6	Church	1-story Sunday School, built 1949, stove heat	1-story youth shelter, church annex, built 1949, space heaters
70.6	Manufacturing co., heating and plumbing	2-story warehouse built 1947, oil burner, oil storage added in 1958	2-story repair garage building, built 1953, hot water heat
80.4	Bank	1-story bank building, built 1950, hot water heat/oil burner	not reviewed, not adjacent
80.4	Office building	2-story office building, built 1932, steam heat/oil burner	not reviewed, not adjacent
80.4	Office building	2-story office building, built 1954-55, remodel/addition 1957, hot water heat/oil burner	not reviewed, not adjacent

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
80.5	Office building, life insurance	3-story office building, built 1951-52, oil burner heat, 1-4,000 gallon tank	3-story office building, built 1952, hot water heat
80.6	Restaurant	various 1-story restaurants, oil burner heat, built 1933	1-story restaurant, forced air heat
80.6	Retail store	1-story retail with oil heat, built 1945, moved 1954	(Lots 7 - 11) parking lot
80.7	Administration building	1-story administration building, built 1947-48, oil burner heat	not reviewed, not adjacent
90.01	Warehouse building	1-story warehouse building (10 rooms, office, etc.), built 1930, hot water heat/oil burner	(Lots 3 - 11) 7-story office building built in 1986, heat?
90.01	Store	2-story store & loft, built 1943, gravity hot air furnace/oil burner	(Lots 3 - 11) 7-story office building built in 1986, heat?
90.02	Residential	1-story attic, built 1907, stove	not reviewed, not adjacent
90.02	Residential	2-story, built 1907, stove then hot air furnace/oil burner	not reviewed, not adjacent
90.02	Residential	1-story, built 1918, stove	not reviewed, not adjacent
90.03	Residential	2-story 2 family residence, built 1924, hot water heat/oil burner	not reviewed, not adjacent
90.03	Store	1-story store building (5 stores), built 1913, stove, remodel 1946 (1 store?)	not reviewed, not adjacent
90.03	Residential, café	2-story store/apartment building (2 stores, 1 apartment, built 1910, stove; new 2-story café, built 1958 on lots 10-12, electric baseboard heat	not reviewed, not adjacent
90.04	Warehouse, woodworking shop	building "C", 1-story warehouse building, built 1905, stove, remodel 1957 & 1961 (additions), woodworking shop, gas heat	not reviewed, not adjacent
90.04	Residential	4-story 37 apartment, built 1910, steam heat/oil burner	not reviewed, not adjacent
90.04	Store	1-story store building (5 stores), built 1926, stove, later 4 stores	not reviewed, not adjacent
90.3	Apartment, store	apartment and retail, built in 1924, stove heat	Apartments, 4-stories, built 1992, electric wall heat
90.3	Apartment	3-story apartment building, built in 1924, oil burner heat	Apartments, 3 stories, built 1924, hot water heat, appears to be south half of lot 11 and all of lot 12
90.3	Bakery	2-story bakery with stove heat; built in 1927	2-story industrial building built in 1927, space heaters
90.3	Neon displays	apartments and retail, stove heat, built in 1891	no records found; listed as condos on map
90.3	Residence	single family dwelling, stove heat, 1-story, built in 1941-43	no records found; listed as condos on map
90.3	Residential	single family dwelling, stove heat, 1-story, built in 1942-43	no records found; listed as condos on map
110.05	Can company	dock/pier: 3-story warehouse built 1931, oil heat	lots 5-12, Pier 69, 3-story warehouse, built 1993, forced air unit for heat
110.2	Residential	2-story 2-family dwelling with oil burner heat, built 1904	not reviewed, not adjacent

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
110.2	Apartments and retail	retail and apartments, 3 stories, built in 1910, stove heating	not reviewed, not adjacent
110.2	Warehouse	1-story warehouse, stove heat, built in ?, torn down ~1965	not reviewed, not adjacent
110.2	Grocery	1-story retail, built 1910, torn down by 1960, may have had stove heat prior to gas burner	not reviewed, not adjacent
120.1	Residences	2 2-family residences built in 1904, stove heat	not reviewed, not adjacent
120.1	Store and office	1-story store and office built in 1946, oil burner heat	not reviewed, not adjacent
120.1	Residences	3 2-family dwellings with stove heat, built in 1910, torn down in ~1969	not reviewed, not adjacent
130.2	Tavern	2-story apartments and café, built in 1911, currently has steam heat but appears to have had stove in past	not reviewed, not adjacent
130.2	Residences	6 single family residences, built in 1914, all with stove heat	not reviewed, not adjacent
130.2	Residences	5 single family residences built in 1910, torn down 1965, all with stove heat	not reviewed, not adjacent
130.2	Paper box and luggage companies	2-story building with oil burner heat, built in 1910-12	not reviewed, not adjacent
130.3	Janitorial supply store	janitorial supply store (retail) built in 1910, 1-story, stove heat	not reviewed, not adjacent
130.3	Lodge	Union lodge, 3 stories, built in 1953-4, oil burner, two 9000 gallon fuel oil tanks	not reviewed, not adjacent
130.4	Residence	single-family dwelling, stove heat, built in 1911, moved 1915, torn down 1962	not reviewed, not adjacent
130.4	Office	1-story office, built 1954, oil burner heat	not reviewed, not adjacent
130.4	Warehouse	1-story warehouse, built 1946, stove heat	not reviewed, not adjacent
130.4	Sign company, apartments	2-story apartment house/retail, built 1910, stove heat, torn down 1949	not reviewed, not adjacent
130.5	Residence	2-story 1-family dwelling, stove heat, built 1900, torn down 1952	not reviewed, not adjacent
130.5	Grocery store	2-story grocery store, stove heat, built ~1913, torn down 1949	not reviewed, not adjacent
130.5	Residence	2-story 1-family dwelling, stove heat, built 1900, torn down 1953	not reviewed, not adjacent
130.5	Union hall	3-story hall built in 1957, oil burner heat	not reviewed, not adjacent
130.5	Dance hall	2-story dance hall built in 1926, oil burner heat	not reviewed, not adjacent
130.6	Hotel	2-story hotel with oil burner heat, built in 1907	not reviewed, not adjacent
130.6	Apartments	2-story flat, oil burner heat, built 1890	not reviewed, not adjacent
130.6	Storage warehouse	2-story warehouse, oil burner heat, built in 1920, remodeled into office building in 1964	not reviewed, not adjacent
130.8	Apartments	18-story apartments, built 1949-50, 3 oil burners	not reviewed, not adjacent
130.8	Used car lot	1-story office, used car lot/auto loans, stove heat, built 1932 demolished ~1949	not reviewed, not adjacent

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
140.1	Building material warehouse	1-story warehouse (retail) with stove heat, built 1917; lot 4 has 1-story truck garage owned by same company (appears to be storage of trucks only, not repair)	Office building, 5-stories, built 2000, complete HVAC heat, all lots on N/1/2 of block: 1-8, N of Battery
140.2	Smokehouse and fuel shed	1-story smokehouse and fuel shed with stove heat, built in 1921, torn down 1953 (new cannery with same owners built 1953)	5-story condominium building, built 1990, electric heat.
140.2	Warehouse	1-story warehouse with stove heat, built in 1906, torn down in 1958	5-story condominium building, built 1992, electric wall heat.
140.2	Retail store	1-story retail with oil burner heat, built in 1949	5-story condominium building, built 1992, electric wall heat.
140.3	Residence	single family dwelling, stove heat, "very old" (early 1900s), torn down 1957	no building records
140.3	Residence	single family dwelling, stove heat, built ~1915, torn down 1957	no building records
140.3	Apartments	2 story store & apartments, 2 stoves for heat (may be electric or gas), built 1908	no building records
140.3	Union hall	1-story hall built in 1928, oil burner heat	1-story open office building built 1928, hot water heat
140.3	Textile mill	1-story building with stove heat, built in 1928, torn down 1948	Same as above
140.3	Residence	2-family dwelling, 1 1/2 stories, stove heat, "very old", torn down 1966	no building records
140.5	Apartments	3-story apartments, built in 1925, 2 oil burners for heat	3-story apartment, built 1923, hot water heat
140.5	Residence	1-story single-family dwelling, stove heat, built 1895, torn down 1944	1-story retail, built 1948, space heaters
140.5	Retail	1-story retail, built 1928, oil burner heat	1-story open office, built 1928, hot water heat
140.5	Bank, rooming house	1900: 2-story rooming house, stove heat, torn down 1954; 1900: 2-story rooming house, stove heat, torn down 1954; 1954: 3-story bank, oil burner heat	2-story bank built 1954, heat pump
140.6	Store	1-story store built in 1931, oil burner heat	lots 3-8: 12-story office building, built 1978, heat pump
140.6	Retail	2-story retail, built 1924, stove heat	lots 3-8: 12-story office building, built 1978, heat pump
140.6	Auto business	1-story office, built 1946, stove heat	lots 3-8: 12-story office building, built 1978, heat pump
140.6	Apartments	3-story apartments, built in 1921, oil burner heat	lots 3-8: 12-story office building, built 1978, heat pump
140.7	Tavern, smokeshop	1-story retail, built 1929, stove heat	Apartments (all lots): 6-stories, built 1998, electric heat
140.7	Houseware warehouse	2-story warehouse, built 1919, oil burner heat	Apartments (all lots): 6 stories, built 1998, electric heat
150.1	Warehouse and store	2-story warehouse & store, creosoted pile foundation, oil burner heat, built in 1953-54	One 6-story apartment building, built 1990, forced air unit

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
150.1	Apartments	apartment building, constructed in 1908, stove heat, also single family dwelling (no details), torn down ~1969	No records, likely associated with above parcel
150.1	Residence	2-family dwelling, stove heat, built in 1898, torn down ~1964	No records, likely associated with above parcel
150.1	Residence	2-family dwelling, stove heat, built in 1898, torn down ~1964	No records, likely associated with above parcel
150.1	Apartments	3-story apartment building with stove heat, built in 1900, torn down in 1955, associated with the single family dwelling (no data on that building)	No records, likely associated with above parcel
150.1	Residence	1.5-story single family dwelling, stove heat, built in 1898, torn down in 1955	No records, likely associated with above parcel
150.1	Union hall	1-story hall built in 1948, oil burner heat	3-story office building, built 1949, hot water heat
150.2	Residence, substation	single family dwelling, 1-story, built in 1890, stove heat, torn down 1952 for power substation	No building records
150.2	Hotel	2-story store and hotel, built in 1911, oil burner heat, torn down in 1952	No building records, likely associated with condominium building below
150.2	Store and café	2-story apartments and retail, built in 1910, stove heat, torn down 1952	No building records, likely associated with condominium building below
150.2	Tire shop, grocery	1-story retail, stove heat, built in 1890	No building records, likely associated with condominium building below
150.3	Cigar store, apartment	2-story retail & rooming house, built 1910, stove heat	One 8-story condominium building, built 2000, electric heat
150.3	Retail and apartments	2-story retail & apartments, stove heat, built in 1911	No building records, likely associated with condominium building above
150.3	Shoe repair and apartments	2-story retail & apartments, stove heat, built in 1910	No building records, likely associated with condominium building above
150.3	Hotel and retail	3-story retail & hotel, oil burner and stove heat, built in 1910	Apartments: 4 stories, built 1902, electric wall heat
150.4	Office and storage	1-story office and storage built in 1930, oil burner heat	1-story retail, built 1930, hot water heat
150.4	Hotel	3-story hotel, built in 1924-25, oil burner heat	Apartments: 3-stories, built 1924, hot water heat
150.4	Retail, printers	1-story retail, built in 1928, oil burner heat, printing business	1-story retail, built 1928, hot water heat
150.4	Residences	single-family dwellings, 2 stories, built in 1900, stove heat, torn down 1948	Retail store: 1-story, built 1950, hot water heat
150.4	Gas welding, construction company, machine company	1-story retail, built in 1950, 2 oil burners, gas welding indicated in basement in 1963 (other businesses previous)	Retail store: 1-story, built 1950, hot water heat
150.4	Laundry, hotel	3-story hotel & retail, oil burner heat, built in 1900	non-profit retail/residential, 3 stories, built 1900, electric wall heat

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
150.5	Residence, office car lot	1-family dwelling, 1-story, noted at "office car lot", stove heat, built 1900, torn down 1946	1-story open office, built 1950, space heaters
150.5	Office, residence	1-story office, built 1951, oil burner heat; 1-family dwelling, 2 stories, stove heat, torn down 1949	lots 7-8: 1-story open office, built 1951, radiant hot water heat
150.5	Testing laboratory	1-story factory, built 1947, oil burner heat, suspect business	1-story retail, built 1947, radiant hot water heat
150.6	Apartments	3-story apartments, built 1916, oil burner heat	Apartment: 3 stories, built 1916, hot water heat
150.6	Residence	1-story, 1-family dwelling with oil burner heat, built 1890, torn down 1959	Two mixed use retail buildings, one built 1935, the other built 1924, both hot water heat
150.6	Warehouse	1-story warehouse, stove heat, built 1918	2-story office building, built 1918, heat pump
150.6	Apartment and parking lot	2-story apartment, stove heat, built 1900	parking lot
150.6	Office building	1-story, 3-office building with oil burner heat, built 1946	1-story restaurant, built 1946, forced air unit; 1-story office, built 1938, forced air unit
150.6	Apartments	3-story apartments, built 1918, oil burner heat	Apartments: 3 stories, built 1918, hot water heat
150.6	Café	1-story café, oil burner heat, built 1923	1-story tavern and office, built 1923, space heaters
150.7	Retail	1-story retail, stove heat, built 1923, torn down 1959	1-story retail, built 1923, forced air unit heat
150.7	Elevator co. and garage	1-story garage built 1923, stove heat	vacant land
150.8	Office	1-story office, stove heat, built 1948, torn down 1953	all lots: auto showroom, 1 story, built 1978, space heaters
150.8	Office and used car lot	1-story office and used car lot, stove heat, built 1949	same as above
150.8	Office and used car lot	1-story office and used car lot, stove heat, built 1947-8	same as above
150.9	Retail and offices	2-story retail and offices, oil burner heat, built 1956	School: 2-story office/retail, built 1950, forced air unit
150.9	Office	2-story office, oil burner heat, built 1950-51, 1-6,000 gallon fuel tank	School: 2-story office/retail, built 1950, forced air unit
160.1	Auto freight	1-story, 4000 square foot depot with stove heat, built in 1946?	One 8-story hotel, built 2003, complete HVAC system
160.1	Switch building	2-story switch building, stove heat, built 1920	4-story office building, built 1999, complete HVAC for heat
160.2	Union hall	2-story social hall with 2 oil burners for heat, built in 1957	One 2-story office building, built 1957, forced air unit
160.2	Warehouse with eggs, poultry and veal	1-story warehouse with steam and oil burner for heat, built in 1927, torn down in 1952	Apartments: 6-story apartments, built 1994, electric wall heat units

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
160.2	Residence	single family dwelling built in 1900, stove heat, torn down 1952	Apartments: 6-story apartments, built 1994, electric wall heat units
160.2	Residence	single family dwelling built in 1916, stove heat, torn down 1952	Same as above
160.2	Residence	single family dwelling built in 1900, stove heat, torn down 1952	Same as above
160.3	Apartments	3-story apartment building with stove heat, built in 1909	parking lot
160.3	Hotel, sign company	3-story hotel and retail, built in 1911, 2 oil burners for heat	Hotel: 3-story retail/apartments, built 1900, hot water heat
160.3	Hotel	2-story hotel & retail with stove heat, built in 1897, torn down in 1966	Apartments: 16-stories, built 1970, electric wall heat
160.4	Retail and apartment	retail and rooms with stove heat, built 1884, 2 stories	not reviewed, not adjacent
160.4	Factory and office	1-story factory and office (type of factory unknown), built 1949, oil burner heat	not reviewed, not adjacent
160.4	Bakery and apartments	2-story apartments, oil burner heat, built 1910	not reviewed, not adjacent
160.4	Apartments	6-story apartment house, oil burner heat, built 1923	not reviewed, not adjacent
160.4	Apartments and retail	2-story retail and rooms, stove heat, built 1901, torn down 1969	not reviewed, not adjacent
160.4	Print shop and music store	1-story retail with stove heat, built 1920	not reviewed, not adjacent
160.5	Store	1-story retail, built 1929-30, 2 oil burners for heat	not reviewed, not adjacent
160.5	Manufacturing refrigerators, store fixtures, cash register exchange	2-story office, built 1923, oil burner heat	not reviewed, not adjacent
160.5	Plumbing	3-story retail and apartments, oil burner heat, built 1911	not reviewed, not adjacent
160.5	Church	1-story church (later retail), built in 1928, oil burner heat	not reviewed, not adjacent
160.5	Garage	1-story garage, stove heat, built 1947, 3 doors on track listed	not reviewed, not adjacent
160.5	Sign company, engraving	4-story apartment, retail, stove heat, built 1900, demolished 1972	not reviewed, not adjacent
160.6	Food products	1-story retail, built 1925-6, oil burner heat	not reviewed, not adjacent
160.6	Office	1-story, 1-room office, stove heat, built 1935?, no picture ("too many cars")	not reviewed, not adjacent
160.7	Retail	1-story retail, stove heat, built 1924	not reviewed, not adjacent
160.7	Auto service	1-story garage, stove heat, built 1924	not reviewed, not adjacent
160.7	Apartments	3-story apartment, built 1922, oil burner heat	not reviewed, not adjacent
160.7	Warehouse	1-story warehouse, built 1953, oil burner heat	not reviewed, not adjacent
160.7	Optical	1-story office, built 1953, oil burner heat	not reviewed, not adjacent

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
160.7	Food products	2-story retail/loft, built 1919, stove heat	not reviewed, not adjacent
160.7	Apartments	7-story apartments, oil burner heat, built 1925	not reviewed, not adjacent
160.8	Used car lot	1-story, 1-room office for used car lot, stove heat, built 1948-9	not reviewed, not adjacent
160.8	Used car lot	1-story office for used car lot, built 1947, stove heat	not reviewed, not adjacent
160.9	Restaurant	1-story restaurant ten office/sales, oil burner heat, built 1933, torn down 1969	not reviewed, not adjacent
160.9	Used car lot	1-story office for used car lot, stove heat, built 1947, torn down 1967	not reviewed, not adjacent
160.9	Used car lot	1-story office for used car lot, built 1947, torn down 1967, stove heat	not reviewed, not adjacent
160.9	Used car lot	1-story office for used car lot, built 1953, torn down 1967	not reviewed, not adjacent
161.1	School	1-story school, built 1942-3, torn down 1955, oil burner heat	not reviewed, not adjacent
161.1	Used car lot	1-story office, stove heat, built 1951, for used car lot	not reviewed, not adjacent
161.1	Used car lot	1-story office for used car lot, built 1955, stove heat	not reviewed, not adjacent
170.2	Lumber company	1-story warehouse with stove heat, built in 1914	mixed use office, 4-stories, built 1990, "package unit" heat
170.3	Furniture or linoleum company	3-story hotel & retail with oil burner (heat), built in 1907	not reviewed, not adjacent
170.3	Furniture company	3-story hotel/retail, stove heat, built 1906	not reviewed, not adjacent
170.3	Residence	2-story single-family dwelling with hot air furnace and an oil burner, built in ~1914 ("very old"), torn down in July, 1962	not reviewed, not adjacent
170.3	Retail	1-story retail with stove heat, built in ~1914	not reviewed, not adjacent
170.3	Residence	single-family residential dwelling, 2 stories, built in 1891, hot air furnace with oil burner	not reviewed, not adjacent
170.3	Retail	1-story retail, built in 1938, stove heat	not reviewed, not adjacent
170.4	Retail	1-story retail, 2 oil burners for heat, 1-3,900 gallon fuel oil tank, built 1923	not reviewed, not adjacent
170.4	Fixture company	4-story apartments and retail, built 1909, oil burner heat	not reviewed, not adjacent
180.1	Warehouse with loading platform	1-story warehouse/loading platform built in 1900, stove heat (oil burner)	Waterfront Landings Condominiums, per map
180.3	Hotel	3-story hotel with retail, built 1897?, oil burner heat	not reviewed, not adjacent
180.3	Warehouse	1-story warehouse with oil burner for heat, built 1902	not reviewed, not adjacent
180.3	Laundry	2-story retail and apartments with stove heat, built 1901	not reviewed, not adjacent

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
180.3	Retail	3-story hotel/retail, built in 1904, oil burner for heat	not reviewed, not adjacent
180.3	Retail	3-story hotel/retail built in 1904, stove heat; torn down in February 1970	not reviewed, not adjacent
180.3	Furniture company	2-story retail and hotel, built 1901, stove heat	not reviewed, not adjacent
180.4	Parking lot	parking lot shack with stove heat, torn down 1957	not reviewed, not adjacent
190.1	Glass factory	2-story factory with oil burner in addition to steam heat, constructed 1908	Three 5-story condominiums, built 1997, heat unknown
190.3	Retail	2-story retail and loft, oil burner heat (installed 1945), constructed 1922	not reviewed, not adjacent
190.3	Furniture store	3-story office/retail constructed in 1906; oil burner in 1937, switched to gas by 1968	not reviewed, not adjacent
190.3	Retail and lofts	3-story retail and lofts, built in 1910, oil burner heat	not reviewed, not adjacent
190.3	Furniture store	4-story office building, constructed in 1910, oil burner in addition to steam heat	not reviewed, not adjacent
190.3	Hotel	2-story hotel, built 1904, oil burner and steam heat	not reviewed, not adjacent
190.3	Café	1-story retail built in 1911 with stove heat	not reviewed, not adjacent
190.4	Hotel	Oil burner	not reviewed, not adjacent
200.1	Shoe repair, tavern	1-story retail with stove heat, built in 1931	not reviewed, not adjacent
200.1	Retail, shoe market	2-story retail constructed in 1912 with stove and/or suspended gas heat	not reviewed, not adjacent
200.1	Retail	3-story retail and hotel built in 1908, stove heating	not reviewed, not adjacent
210.2	Produce	1-story shed with stove heat, built in 1910	vacant commercial property
210.3	Retail and hotel	2-story retail and hotel with stove heat, built in 1910, torn down in 1971	not reviewed, not adjacent
210.3	Public market	1-story sanitary public market with stove heat in office and oil burner for "domestic" use	not reviewed, not adjacent
210.5	Commercial	Building uses oil heat	not reviewed, not adjacent
210.5	Retail and hotel	4-story hotel and retail building with oil burner	not reviewed, not adjacent
220.2	Food products	2-story factory, oil burner in addition to steam heat, constructed 1925	1-story office and apartment building, built 1925, warmed and cooled air
220.2	Warehouse	1-story warehouse built in 1951 with 1 oil burner for heat	One 2-story antique warehouse building, built 1951, space heaters.
220.3	Hotel and retail	hotel/apartments and retail building, 6 stories, constructed in 1911 with oil heat	not reviewed, not adjacent
220.3	Drug store	2-story retail built in 1921 with oil burner heat	not reviewed, not adjacent
220.3	Food products	1-story warehouse built in 1916 with stove heat	not reviewed, not adjacent
240.4	Hotel	Built 1896, stove heat	2-story retail building, built 1900, space heaters
240.4	Tailor	2-story retail & loft, built 1889, stove heat	2-story retail building, built 1900, space heaters

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
260.4	Retail and hotel	4-story hotel (with basement) built in 1906 with oil burner heat	not reviewed, not adjacent
270.3	Offices	9-story office building constructed in 1932 with 5 oil burners	not reviewed, not adjacent
270.4	Hotel and retail	6-story hotel & retail, oil burner heat	not reviewed, not adjacent
280.1 & 290.1	Pier building	3-story pier building, built 1915, 2 oil burners for heat, 1-2750-gallon oil storage tank	One 2-story government office building, built 1992, heat pump
290.1	Food products	1-story fish market, built 1940, stove heat, on pier	not reviewed, not adjacent
290.4	Hotel	4-story hotel built in 1908 with oil burner for heat, demolished in 1969	9-story parking garage with bank and office/retail, built 1970, no heat
290.4	Hotel	7-story hotel built in 1889 with oil burner for heat, demolished 1970	9-story parking garage with bank and office/retail, built 1970, no heat
290.5	Hotel and retail	4-story building, built 1902, torn down 1958, oil burner heat	3-story parking garage, built 1958
320.2	Hotel and retail	2-story hotel/retail, built 1895, stove heat	not reviewed, not adjacent
320.2	Hotel and retail	4-story hotel/retail, built 1895, stove heat	not reviewed, not adjacent
330.2	Retail	1-story retail, built 1889, stove heat, torn down 1961	2 buildings: 1)1-story storage warehouse, built 1916, hardware supply, space heaters. 2)2-story storage warehouse, built 1961, forced air unit
330.2	Retail	1-story retail, built 1916, stove heat	2 buildings: 1)1-story storage warehouse, built 1916, hardware supply, space heaters. 2)2-story storage warehouse, built 1961, forced air unit
330.2	Hotel and retail	5-story hotel/retail, built 1914, 2 oil burners	5-story hotel/retail, built 1914, steam heat
330.2	Hotel and retail	3-story hotel/retail, built 1907, stove heat	office/retail, built 1907, space heaters; 2-story storage warehouse, built 1950, electric wall heat
330.2	Office and retail	3-story building, built 1889, oil burner	4-story office/retail, built 1900, steam heat
330.2	Hotel and retail	3-story building, built 1889, stove heat	mixed retail/residential, built 1900, electric wall heat/ mixed retail/residential, built 1900, space heaters
330.2	Hotel and retail	3-story hotel / retail, built 1889, stove heat	mixed retail & residential, built 1900, electrical wall heat/ mixed retail/residential, built 1900, space heaters
330.2	Retail	3-story retail, built 1889, stove heat	3-story office, built 1900, electric wall heat/ 3-story office, built 1900, electric wall heat
330.2	Retail	3-story retail, built 1899, stove heat	3-story office, built 1900, electric wall heat/ 3-story office, built 1900, electric wall heat
330.2	Hotel and retail	3-story hotel / retail, built 1900, oil burner	3-story restaurant & vacant hotel, built 1900, hot water heat
330.2	Hotel and retail	3-story hotel / retail, built 1889, stove heat	5-story home shelter, built in 1903, steam heat / 3-story office, built 1900, electric wall heat

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
330.2	Retail and warehouse	1-story retail, built 1895, stove heat, torn down 1948; 2-story retail / warehouse, built 1950, stove heat	office/retail, built 1907, space heaters, 2-story storage warehouse, built 1950, electric wall heat
340.1	Retail and loft	4-story retail / loft, built 1900, oil burner	4-story office, built 1900, forced air unit
340.1	Hotel, shelter	3-story hotel, built 1889, stove heat	3-story shelter, built 1900, heat pump
340.2	Retail	retail / studio, built 1890, oil burner	not reviewed, not adjacent
350.2	Warehouse	7-story warehouse, built 1906, oil burner	7-story office, built 1913, heat pump
350.3	Commercial	5-story store / loft, built 1907, oil burner	not reviewed, not adjacent
360.1	Pier, warehouse, maintenance buildings	1-story gate house, built 1965, oil heat	Pier 46 terminal (marine/commercial/fish) - 4 buildings: 1) 2-story transit warehouse/gate/guardhouse built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3) transit warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/maintenance, built 1967, space heaters
360.1	Waterfront property	3-story warehouse, built 1922-23, oil burner	commercial, terminal (marine, commercial fish)
360.1	Waterfront property, warehouse	2-story warehouse, built 1918, oil burner	commercial, terminal (marine, commercial fish)
360.15	Warehouse	3-story warehouse, built 1921, oil burner	2-story athletic club/retail, built 1923, warmed and cooled air heat
370.1	Railway, warehouse and loading dock	2-story freight depot, built 1912; 1-story freight depot and garage, built 1935, stove heat	3 buildings: 1) 1-story transit/freight warehouse, built 1912, steam & no boiler heat; 2) 1-story transit warehouse/loading dock, built 1935, no heat; 3) 2-story office, built 1912, forced air unit
370.1	Railway, warehouse and loading dock	1-story team track office, built 1941, stove heat; building moved in 1968	3 buildings: 1) 1-story transit/freight warehouse, built 1912, steam & no boiler heat; 2) 1-story transit warehouse/loading dock, built 1935, no heat; 3) 2-story office, built 1912, forced air unit
370.1	Clothing warehouse	2-story warehouse, built 1939, oil burner	2-story warehouse, built 1939, space heaters
370.2	Warehouse	4-story warehouse/store, built 1907, oil burner	4-story storage warehouse built 1907, space heaters
370.2	Retail and warehouse	1-story office, built 1918, oil burner; 6-story warehouse, built 1910	1-story sports bar building, built 1918, complete HVAC system
380.1	Waterfront property, warehouse	warehouse, built 1907, oil burner, torn down 1966	Pier 46 terminal (marine/commercial/fish) - 4 buildings: 1) 2-story transit warehouse/gate/ guardhouse built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3) transit warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/ maintenance, built 1967, space heaters

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
380.1	Office, maintenance, and transit shed buildings	built 1918, stove heat, 1 tank (type unknown - listed under plumbing)	Four buildings: 1) 2-story gate and guard houses, built 1967, warmed and cooled air; 2) 2-story office building, built 1967, warmed and cooled air; 3) one-story transit shed, built 1967, space heaters; 4) 1-story maintenance building, built 1967, space heaters
380.4	Warehouse, sport facility	warehouse, built 1910, stove heat	Sport Facility
380.4	Warehouse, sport facility	3-story warehouse, built 1929, oil burner in office only	Sport Facility
380.4	Warehouse, sport facility	warehouse, built 1926, oil burner; sign indicates automotive supply (i.e. batteries, tires)	Sport Facility
390.1	Waterfront property, warehouse	2-story warehouse, built 1925, stove heat	Pier 46 terminal (marine/commercial/fish) - 4 buildings: 1) 2-story transit warehouse/gate/guardhouse built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3)transit warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/maintenance, built 1967, space heaters
390.3	Warehouse	2 oil burners	2-story storage warehouse, built 1937, hot water heat / vacant lot
390.3	Waterfront property, warehouse	1-story freight shed, built 1918, stove heat	Pier 46 terminal (marine/commercial/fish) - 4 buildings: 1) 2-story transit warehouse/gate/guardhouse built 1967, warmed and cooled air; 2)office building, built 1967, warmed and cooled air; 3)transit warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/maintenance, built 1967, space heaters
390.3	Warehouse, bag company factory	office/factory, built 1904, oil burner	4-story storage warehouse/residential studios, built 1904, space heaters / vacant lot
390.5	Office, commercial	office / clinic/warehouse, oil burner	tents and other temporary improvements
400.1	Office building, oil / boiler house	oil / boiler house, built 1951, oil burner	3 buildings; 1) built in 1991, 1-story government services, warmed & cooled air; 2) 1-story storage warehouse, built in 1991, unknown heating; 3) 1-story office building, built in1992, warmed & cooled air / 2 buildings: 1)1-story multi-purpose, built in 1991, heat pump; 2) 1-story storage warehouse, built 1991, no heat.

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
400.1	Office building, warehouse	warehouse, built 1909, stove heat	3 buildings; 1) built in 1991, 1-story government services, warmed & cooled air; 2) 1-story storage warehouse, built in 1991, unknown heating; 3) 1-story office building, built in 1992, warmed & cooled air / 2 buildings: 1) 1-story multi-purpose, built in 1991, heat pump; 2) 1-story storage warehouse, built 1991, no heat.
400.1	Glass company	built 1909, stove heat	1-story industrial, vacant, built 1950, no heat
400.2	Railway	office, stove heat	railroad operating property: 1-story shed, built 2000, no heat
400.3	Railway, food products	1-story warehouse / office / retail, built 1916, oil burner	Railway Co. operating property
400.3	Warehouse	1-story warehouse, stove heat	Railway Co. operating property
400.4	Warehouse	warehouse, built 1910, stove heat	not reviewed, not adjacent
410.1	Food products	2-story cold storage, built 1910, oil burner & stove heat; 2-story storage shed; 1-story storage shed	tideland
410.1	Food products	factory & cannery, stove heat	Terminal 30 (marine/ commercial/ fish) / tideland
410.1	Hardware retail	1-story retail, built 1910, stove heat	Terminal 30 (marine/ commercial/ fish)
410.1	Hardware warehouse	1-story warehouse, built 1907, stove heat	tideland
410.2	Railway	1-story office / shop / lunchroom, built 1957, stove heat	railroad operating property - commercial rail terminal
410.4	Paper company	2-story warehouse / office, built 1909, stove heat	not reviewed, not adjacent
420.1	Food products	1-story café, built 1938, stove heat	2 buildings: 1) 7-story parking garage, built 1976, space heaters; 2) 7-story parking garage, built 2002, unknown heat source
420.1	Railway, garage	1-story office / locker, built 1943, stove heat	2 buildings: 1) 7-story parking garage, built 1976, space heaters; 2) 7-story parking garage, built 2002, unknown heat source
420.2	Warehouse, drilling co.	2-story shed, built 1913, stove heat, well drilling company	3-story storage warehouse, built 1930, space heaters
420.2	Bank	2-story bank, built 1953, oil burner	2-story office, built 1953, forced air unit
430.2	Railway, parking garage	2-story office / parking garage, built 1916, stove heat	Railway company operating terminal
430.2	Railway	1-story nut house, built 1946, stove heat	Railway company operating terminal
430.3	Warehouse, office	2-story warehouse / offices, built 1910, stove heat	4 buildings: 1) 6-story retail, built 1912, hot water heat; 2) 9-story warehouse, built 1916, hot water heat; 3) 9-story storage warehouse, built 1946, hot water heat; 4) 9-story warehouse, built 1966, hot water heat

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
430.3	Warehouse, office	9-story warehouse, built 1916, 5 oil burners	4 buildings: 1) 6-story retail, built 1912, hot water heat; 2) 9-story warehouse, built 1916, hot water heat; 3) 9-story storage warehouse, built 1946, hot water heat; 4) 9-story warehouse, built 1966, hot water heat
430.3	Warehouse, office	9-story, built 1912, 1916, 1946 (remodeled from 2 stories?), 1-5,000 & 1-2,500 gallon storage tanks, oil burner	4 buildings: 1) 6-story retail, built in 1912, hot water heat; 2) 9-story warehouse, built 1916, hot water heat; 3) 9-story storage warehouse, built 1946, hot water heat; 4) 9-story warehouse, built 1966, hot water heat
430.4	Hotel and retail	3-story hotel / retail, stove heat	not reviewed, not adjacent
450.05	Railway	small shack office, built date unknown, stove heat	Rail terminal
450.1	Railway, warehouse and garage	1-story lockers, built 1953, oil burner	4 buildings: 1) 1-story storage warehouse, built 1952, no heat; 2) 2-story storage warehouse, built 1955, space heaters; 3) 1-story storage warehouse, built 1955, no heat; 4) 1-story garage, built 1957, space heaters
450.1	Railway, warehouse	1-story warehouse / office, built 1952, 2-story warehouse / office, built 1955, oil burner	Railway company rail terminal
460.2	Warehouse	1-story warehouse, built 1952-53, oil burner	1-story warehouse, built 1952, space heaters
460.2	Railway, auto freight	1-story auto freight, built 1945, stove heat	Railway company utility right-of-way
460.2	Warehouse, food products	warehouse, built 1957, oil burner, 1-550 gallon tank	3 buildings: 1) 1-story office building, built 1959, space heaters; 2) 1-story warehouse, built 1957, no heat; 3) 1-story equipment shed, built 1987, no heat
470.25	Warehouse	1-story warehouse, built 1949-50, stove heat	vacant warehouse - 2 buildings: 1) 1-story industrial, built 1949, no heat; 2) 1-story industrial, built 1967, unknown heat source
470.5	Sprinkler system co.	1-story office, built 1952, stove heat, remodeled 1964 to office / warehouse	not reviewed, not adjacent
470.25	Warehouse and office	1&2-story warehouse, built 1952, oil burners (2)	1-story listed as single-story warehouse, built 1952, unknown heat source / 2-story warehouse / office, built 1952, space heaters
470.5	Tire shed	1-story tire shed, built 1940, stove heat	not reviewed, not adjacent
470.5	Auto freight	1-story office / warehouse, built 1951, oil burner; truck shed, built 1957-58, 1-6,000 gallon tank	not reviewed, not adjacent
470.6	Warehouse	1-story warehouse, built 1949, oil burner	not reviewed, not adjacent
470.6	Equipment supply	1-story structure, built 1947-48, stove heat	not reviewed, not adjacent

Exhibit B-3. Oil Heat Only Sites (continued)

Block No.	Property Use	Comments/Description (Archive)	Current Tax Assessor Notes
480.2 & 480.25	Café	1-story café, built 1925, stove heat	not reviewed, not adjacent
480.2 & 480.25	Mill	1-story factory / warehouse, built 1931-41, oil burner	not reviewed, not adjacent
480.2 & 480.25	Mill and offices	1-story surplus barracks, built 1943, stove heat	not reviewed, not adjacent
480.25	Factory and office	1-story factory / office, built 1945, oil burner	not reviewed, not adjacent
480.25	Warehouse	1-story warehouse, built 1952, oil burner, 1-1,000 gallon, 1-5,000 gallon tank	not reviewed, not adjacent
480.6	Machine works	2-story railway tower, built 1908, stove heat	Two one-story machine works buildings, built 1920 and 1957, space heaters (industrial light manufacturing)
480.7	Warehouse, mattress mfg., sanitary wipers mfg.	1-story warehouse / manufacturing / factory, built 1926, 1952, oil burners (2)	4 buildings: 1) 1-story warehouse, built 1952, no heat; 2) 1-story warehouse, built 1949, hot water heat; 3) 1-story warehouse, built 1976, no heat; 4) 1-story industrial building, built 1926, no heat
480.75, 490.1	Food products, cold storage	1-story cold storage plant, built 1944, oil burner	Cold storage - 2 buildings: 1) 1-story warehouse, built 1943, no heat; 2) 1-story cold storage, built 1943, refrigerated cooling
480.75	Warehouse, food products	1-story warehouse, built 1951, oil burner	Warehouse: 1-story, built 1951, warmed and cooled air for heat

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ATTACHMENT C

Sites with Documented and Potential Contaminant Releases

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Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
1.08	1.08-1	auto repair, gas station	1-story garage then recap shop, built 1946, stove	auto repair	1951 / 1956 / 1965 / 1970		not reviewed, not adjacent		North	No		RP
1.08	1.08-2	outboard motor sales & service, gas station	new 1-story gas station replaced in 1960-61, tanks: 1-3,000 gallon & 1-280 gallon	outboard motor sales & service		1950	not reviewed, not adjacent		North	No		RP
1.08	1.08-3	delicatessen	new 1-story gas station replaced in 1955, tanks: 2-10,000 gallon & 1-550 gallon	gas station		1969	not reviewed, not adjacent	Yes	North	No		RP
1.09	1.085-1	auto and truck repair		auto and truck repair		1950, 1959	not reviewed, not adjacent		North	No		RP
1.2	1.2-1	electronics company					Three buildings: 1) 1-story office building, built 1948, forced air heat; 2) 2-story office building, built 1948, forced air heat; 3) 2-story office building, built 1977, forced air	Yes ⁴	North	Yes	Low	RP
1.3	1.3-1	cab company		truck staging yard		1950, 1969	not reviewed, not adjacent	Yes	North	No		RP
1.3	1.3-2	paint manufacturer		Aloha Street Substation-1917, Paint Manufacturer		1950, 1969	not reviewed, not adjacent	Yes	North	No		RP
10.01	10.01-1	clothes pressers, cleaners	2-story building with 3 stores & 7 Apartments, built 1925, hot water/oil burner	clothes pressers	1940, 1943, 1951, 1956		not reviewed, not adjacent		North	No		SC
10.05	10.05-1	sign painting	1-story building with 2 stores, built 1932, 2 stoves	sign painting		1950	2-story commercial building, built in 1932, no heat		North	Yes, North	Low	RP
10.05	10.05-2	gas station & auto repair	1-story gas station, built 1950, oil burner, tanks: 2-6,000 gallon, 1-4,000 gallon, 1-550 gallon	gas station & auto repair		1969, 1950	1-story commercial building, built 1977, Auto Body Repair & Painting		North	Yes, North	Low	RP
10.1	10.1-1	Service Garage	1-story service building/garage, built 1948, "headlights, brakes, & steering adjusting"	auto body shop	1956	1950	Lots 1-4, 2-story commercial building, heat pump, light industrial use		North	Yes, North	Low	RP
10.2	10.2-1	school district	1-story warehouse, office, & shops, built 1920, oil burner heat	maintenance shop	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985	1950, 1969	not reviewed, not adjacent	Yes	North	No		RP
20.01	20.01-1	auto body manufacturers / maintenance department & auto repairs	1- & 2-story factory building then warehouse & offices, built 1928, hot water/oil burner then gas furnaces	auto body manufacturers / maintenance department & auto repairs	1938, 1943, 1960, 1965, 1970, 1975	1969	not reviewed, not adjacent		North	No		RP
20.01	20.01-2	cleaners	1-story store & factory building, built 1927, remodeled 1929, stove for shop	cleaners	1989		not reviewed, not adjacent		North	No		SC
20.01	20.01-3	auto repair	1-story garage, built 1920, no heat	auto repair	1980, 1985, 1989	1950	not reviewed, not adjacent		North	No		RP
20.01	20.01-4	gas station	1-story gas station, built 1909, stove, tanks not listed	gas station	1938, 1940, 1943, 1951	1950	not reviewed, not adjacent		North	No		RP
20.01	20.01-5	convenience store	not available				not reviewed, not adjacent	Yes	North	No		RP
20.1	20.1-1	engine repair	1-story office & warehouse, built 1928, oil burner	engine repair	1985, 1989		1-story service garage, built in 1928, space heaters		North	Yes, North	Low	RP
20.1	20.1-2	engine repair	1-story store and garage, built 1937. Safeway in 1937 photo, parking garage in 1962 photo.	engine repair		1950, 1969	(Lots 5 & 6) 1-story office building, built 1937, HVAC		North	Yes, North	Low	RP
20.2	20.2-1	laundry	1-story building built 1925, heat not listed, demolished 1948/ 1-story building, built 1947 (additions to original building on lot 1?), 2 oil burners, gas pumps shown in photo, 2-6,000-gallon tanks, 2-550 gallon tanks, also includes garage (for delivery trucks?)	laundry	1938, 1940/ 1943, 1951, 1956, 1960, 1965		Three buildings: 1) laundry- built in 1925, 2) laundry- built in 1966, 3) garage -built in 1947.	Yes	North	Yes, North	Moderate	SC
20.2	20.2-2	auto repair	Associated with Laundry	auto repair		1950, 1969			North	Yes, North	Moderate	SC
20.2	20.2-3	gas station	1-story gas station, built 1931, stove heat, 2 wood grease pits, 2-1,400 gallon tanks, 2-3,500 gallon tanks, 1-550 gallon tank, & 2-5,000 gallon tanks, demolished 1966	gas station	1938, 1940, 1943, 1951, 1956, 1960	1950			North	Yes, North	Moderate	SC
20.2	20.2-4	garage, gas & oil	Associated with Laundry	garage, gas & oil		1950, 1969	3 buildings: 1) 2-story automotive center building, built 1925, hot water heat; 2) 2-story automotive services building, built 1966, hot water heat; 3) 1-story garage and repair building, built 1947, hot water heat		North	Yes, North	Moderate	SC
30.01	30.01-1	sheet metal works / gas engine rebuild	1-story showroom & warehouse building, built 1946, oil burner	sheet metal works / gas engine rebuild	1965, 1970, 1975, 1980, 1985, 1989	1950 / 1969	1-story industrial light manufacturing building, built 1946, forced air heat	Yes	North	Yes, North	Low	RP
30.01	30.01-2	cabinet shop	1-story woodworking shop, stove	cabinet shop		1950	4 buildings: 1) 2-story office building, built 1952, hot water heat; 2) 1-story office building, built 1952, hot		North	Yes, North	Low	RP

Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
30.01	30.01-3	gas station	1-story gas station & grease shop, built 1928, no heating system, tanks not listed	gas station	1938, 1940, 1951	1950	water heat: 3) 1-story office building, built 1952, hot water heat: 4) 2-story office building, built 1952, hot water heat		North	Yes, North	Low	RP
30.05	30.05-1	oil burner service	2-story store & offices, built 1941, hot water/oil burner; remodeled as warehouse & offices, 1953?	oil burner sales & service		1950	2 buildings: 2-story office building, built in 1941; and 1-story warehouse building, built 1953; both hot water heat		North	Yes, North	Low	RP
30.05	30.05-2	contractor's warehouse	1-story office & material yard, built 1945?, stove; new parking lot in 1962	contractor's warehouse, gas tank shown		1950	4-story hotel, built 1999, heat pump		North	Yes, North	Low	RP
30.1	30.1-1	gas station	1-story gas station, built 1930, demolished 1941?	gas station			1-story office & warehouse building, forced air heat, built in 1919.		North	Yes, North	Low	RP
30.1	30.1-2	varnish mfrs., laundry	1-story building, built 1919, boilers and cleaning department shown on record	varnish mfrs.	1940, 1943		(Lots 3-6) 3 commercial buildings: 1-story warehouse, built in 1946, no heat; 1-story factory, built in 1945, no heat; 1-story warehouse, built in 1926, space heaters		North	Yes, North	Moderate	SC
30.1	30.1-3	gas station and auto repair	1-story gas station, built 1930, demolished 1945?	gas station and auto repair	1938, 1940 / 1943				North	Yes, North	Low	RP
30.1	30.1-4	paint products, floor factory	1-story floor factory, built 1926, steam heat	paint products	1938				North	Yes, North	Low	RP
30.2	30.2-1	gas station and auto repair	1-story shop building built 1929, stove heat, used for auto repair, 1-story gas station built 1929, stove heat	gas station and auto repair	1938, 1940 / 1951, 1956, 1960	1950	vacant land		North	Yes, North	Low	RP
30.3	30.3-1	commercial sign painting/commercial printing/cabinet and sign	One masonry factory building built 1924, addition 1962, oil burner	Commercial sign painting/commercial printing/cabinet and sign	1975, 1980, 1985, 1989-90		One masonry building (industrial light mfg) built 1924, space heaters		North	Yes, North	Moderate	SC
30.3	30.3-2	State of Washington/sign company	Vacant lot from 1959 to 1973				Industrial (General Purpose)		North	Yes, North	Moderate	SC
30.3	30.3-3	sign company					masonry building built in 1920		North	Yes, North	Low	RP
30.3	30.3-4	gas station and auto repair	Gas station, built 1930, torn down 1956, stove heat				masonry building built in 1920		North	Yes, North	Low	RP
40.05	40.05-1	bus maintenance	1-story bus barn & offices, built date not recorded, hot water/oil burner	bus repair shop with fueling & machine shop	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985	1917, 1950, 1969	no current buildings	Yes	North	Yes, North	Low	RP
40.05	40.05-2	public utility		Substation & transformer house		1917, 1950	no current buildings		North	Yes, North	High	SC
40.1	40.1-1	machine shop		machine shop		1950	(Entire Block) Sports Facility		North	Yes, North	Low to Moderate	RP
40.1	40.1-2	gas station	Built in 1933, single story gas station, with stove.	gas station	1938, 1940 / 1951	1950			North	Yes, North	Low to Moderate	RP
40.1	40.1-3	auto repair		auto repair	1938	1950			North	Yes, North	Low to Moderate	RP
40.1	40.1-4	paint removing		paint removing	1938, 1940, 1943, 1951, 1956, 1960				North	Yes, North	High	SC
40.1	40.1-5	sports facility		paints		1950		Yes	North	Yes, North	Low to Moderate	RP
40.2	40.2-1	battery manufacturer	Built in 1928, listed as single story garage building with oil burner stove. Business is wholesale photographic distributors.	battery mfr.	1938		1-story building, built 1928, forced air heat; Silver Plating listed as business.		North	Yes, North	Moderate	SC
40.2	40.2-1	refinishing / silversmith / plating co.		refinishing / silversmith	1975, 1980, 1985, 1989		Plating/Glazers, 1-story retail/display warehouse and studio building, built 1928, forced air heat		North	Yes, North	Moderate	SC
40.2	40.2-1	auto service		auto service	1975		Plating/Glazers, 1-story retail/display warehouse and studio building, built 1928, forced air heat		North	Yes, North	Low	RP
40.2	40.2-2	printing / auto service	Built in 1930, listed as single story garage building/warehouse.	auto service / printing / auto service	1938, 1940 / 1956 / 1965, 1970, 1989	/ 1950 / 1969	1-story service garage, built 1930, space heaters		North	Yes, North	Low	RP
40.2	40.2-3	gas station	Built in 1934, single story service station, stove heat, addition in 1948.	gas station	1938, 1940, 1951	1950	parking lot		North	Yes, North	Low	RP
40.2	40.2-4	gas station	Built in 1930, single story gas station with stove. 1-2,000 gallon tank and 2-3,000 gallon tanks	gas station	1938, 1940, 1943-44, 1951, 1956	1950	No parcel number/ part of the roadway		North	Yes, North	Low	RP

Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
40.3	40.3-1	print shop	3-story bank building, built in 1956, oil heat, print shop in basement				3-story bank, built 1956		North	Yes, North	High	SC
40.3	40.3-2	auto repair	1-story repair garage, built 1957				not reviewed, not adjacent		North	Yes	Low	RP
40.4	40.4-1	natural gas company	E4 Garage built 1964, gas forced air heat / Repair garage-building #2, date built and heating not listed / Office and warehouse, built 1963-64 (to replace building D, torn down in 1964), oil burner / gas stand, built 1964, no heat / building C, built 1918, gas heat, torn down after 1951 / Building E, built 1909, gas heat, torn down 1964 (Building B also torn down 1964, no reference to when it was built or its heat)		1951, 1956, 1965, 1970, 1975, 1980, 1985, 1989-90		Two buildings: one reinforced concrete office building built 1963, forced air; one reinforced concrete parking and repair garage, built 1964, forced air		North	Yes, North	Low	RP
50.02	50.02-1	hotel supply	2-story store & warehouse, built 1918, hot water heat; then dairy building.		1950		Two buildings: 2-story garage and storage building, built in 1947, no heat; 2-story gymnasium/fitness center, built in 1994, warmed and cooled air.		North	Yes, North	Low	RP
50.05	50.05-1	autobody works & repairing, paint room	1-story garage, built 1947, paint shop noted, oil burner, auto rebuild noted, torn down 1962	autobody works & repairing, paint room		1950	Garage; masonry building built in 1947 and gymnasium constructed of prefabricated steel built in 1994		North	Yes, North	Low	RP
50.05	50.05-2	gas station & auto repair		gas station & auto repair	1938, 1940, 1943-44, 1951	1950	No parcel number/ part of the roadway		North	Yes, North	Low	RP
50.1	50.1-1	cleaners	Built in 1944-45, 1-story laundry with boilers and garage. Tank inventory includes 1-9,550 gallon fuel oil tank.	dry cleaning on 1950 Sanborn	1951, 1956, 1960	1950	parking lot		North	Yes, North	Moderate	SC
50.1	50.1-2	cleaning supply company	Built in 1924, listed as a two-story warehouse [furniture repair], with oil burner. Company provides dry cleaning supplies and laundry dyes.	cleaning supplies / furniture upholstery & paint spraying	1938, 1940	1950			North	Yes, North	Moderate	SC
50.1	50.1-3	auto repair		auto repair		1950, 1969			North	Yes, North	Low	RP
50.1	50.1-4	battery mfr.	Built in 1922, listed as two-story store building with stove.		1938, 1940, 1943, 1951, 1956				North	Yes, North	Moderate	SC
50.2	50.2-1	fuel dealer	Photograph shows small shed structure with fuel sign with price list. No other information available for the property.	fuel	1938, 1940, 1943		No buildings identified on this property		North	Yes, North	Low	RP
50.2	50.2-2	film processing	1-story warehouse, built in 1948, gas heat	film processing	1980		1-story commercial building, built 1948, currently listed as a print shop, space heaters.		North	Yes, North	Low	RP
50.2	50.2-3	sign painting	1-story warehouse, built 1924, steam, sawdust burner	sign painting		1969	parking lot		North	Yes, North	Low	RP
50.2	50.2-3	maintenance shop, oil co.	1-story warehouse, built 1924, steam, sawdust burner	maintenance shop		1950			North	Yes, North	Low	RP
50.2	50.2-4	food products					2-story industrial light manufacturing building, built 1900, hot water heat	Yes ⁴	North	Yes, North	Low	RP
50.3	50.3-1	print shop	Built in 1928, listed as two-story re-conditioned factory with oil burner		1951, 1956		not reviewed, not adjacent		North	No		RP
50.3	50.3-2	wood working / painting	2-story building, built 1928, steam heat	wood working / painting		1950	not reviewed, not adjacent		North	No		RP
50.3	50.3-3	auto factory	Built in 1930, listed as single-story warehouse with two oil burners. Floor plans indicate building once used as masonry factory garage.				not reviewed, not adjacent		North	No		RP
60.1	60.1-1	gas station	1-story service station, built 1958, oil burner; 1-6,000 gallon, 2-4,000 gallon & 2-500 gallon tanks, 1 hydraulic lift	gas station	1960	1950, 1969	Vacant Lot		North	Yes, North	Low	RP
60.1	60.1-2	gas station & auto repair	1-story gas station, built 1946, stove, 3-1,500 gallon tanks, 1 hoist; also 1-5,000 gallon, 1-20,000 gallon, 1-10,000 (diesel) gallon, & 1 oil tank (no volume)	gas station & auto repair		1950, 1969	1-story commercial building, built 1963, forced air heat		North	Yes, North	Low	RP
60.1	60.1-3	oil company	new 2-story shop & office building, built 1963-1964, hot air furnace/oil burner				1-story commercial building, built 1963, forced air heat		North	Yes, North	Low	RP

Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
60.1	60.1-4	dry cleaners	1-story building with balcony, store & warehouse building, built 1929, steam/oil burner; dry cleaning plant	dyers & cleaners	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970	1917, 1950, 1969	1-story building, built 1929, forced air heat; recorded as restaurant		North	Yes, North	Moderate	SC
60.2	60.2-1	public utility	Transfer yard and associated structures including: 1-story control building, built 1950, electric heat; 1-story shop, pump room, and crane tower, built 1950, electric heat	substation	1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985	1950, 1969	Broad Street Substation, 4 buildings, built 1950, all have electric heat. 1 control building, 1 crane tower, 1 shop, 1 pump room		North	Yes, North	Moderate	SC
60.3	60.3-1	hotel	1-story cleaning plant & laundry, built 1946, steam heat/oil burner; replaced by 3-story motel, built 1961, electric heat	gas station (Polk) / dry cleaners (Sanborn & Polk)	1938, 1940, 1951	1950	3-story motel, built in 1961, electric heat	Yes	North	Yes, North	Moderate	SC
60.4	60.4-1	auto repairs	1-story garage, built 1936, stove; 1-story workshop and office, remodeled garage 1956, hot water heat/oil burner	auto repairs	1938		(Entire block) 4-story building, built 1947, heat pump; used as radio and TV studio		North	Yes, North	Low	RP
70.05	70.05-1	fuel dealer	2 story attic, built 1897, hot air furnace, probably oil burner	fuel dealer	1938		1-story building, built 1962, package unit heating		North	Yes, North	Low	RP
70.05	70.05-2	heating equipment	1-story warehouse & store, built 1920, 2 oil burners, demolished 1960	sheet metal works with paints (Sanborn)	1940, 1943, 1951	1950	1-story building, built 1962, package unit heating		North	Yes, North	Low	RP
70.05	70.05-3	electroplating	1-story shop & offices, built 1895, oil burner heat, demolished 1960. Also 1-story residence, built 1895, stove heat, demolished 1948.	electroplating		1950	1-story building, built 1962, package unit heating		North	Yes, North	Moderate	SC
70.05	70.05-4	printers		printers	1956		1-story building, built 1962, package unit heating		North	Yes, North	Low	RP
70.1	70.1-1	gas station and auto repair	1-story gas station, built 1930, no heat (also grease shed), no info on tanks; demolished and rebuilt in 1959 for Union Oil, oil burner, tanks: 1-5,000-gallon, 1-2,000-gallon, 1-1,000-gallon	gas station & auto repair	1938,1940,1943,1951, 1956 / 1960, 1965, 1970, 1975	1950, 1969	parking lot		North	Yes, North	Moderate	SC
70.1	70.1-2	machine shop	1 story office & shop building, built 1945, stove	machine shop	1951, 1956, 1960, 1965, 1970, 1975 / 1980		1-story industrial building, built 1945, space heaters		North	Yes, North	Moderate	SC
70.4	70.4-1	cleaners, laundry	1 story store building, built 1930, steam heat/oil burner; remodeled 1944 as dry cleaner & laundry	Dry cleaners, note on Sanborn "cleaning fluid tank in ground"	1938, 1940 / 1943-44, 1951, 1956	1950	5-story motel building, built 1959, hot water heat		North	Yes, North	Moderate	SC
70.5	70.5-1	mfg. chemist, generators	1-story warehouse and factory, built 1950, gravity hot air furnace/oil burner	mfg. chemist / generators	/ 1975	1969 /	1-story water house, built in 1950, space heaters		North	Yes, North	Low	RP
70.5	70.5-2	commercial property					1-story industrial light manufacturing building, built 1952, forced air heat	Yes	North	Yes, North	Low	RP
70.5	70.5-3	gas station	1-story hotel, built in 1951, steam heat	gas station	1938, 1940, 1943-44		3 buildings: 1) 6-story hotel, built 1997, package unit heat; 2) 1-story motel, built 1947, hot water heat; 3) 2-story motel, built 1955, hot water heat		North	Yes, North	Low	RP
70.5	70.5-4	gas station	1-story gas station, built 1933, stove, 2nd building is "grease shed", no mention of tanks; torn down in 1955; replaced by 1-story warehouse and office building, built 1956, suspended gas steam heating units	gas station	1938, 1940	1950	1-story warehouse building, built 1956, space heaters		North	Yes, North	Low	RP
70.6	70.6-1	petroleum, asbestos goods, auto repair	1-story office and shop, built 1931, oil heat	asbestos goods / auto repair	1940 / 1943, 1951, 1956 / 1989		1-story industrial light manufacturing building, built 1931, hot water heat		North	Yes, North	Low	RP
70.6	70.6-2	printers	2-story office and shop, built 1954, oil burner, "service shop" noted	printers	1980, 1985, 1989		2-story office building, built 1954, forced air heat		North	Yes, North	Low	RP
70.6	70.6-3	auto repair, paints	3-story warehouse/garage, built 1933, oil heat	auto repair / paints	1938, 1940 / 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985	/ 1950, 1969	1-story masonry storage warehouse, built 1933, space heaters		North	Yes, North	Moderate	SC
80.5	80.5-1	restaurant	1-story gas and service station, built 1934, stove heat, torn down 1953; replaced by café, oil burner heat, built 1954	gas station	1938, 1940, 1943-44, 1951	1950	1-story convenience store with gas station, built 1998, heat pump	Yes	North	Yes, North	Low	RP
80.5	80.5-2	gas station, repairs	1-story restaurant/retail building, suspended gas heat, built 1941, torn down 1962; replaced by 1-story service station, built in 1961, oil burner heat, "tune-up" area; 1-6000 gallon tank, 1-550 gallon tank, 2 hoists	gas station / repairs	1956, 1985 / 1989	1950, 1969	1-story service garage, built in 1961, space heaters	Yes	North	Yes, North	Low	RP
80.5	80.5-3	gas station and auto repair	1-story gas station and repair shop, built in 1931, torn down 1942, stove heat, 2 pumps	gas station and auto repair	1938				North	Yes, North	Low	RP
80.6	80.6-1	auto repair & body works	1-story body works garage, oil burner heat, built 1945, torn down 1969	Auto Repair & Body works	1951, 1956, 1960, 1965	1950, 1969	1-story office building, built 1945, heat pump		North	Yes, North	Low	RP

Appendix C

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Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
80.6	80.6-2	gas station	1-story gas station, stove heat, built 1936, removed 1954; grease shed, oil service on gravel area, 3 pumps	gas station	1938, 1940, 1943-44, 1951	1950	(Lots 7 - 11) parking lot		North	Yes, North	Low	RP
80.6	80.6-3	gas station	1-story service station, built 1940, 2-2,000 gallon tanks, 4-1,500 gallon tanks, 1 hoist; 3 pumps, torn down in 1948				(Lots 7 - 11) parking lot		North	Yes, North	Low	RP
80.6	80.6-4	auto repair, gas station	1926: 1-story auto repair service, built in 1926, 3-550 gallon tanks, 1 hydraulic lift, torn down by 1943; replaced with 1-story gas station built 1943, stove heat, hoist, 1-1,000 gallon tank, 1-2,000 gallon tank, 1-8,000 gallon tank; tanks & buildings removed 1951; new repair garage built 1961	gas & oil, auto repair	1965, 1970, 1975, 1980, 1985, 1989	1950, 1969	1-story auto repair garage, built 1961, space heaters	Yes ⁴	North	Yes, North	Low	RP
80.6	80.6-5	commercial property	One-story office building built 1931, gas heat				1-story office building, built 1931, warmed and cooled air heat	Yes	North	Yes, North	Low	RP
90.00	90.00-1	oil company	docks (over water)				Commercial Tidelands		North Waterfront, Seawall	Yes, North Waterfront	Moderate	SC
90.01	90.01-1	paints	2-story store & warehouse building, built 1926, stove, hot water heat/date & fuel unknown but converted to gas in 1965	paints		1949, 1969	not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.02	90.02-1	mfg. chemists		mfg. chemists	1943		not reviewed, not adjacent		North Waterfront, Seawall	No		RP
90.02	90.02-2	wrecked auto yard	new parking lot, built 1961	wrecked auto yard		1969	not reviewed, not adjacent		North Waterfront, Seawall	No		RP
	see below	various businesses as listed below	5-story wholesale house(s), built 1927-1930, steam heat/fuel not recorded	factory building		1949, 1969	not reviewed, not adjacent		North Waterfront, Seawall	No		
90.02	90.02-3	soap mfrs., fuel company, chemical company		soap mfrs. / fuel	1938, 1940, 1943 / 1943		not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.02	90.02-4	machinery mfr., printing company, book binders & printers		mchy mfrs. // Book binders & printers	1943 / 1951, 1956, 1960, 1965 / 1943		not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.02	90.02-5	printers and lithographers, various print businesses through the years		printers and lithographers, various print businesses through the years	1938, 1940, 1943, 1951, 1956, 1960, 1970, 1975, 1980, 1985, 1989		not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.02	90.02-6	dry cleaning supplies, sheet metal		dry cleaning supplies	1943, 1951, 1956 / 1975		not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.02	90.02-7	mfg. chemists		mfg. chemists	1940, 1943		not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.03	90.03-1	explosives / printing	2-story factory building, built 1935, hot water heat/fuel not noted; remodeled in 1950 (added 3rd floor)	explosives / printing	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1989	1949, 1969	not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.03	90.03-2	gas station & auto repair	1-story service station, built 1937, stove; 3-1,000 gallon tanks; replaced by parking lot, 1965	gas station & auto repair	1938, 1940, 1943, 1951	1949			North Waterfront, Seawall	No		RP
90.04	90.04-1	metal tubing & fittings, chemical company	1-story store/warehouse building (3 stores), built 1926, stove	metal tubing & fittings (1949)	1960	1949	not reviewed, not adjacent		North Waterfront, Seawall	No		RP
90.04	90.04-2	machine shop	1-story warehouse building (2 rooms), built 1924, no heating system noted	machine shop		1969			North Waterfront, Seawall	No		RP
90.04	90.04-3	cabinet shop	2-story warehouse building, built 1927-30, remodeled 1952, hot water heat/oil burner	cabinet shop		1969	not reviewed, not adjacent		North Waterfront, Seawall	No		RP

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90.04	90.04-4	sheet metal works & welding	1-story factory/store building (1 office), built 1904, heating system not recorded, remodeled 1944, gravity hot air furnace/oil burner	sheet metal works & welding		1949	not reviewed, not adjacent		North Waterfront, Seawall	No		RP
90.04	90.04-5	auto service garage	1-story garage building, built 1925, stove						North Waterfront, Seawall	No		RP
90.04	90.04-6	commercial property					not reviewed, not adjacent	Yes	North Waterfront,	No		RP
90.1	90.1-1	oil company, plant/truck filling	various uses: 2 lube tanks on 12' concrete platform; roofed truck load rack (1951); boiler house with 2-300 high pressure boilers (buildings have steam heat) (1925); dehydrator building/pump house (1910, remodeled 1955); railroad loading rack (1916); warehouse (1 story) (1910) steam heat (lot 6); shop for barrel cleaning (lot 1 - 3032 Alaskan Way.) (1951), steam heat. 1-story storage and warehouse built in 1937 (remodeled in 1951); truck load rack in 1938; 1-story office built in 1916, oil burner heat; 1-room warehouse around 1937?, torn down 1962.	plant/truck filling	1938, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975	1949, 1969	land is vacant	Yes	North Waterfront, Seawall	Yes, both sections	Moderate	SC
90.1	90.1-2	service station	1 story "shop" built in 1928, tanks listed (illegible), stove heat; gas station built in 1928 (different than shop), stove heat; grease shed, 2 tanks, torn down 1956; 1-story garage (appears to be auto repair) built in 1946, no heat.		1938	1949, 1969	all of lots 5-6: Pub: 1-story restaurant built in 1976 with warmed and cooled air for heat	Yes	North Waterfront, Seawall	Yes, both sections	Low	RP
90.2	90.2-1	oil company	Bulk fuel storage facility, several aboveground storage tanks, and numerous buildings: 3-story office building built in 1924, steam heat; cart house, built in 1927; truck loading rack, built in 1927?; 1-story pump house built in 1927; 2-story office building, oil burner heat, built in 1949; 2-story warehouse, steam heat, built ?; and 1-story garage	numerous tank farms	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985	1949, 1969	vacant land	Yes	North Waterfront, Seawall	Yes, North Waterfront	Moderate	SC
90.2	90.2-2	asphalt co.	1-story warehouse built in 1939, oil burner heat			1905	1-story storage warehouse built in 1939, space heaters for heat		North Waterfront, Seawall	Yes, North Waterfront	Low	RP
90.3	90.3-1	sheet metal works	sheet metal shop, built 1912, gravity hot air heat, 2 stories	sheet metal works		1949	not reviewed, not adjacent		North Waterfront,	No		SC
90.3	90.3-2	sheet metal works	3-story sheet metal shop, built in 1910, suspended gas heat		1970	1949			North Waterfront,	No		SC
90.3	90.3-3	sheet metal works, auto, chemicals	1-story warehouse built in 1949, suspended gas fan	sheet metal works / auto chemicals	/ 1965, 1980	1949 / 1969			North Waterfront,	No		SC
90.3	90.3-4	plating works, metal works, printers-lithographers	2 buildings: 1-story retail, built in 1894, stove heat, sign indicates metal plating; 2-story building with stove heat, built in 1900	/ store fixtures / printers-litho	1938 / 1938 / 1980, 1985	1949 / /	not reviewed, not adjacent		North Waterfront, Seawall	No		SC
90.3	90.3-5	printers	1-story office space, built in 1895, stove heat		1980, 1985				North Waterfront,	No		RP
110.1	110.1-1	coal bunkers				1905	6-story office building, built in 1916, hot and chilled water for heat		North Waterfront, Seawall	Yes, both sections	Low	RP
110.1	110.1-2	can company	4-story factories (2 adjacent buildings) built in 1916 & 1925, steam heat	office and plants	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975				North Waterfront, Seawall	Yes, both sections	Moderate	SC
110.2	110.2-1	commercial property					not reviewed, not adjacent	Yes	North Waterfront, Seawall	No		RP
120.1	120.1-1	can company	1-story garage, built in 1931, no heat, tanks: 1-5600 gallon, 3-8500 gallon, 1-13,000 gallon (installed 1960); 1-5500 gallon, 2-8500 gallon, 1-10,000 gallon (installed 1961); 1-10,000 gallon (installed 1965)	garage		1949, 1969	not reviewed, not adjacent		North Waterfront, Seawall	No		RP
120.1	120.1-2	printers, lithographers	1-story factory, built in 1930, stove heat in basement, 1-550 gallon auto gas pump	print	1938, 1943-44 / 1975, 1980, 1985	1949 /	not reviewed, not adjacent		North Waterfront, Seawall	No		SC

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120.1	120.1-3	chemical distribution	2-story stores and loft, stove heat, built in 1902	chemical distribution	1970		not reviewed, not adjacent		North Waterfront,	No		RP
120.8	120.8-1	gas station	1-story service station, 3-1000 gallon tanks, 1-hoist, built -1943, torn down 1972	gas station	1956, 1970	1949, 1969	not reviewed, not adjacent		North	No		RP
130.1	130.1-1	radiator company	4-story factory built in 1910, gas fan heat				4-story vacant factory, built 1910, space heaters		North Waterfront, Seawall,	Yes, North Waterfront	Low	RP
130.2	130.2-1	residential property					not reviewed, not adjacent	Yes	North Waterfront, Seawall,	No		RP
130.3	130.3-1	laundry, printers, lithographers	3-story warehouse with oil burner heat, built in 1914		/ 1938, 1940, 1943-44, 1951, 1956, 1970 / 1965, 1970	1905 / 1949, 1969 / 1949, 1969	not reviewed, not adjacent		Central, Seawall	No		SC
130.3	130.3-2	commercial property	Lodge Hall built in 1954.				not reviewed, not adjacent	Yes	Central, Seawall	No		RP
130.4	130.4-1	gas station	1-story gas/service station, built 1950, 2-3000 gallon tanks, 1-2000 gallon tank, 1 hydraulic hoist, stove heat	gas station	1951, 1956, 1960, 1965, 1970, 1975	1969	not reviewed, not adjacent		North	No		RP
130.4	130.4-2	graphic art-lithography	1-story retail, oil burner, built in 1930; remodeled in 1969, still oil heat	graphic art-lithography	1989-90		not reviewed, not adjacent		North	No		RP
130.6	130.6-1	printers and lithographers	1-story factory, oil burner heat, built in 1930, printing business		1938, 1940, 1943-44, 1951, 1956, 1969, 1970, 1975	1905, 1949, 1969	not reviewed, not adjacent		North	No		SC
130.6	130.6-2	printers				1905	not reviewed, not adjacent		North	No		RP
130.6	130.6-3	fuel dealer, fuel yard	1-story 1-family dwelling, stove heat, built 1931, torn down 1949, comment: "Is used for fuel yard."	fuel dealer	1940, 1943		not reviewed, not adjacent		North	No		SC
130.6	130.6-4	apartments					not reviewed, not adjacent	Yes	North	No		SC
130.7	130.7-1	parking lot	4-story rooming house, coal stoker heat, built in 1904, demolished 1962; replaced by 1-story office & used car lot, built in 1962, 1-1000(?) gallon tank; gas station noted, built 1941(?)	gas & oil		1949	not reviewed, not adjacent	Yes	North	No		RP
130.7	130.7-2	auto body garage, painting	1-story garage, built 1946, oil burner heat, 1-hoist listed	auto body/painting		1969			North	No		RP
130.7	130.7-3	auto sales & service	1-story garage, built 1946, car repair area noted on drawing of building	auto sales & service		1949	not reviewed, not adjacent		North	No		RP
130.8	130.8-1	dry cleaners, printer, auto repair	garage and storage, 2-stories, built 1949-50, 2-1000 gallon tanks listed, no heat listed	dry cleaners / printer	1951 / 1965 / 1970	/ 1969 /	not reviewed, not adjacent		North	No		SC
130.9	130.9-1	gas station	auto service/gas station built 1934, stove heat, 3-1,000 gallon tanks; 1959: station remodeled - oil burner heat, 4-4,000 gallon tanks, 1-1,000 gallon tank, 1-550 gallon tank, 2 hoists	gas station	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975	1949, 1969	parking lot (vacant land)		North	Yes, North	Low	RP
140.05	140.05-1	service station	pier 12, oil noted as leasor, smokstack noted in picture, Docks, no other details, torn down at some point	gas station	1943 / 1951, 1956	1949	Hotel (lots 3-8): 4-story motel built in 1961, heat pump		North Waterfront, Seawall	Yes, both sections	Low	RP
140.2	140.2-1	auto repair	1-story garage built in 1925, stove heat, 1-3000 gallon tank and 2-1000 gallon tanks	auto repair garage			5-story condominium building, built 1992, electric wall heat.		Central, Seawall	Yes, Central	Low	RP
140.3	140.3-1	public utility	possible transformer station, built in 1957, torn down -1962				Apartments, 8-story apartments, built 1998, electric wall heat		Central, Seawall	Yes, Central	Moderate	SC
140.3	140.3-2	trunk mfrs.	2-story store and loft, stove heat, built in 1912	mfrs.	1938	1949, 1969	2-story office building, built 1912, heat pump heat		Central, Seawall	Yes, Central	Moderate	SC
140.3	140.3-3	ink and chemical company	2-story hotel & retail building, coal stoker heat, built 1909		1956, 1960		2-story hotel building, built 1909, hot water heat		Central, Seawall	Yes, Central	Low	RP
140.3	140.3-4	laundry and cleaners	3-story hotel & retail building built in 1889, stove heat		1938, 1940 / 1956, 1960, 1965, 1985, 1989-90	1969	3-story mixed use retail with hotel room building, built 1900, no heat		Central, Seawall	Yes, Central	Moderate	SC
140.4	140.4-1	oil burner service, cleaning compounds, printers	hotel and retail building, 2 stories, oil burner, built 1910	cleaning compounds / printers	1938, 1940 / 1951 / 1980		8-story mixed-use retail condo, built 1994, electric heat		North	Yes, North	Moderate	SC

Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
140.4	140.4-2	color film processing laboratory	2-story retail building, oil burner heat, built in 1927	film exchange-entire west side of street (Sanborn)	1975, 1985	1949, 1969			North	Yes, North	Moderate	SC
140.5	140.5-1	postal service					Surface parking lot, vacant land	Yes ⁴	North	Yes, North	Low	RP
140.6	140.6-1	chemical company	2-story rooming house with stove heat, built in 1890, torn down 1946; 2-story commercial building with 2 oil burners for heat, built 1947	chemicals	1975, 1980, 1985		1-story retail and office, built 1946-1947, hot water heat		North	Yes, North	Low	RP
140.7	140.7-1	printers	1-story retail building, stove heat, built 1925	printers	1970, 1975, 1980 / 1975	1969 / 1969	Apartments (all lots): 6-stories, built 1998, electric heat		North	Yes, North	Low	RP
140.7	140.7-2	apartments	1-story gas station, stove heat, built in 1927-1928, 1-1,000 gallon tank, 1-550 gallon tank, 1-hydraulic hoist, torn down -1960?	auto repair / dry cleaners	1938, 1943 / 1951, 1956, 1965, 1970	1949 / 1970		Yes	North	Yes, North	Low	SC
140.7	140.7-3	auto repair	1-story auto repair garage, stove heat, built 1914, torn down 1953		1938, 1940				North	Yes, North	Low	RP
140.8	140.8-1	gas station		gas station	1938, 1940, 1943-44		3-story office, built 1947, complete HVAC heat		North	Yes, North	Low	RP
140.8	140.8-2	newspaper	newspaper plant, built 1947-1948, oil burner heat, presses and ink storage			1949, 1969		Yes	North	Yes, North	Moderate	SC
140.9	140.9-1	gas station & auto repair	1-story repair shop, built 1939, torn down 1971, stove heat, 1-hydraulic lift	gas station & auto repair	1940, 1943, 1951, 1956, 1960, 1965	1949, 1969	parking lot (vacant land)		North	Yes, North	Low	RP
141.1	141.1-1	car wash	Maxwell Motors, used car lot with 1-story office, built in 1938, stove heat; 1-story car wash added 1956	gas station	1938, 1940, 1951, 1956, 1960		Car Wash (no details on buildings)	Yes	North	Yes, North	Low	RP
141.2	141.2-1	service station	2-story gas station, built 1934, no heat, 1-3,000 gallon tank, 3-3,000 gallon tanks, 4-1,500 gallon tanks, 1-hoist	gas station	1938, 1940		parking lot (vacant land)		North	Yes, North	Low	RP
150.1	150.1-1	service station	service station and parking, built in 1947, torn down 1949, stove heat in 1 story, 1 room office, 2-550 gallon tanks				6-story apartments, built 1990, forced air unit heat		Central, Seawall	Yes, Central	low	RP
150.1	150.1-2	auto repair garage	2-story repair garage and offices, built in 1955-56, pistol range inside, truck washing area; 10,000 gallon UST added in 1972				3-story office, built 1990, complete HVAC heat		Central, Seawall	Yes, Central	Low	RP
150.1	150.1-3	lumber and manufacturing company	3-story loft built in 1908; manufacture wood products		1938, 1940, 1943		lots 9-10: 3-story storage warehouse, built in 1908, space heaters; lots 11-12: no building records, listed on map ascondominium		Central, Seawall	Yes, Central	Moderate	SC
150.1	150.1-4	laundry	3-story building, built in 1915, large steam plant for laundry purposes		1938, 1940, 1943		lots 11-12: no building records, listed on map ascondominium		Central, Seawall	Yes, Central	Moderate	SC
150.2	150.2-1	public utility	power substation, built in 1958	substation	1980		parking lot		Central, Seawall	Yes, Central	High	SC
150.4	150.4-1	gas station	1-story gas station and parking lot, 1-story (1 room) shed, 1-3,000 gallon tank, 1-1,500 gallon tank, built ?	gas station	1938		parking lot (vacant land)		North	Yes, North	Low	RP
150.4	150.4-2	printing company, film processing	2-story building, constructed in 1937, oil burner heat		/ 1965, 1970, 1975, 1980	1949, 1969 /	2-stories, built 1937, radiant hot water heat		North	Yes, North	High	SC
150.4	150.4-3	printing company	3-story warehouse, built in 1955-56, suspended gas heat				2-story retail/rooming house, built 1955, electric heat		North	Yes, North	Low	RP
150.4	150.4-4	laundry/hotel	2-story masonry building constructed in 1900				3-story building, mixed use retail with residential units, built 1900, electric wall heat	Yes	North	Yes, North	Low	RP
150.5	150.5-1	auto rebuild	2-story "garage", built in 1921, "paint spray room" noted on 2nd floor, steam heat	auto body works and painting	1951, 1956, 1960, 1965, 1970	1949, 1969	2-story retail (fire destroyed in August-2001), built 1921, hot water heat		North	Yes, North	Moderate	SC
150.5	150.5-2	film processing	1-story retail, built 1928, 2 oil burners for heat	film exchange		1949, 1969	lot 3: 1-story retail, built 1928, hot water heat; lot 4: 2-story office/restaurant, built 1925, hot water heat		North	Yes, North	Moderate	SC
150.5	150.5-3	auto service	1-story garage, built 1907, no heat, signs denote "used cars", "service"; remodeled into offices 1971	auto repairs/body and fender shop	1938, 1940, 1943, 1951, 1956, 1960, 1980 / 1985, 1989		1-story retail, built 1907, space heaters	Yes	North	Yes, North	Low	RP
150.5	150.5-4	auto repairs, auto rebuild	1-story garage, built 1926, stove heat, torn down 1947		1938, 1940, 1943		1-story retail, built 1926, forced air unit for heat		North	Yes, North	low	RP

Appendix C

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Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
150.5	150.5-5	film processing	1-story plant, built 1926, oil burner heat, torn down 1962, also a dance hall, church, and bowling alley	film developing		1969	5-story apartments, built 1990, electric wall heat		North	Yes, North	Moderate	SC
150.5	150.5-6	credit union					International organization, 1-story open office building, built 1951, hot water-radiant heat	Yes ⁴	North	Yes, North	Low	RP
150.6	150.6-1	publishing company, battery company, printing company, fuel oil I/ST	1-story warehouse, built 1924, stove heat, 1-6,000 gallon fuel oil tank, several businesses over time but predominantly news printing				1-story retail/storage warehouse, built 1935, hot water heat; 1-story open office, built 1924, hot water heat		North	Yes, North	Low	RP
150.6	150.6-2	commercial property	1-story building, built 1936, service station, then upholstery shop, 3 tanks in drawing from 1937, 2 tanks noted on card in year 1958	gas & oil	1938, 1940, 1943 / 1951, 1956, 1960, 1965	1949, 1969	1-story warehouse, built 1914, hot water heat	Yes	North	Yes, North	Low	RP
150.6	150.6-3	printers	1-story warehouse and store, oil burner heat, built 1914	printing	1943-44, 1975, 1980, 1985		1-story vacant office/warehouse building, built 1914, hot water heat		North	Yes, North	Moderate	SC
150.7	150.7-1	cleaners	1-story retail with dry cleaners, built ~1925, steam heat				1-story retail, built 1924, space heaters		North	Yes, North	Moderate	SC
150.7	150.7-2	fire station					2-story fire station, built 1922, space heaters	Yes	North	Yes, North	Low	RP
150.7	150.7-3	oil burners, gas pumps	1-story store and warehouse, built 1913, 2 oil burners for heat	oil burners / gas pumps	1943 / 1943		vacant land		North	Yes, North	Low	RP
150.7	150.7-4	auto repair, battery company	1-story garage, built 1915, stove heat				vacant land		North	Yes, North	Low	RP
150.7	150.7-5	dry cleaners, oil burners, printers	1-story retail building, built 1926, stove heat	dry cleaners / oil burners / printers / printers	1938, 1940 / 1940 / 1970 / 1975		vacant land		North	Yes, North	Moderate	SC
150.8	150.8-1	gas station	1-story office and car lot, stove heat, built 1945	gas station	1938, 1940		auto showroom, 1-story, built 1978, space heaters		North	Yes, North	Low	RP
150.8	150.8-2	automobile dealership						Yes, UST	North	Yes, North	Low	RP
150.9	150.9-1	auto body and paint shop	1-story retail and service building, built 1936, oil burner heat; B.F. Goodrich sign denotes battery and brake service	auto repairs	1980 / 1989		1-story garage, built 1936, space heaters		North	Yes, North	Low	RP
151.1	151.1-1	automobile dealership	Used car lot, built 1950, torn down 1965; 1-story auto dealership, built in 1965 (service area, wash area, and hoist in drawing)	auto sales & service		1969	not reviewed, not adjacent	Yes	North	No		RP
151.1	151.1-2	auto repairs	1-story office, stove heat, built 1950, torn down 1965, looks like auto repair shop				not reviewed, not adjacent		North	No		RP
151.1	151.1-3	paints	1-story retail building, built 1943, stove heat, torn down 1952	paints		1949	not reviewed, not adjacent		North	No		RP
160.1	160.1-1	commercial building		location mapped per HartCrowser Figure 3, J-3447, Environmental Assessment Site Plan 3/92			8-story hotel building, built 2003, complete HVAC system	Yes	North Waterfront, Seawall	Yes, both sections	Low	RP
160.1	160.1-2	Pier 66		location mapped per HartCrowser Figure 3, J-3447, Environmental Assessment Site Plan 3/92				Yes	North Waterfront, Seawall	Yes, both sections	Low	RP
160.2	160.2-1	paints	1-story paint store with oil burner heat, built in 1950	paints	1951, 1956, 1960, 1965, 1970		6-story apartments, built 1994, electric wall heat units		Central, Seawall	Yes, Central	Moderate	SC
160.2	160.2-2	machine shop	1 story shop with stove heat, built in 1914, torn down 1957				2-story office building, built 1957, forced air unit heat		Central, Seawall	Yes, Central	Moderate	SC
160.3	160.3-1	wood products company	3-story warehouse, steam and sawdust burner heat, built in 1909, wood products co. (molding and finishing)				Hotel condominiums, per map		Central, Seawall	Yes, Central	Low	RP
160.3	160.3-2	wagon and carriage	2-story building constructed in 1904, blacksmith, auto rebuild, welding, torn down for Alaskan Way in 1969				parking lot		Central, Seawall	Yes, Central	Moderate	SC

Appendix C

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160.3	160.3-3	dye works	2-story retail & apartments with stove heat, built in ~1908, torn down in 1968	dye shop	1938, 1940		Apartments: 16-stories, built 1970, electric wall heat		Central, Seawall	Yes, Central	Low	RP
160.3	160.3-4	machinery company	2-story warehouse built in 1904, stove heat	machine shop	1975, 1980		2-story retail/offices, built 1913, warmed and cooled air for heat		Central, Seawall	Yes, Central	Low	RP
160.3	160.3-5	hotel/plating company		electroplating	1960		Hotel, 3-story building with mixed retail and residential units, built 1900, hot water heat	Yes	Central, Seawall	Yes, Central	Moderate	SC
160.3	160.3-6	auto body shop	4-story garage (storage), built in 1908, no heat	(body shop)	1970, 1975		lots 9 & 12: furniture store, 5-story warehouse, built 1909, space heaters		Central, Seawall	Yes, Central	Low	RP
160.4	160.4-1	printers	2-story store and loft, oil burner heat, built 1930	printers	1938, 1940, 1943-44, 1951, 1960, 1970, 1975, 1980, 1985, 1989-90		not reviewed, not adjacent		Central	No		SC
160.4	160.4-2	laundry	1-story retail building with stove heat, built 1920	laundry	1940, 1943-44, 1960	1905, 1949	not reviewed, not adjacent		Central	No		SC
160.4	160.4-3	printers	3-story hotel and retail building, oil burner heat, built 1909		1975, 1980		not reviewed, not adjacent		Central	No		RP
160.4	160.4-4	printers	3-story hotel & retail building, oil burner heat, built 1910		1951		not reviewed, not adjacent		Central	No		RP
160.4	160.4-5	sheet metal mfg. co.	2-story retail and rooms, stove heat, built 1910	sheet metal mfg co.	1940		not reviewed, not adjacent		Central	No		RP
160.4	160.4-6	commercial printing	2-story retail and rooms, stove heat, built 1907	commercial printing	1970		not reviewed, not adjacent		Central	No		RP
160.5	160.5-1	auto repair	1-story warehouse/retail, built in 1924	auto repair	1951, 1956, 1960, 1965, 1970		not reviewed, not adjacent		North	No		RP
160.5	160.5-2	auto repairs, sheet metal works	1-story garage, stove heat, built 1919; "sheet metal" sign noted in picture	auto repairs / sheet metal works	1940 / 1943		not reviewed, not adjacent		North	No		RP
160.5	160.5-3	printers, machine shop	1-story café and garage, built 1924, stove heat	printers	1943 / 1960		not reviewed, not adjacent		North	No		RP
160.5	160.5-4	gas station	1-story gas station, stove heat, built in ~1911, demolished 1955, 3 pumps, 1-hydraulic lift, 1-550 gallon tank, new tanks noted in 1953	gas station	1938, 1940, 1943, 1951		not reviewed, not adjacent		North	No		RP
160.5	160.5-5	auto repair	1-story garage, stove heat, built 1920				not reviewed, not adjacent		North	No		RP
160.6	160.6-1	apartments					not reviewed, not adjacent	Yes	North	No		RP
160.6	160.6-2	lithographer, printing	2-story office building, built 1929, oil heat	lithographer	1956 / 1960		not reviewed, not adjacent		North	No		RP
160.6	160.6-3	public utility	1-story gas station, stove heat, built 1926, torn down 1957, 1-250 gallon tank				not reviewed, not adjacent	Yes	North	No		RP
160.6	160.6-4	gas station equipment, auto repair and painting	1-story garage, stove heat, built 1924, auto repair, auto painting	gas station equipment	1951		not reviewed, not adjacent		North	No		RP
160.6	160.6-5	laundry, cleaners and clothes pressers, chemical mfrs.	1-story retail building, built 1922, stove heat, laundry, sign shop; 2.5-story apartments in rear, oil burner heat, built 1900, torn down 1969	laundry / cleaners and clothes pressers / chemical mfrs.	1940 / 1940, 1960 / 1951		not reviewed, not adjacent		North	No		SC
160.7	160.7-1	elevator co., factory	1-story shop/factory, built 1923, steam heat				not reviewed, not adjacent		North	No		RP
160.7	160.7-2	auto repairs, oil company, painting company, general contractors	1-story office/retail building	auto repairs / general contractors	1938 / 1951 / 1985		not reviewed, not adjacent		North	No		RP
160.7	160.7-3	metal works	1-story office building, built 1946, oil burner heat	metal works	1956, 1960, 1965		not reviewed, not adjacent		North	No		RP
160.8	160.8-1	construction company, used car lot	1-story office for used car lot, built 1947, stove heat				not reviewed, not adjacent	Yes	North	No		RP
160.8	160.8-2	mfr. of printing plates, engraving	2-story print shop, built 1948, electric heat	mfr. of printing plates	1975		not reviewed, not adjacent		North	No		SC
161.1	161.1-1	auto dealership	1-story retail building, built 1953, oil burner heat, 2 hydraulic hoists				not reviewed, not adjacent		North	No		RP
170.1	170.1-1	gas station	2 story retail & apartments, oil burner & steam heat, 10'x16' boiler room in basement with fire door, built ~1910, torn down 1966 for parking lot	gas station	1938, 1940	1949	condominiums, per map		Central, Seawall	Yes, Central	Low	RP

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170.3	170.3-1	gas station, auto repair	1-story gas station built in 1930 with stove heat and 1 hydraulic hoist; 5-3000 gallon tanks, 1 grease pit, 3 auto pumps; 1 story auto repair shop with stove heat and 1-2-stem hydraulic lift; built in 1930	gas station /auto repair	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970 / 1975, 1980	1949, 1969	not reviewed, not adjacent		Central, Seawall	No		RP
170.3	170.3-2	cleaners and dyers	1-story retail building with stove heat, built in ~1914	cleaners and dyers	1951, 1960, 1965		not reviewed, not adjacent		Central, Seawall	No		SC
170.3	170.3-3	oil burner co., mfg. chemists	3 retail spaces in 1 story building, constructed in 1926, oil burner & steam heat	/ mfg chemists	1938, 1940, 1943-44, 1951, 1960, 1965 / 1943-44		not reviewed, not adjacent		Central, Seawall	No		RP
170.3	170.3-4	repair garage	2-story repair garage built in 1902 (no heat)		1938		not reviewed, not adjacent		Central, Seawall	No		RP
170.3	170.3-5	auto repairs	2-story auto repair warehouse built in 1923	auto repairs	1938		not reviewed, not adjacent		Central, Seawall	No		RP
170.3	170.3-6	sheet metal works	3-story hotel and retail building, built in 1903, steam heat	sheet metal works	1938, 1940, 1943-44		not reviewed, not adjacent		Central, Seawall	No		RP
170.4	170.4-1	paints	1-story retail building, built in 1925, stove heat		1938, 1940, 1960		not reviewed, not adjacent		Central	No		SC
170.4	170.4-2	clothes cleaners	2-story retail building, stove heat, built in 1927	clothes cleaners	1938, 1940, 1943, 1951		not reviewed, not adjacent		Central	No		SC
170.4	170.4-3	printers	3-story apartments and retail building, built in 1910, oil burner heat				not reviewed, not adjacent		Central	No		RP
170.4	170.4-4	gas station	parking lot with 1-story gas station, stove heat, built in 1926, 1 hydraulic hoist, 2-550 gallon tanks	gas station	1938, 1940	1949, 1969	not reviewed, not adjacent		Central	No		RP
170.4	170.4-5	auto repairs, gas station, lubrication dept	1-story service station, built in 1917, oil burner heat, 2-5000 gallon tanks	auto repairs / gas station / lubrication dept	1938, 1940, 1943 / 1960, 1965, 1970, 1975 / 1965	1949, 1969	not reviewed, not adjacent		Central	No		RP
170.4	170.4-6	auto body shop, laundry	2-story garage and store, stove heat, built 1920	auto body shop	1938 / 1938 / 1969		not reviewed, not adjacent		Central	No		RP
180.2	180.2-1	service station	1-story gas station, built 1936, stove heat, 3 gas tanks	gas station	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970	1949, 1969	lots 1-4 & 10-12 of blocks 35 & 36; Pike Place Market, historic property, vacant land		Central, Seawall	Yes, Central	Low	RP
180.3	180.3-1	service station	1-story service station, built in the 1950s, stove heat, 3-6000 gallon tanks	gas/ filling station	1943-44	1969	not reviewed, not adjacent		Central, Seawall	No		RP
180.3	180.3-2	commercial printing	1-story retail building with stove heat built in 1904	commercial artist printing agency/ commercial printing	1970		not reviewed, not adjacent		Central, Seawall	No		RP
180.3	180.3-3	tailors and cleaners	2-story apartments and shop, built in 1911?, no heat	machinists	1938, 1940 / 1938, 1940 / 1956, 1960, 1965			Yes	Central, Seawall	No		SC
180.4	180.4-1	auto repairs & gas station	2-story parking garage with gas & oil, built 1918, steam heat	auto repairs & gas station / fueling	1943-44 /	1949 / 1969	not reviewed, not adjacent		Central	No		RP
180.4	180.4-2	printers	6-story hotel and retail building, built in 1909, hot water heat	printers	1943, 1951, 1960, 1980, 1989				Central	No		SC
180.4	180.4-3	construction site	1-story retail building, built 1914, torn down 1968; 1 story retail building built in 1920, torn down 1953; 2-2,000 gallon tanks noted; gas station on Virginia St.		1938, 1940, 1943-44 / 1951, 1940		not reviewed, not adjacent	Yes	Central	No		RP
180.4	180.4-4	gas station	4-story hotel, built 1910, torn down 1972, oil burner and stove heat	fueling		1949			Central	No		RP
190.1	190.1-1	industrial property					Condominiums, three 5-story buildings, built 1997, heat source unknown	Yes	North Waterfront, Seawall	Yes, both sections	Low	RP
190.2	190.2-1	gas station	1-story gas station built in 1919 with 1-550 gallon tank	gas station	1938, 1940		Pike Place Market Park		Central, Seawall	Yes, Central	Low	RP
190.2	190.2-2	auto repair		auto repair		1969			Central, Seawall	Yes, Central	Low	RP
190.2	190.2-3	printers		printers	1956, 1960, 1951				Central, Seawall	Yes, Central	Low	RP

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Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
190.2	190.2-4	gas station, metal plating	1-story gas station built in 1925, stove heat, 3-750-gallon tanks; located under current Alaskan Way Viaduct (the station was torn down to build the freeway); metal plating business formerly in adjacent retail building torn down for Viaduct.				no record available		Central, Seawall	Yes, Central	Moderate	SC
190.3	190.3-1	parking lot	parking lot with 1-550 gallon gas tank, built 1928			1949	not reviewed, not adjacent		Central, Seawall	No		RP
190.3	190.3-2	laundrette	3-story hotel/retail, built in 1901, oil burner and steam heat, sign indicating tailor/dye shop		1960		not reviewed, not adjacent		Central, Seawall	No		SC
190.3	190.3-3	auto repair garage, possible gas station	1-story warehouse constructed in 1925, stove heat, 1-250 gallon gas tank				not reviewed, not adjacent		Central, Seawall	No		RP
190.3	190.3-4	printing company	5-story hotel built in 1913-14 with oil burner heat in addition to steam		1956, 1960, 1965, 1970, 1975		not reviewed, not adjacent		Central, Seawall	No		RP
190.4	190.4-1	printers		printers	1943-44, 1951		not reviewed, not adjacent		Central	No		RP
190.4	190.4-2	printers			1938		not reviewed, not adjacent		Central	No		RP
190.4	190.4-3	Parking Facility	Parking and Service garage	auto repairs	1989	1969	not reviewed, not adjacent	Yes	Central	No		RP
190.4	190.4-4	clothes pressers and dyers	1-story retail building built 1908, torn down 1958	clothes pressers	1938, 1940		not reviewed, not adjacent		Central	No		SC
190.4	190.4-5	parking garage with gas station	1-story parking garage, signs for fuel service; built in 1909, torn down 1949				not reviewed, not adjacent		Central	No		RP
190.4	190.4-6	gas station	2-5,000 gallon storage tanks, built 1959, torn down 1970				not reviewed, not adjacent		Central	No		RP
190.4	190.4-7	clothes cleaners		clothes cleaners	1938, 1940, 1943-44, 1951, 1956		not reviewed, not adjacent		Central	No		SC
190.4	190.4-8	parking lot with fuel service		fueling		1969	not reviewed, not adjacent		Central	No		RP
190.4	190.4-9	cordage mfrs., textile mfrs.	11-story retail/display building, built 1923, steam heat	cordage mfrs. / textile mfrs.	1940, 1943-44, 1951 / 1943-44 / 1951 / 1951 / 1960 / 1960, 1965, 1970 / 1965, 1970, 1975 / 1965/1970		not reviewed, not adjacent		Central	No		SC
200.1	200.1-1	clothes cleaners	3-story hotel and retail building constructed in 1909; stove heat	clothes cleaners	1956, 1960, 1965, 1975		not reviewed, not adjacent		Central, Seawall	No		SC
200.1		laundry	3-story retail and hotel built in 1908, stove heat		1938, 1940, 1943-44				Central, Seawall	No		SC
200.2	200.2-1	cleaners	Lot 8 permit was obtained for a new oil burner and furnace.		1975		not reviewed, not adjacent		Central	No		SC
200.2	200.2-2	printers, clothes pressers	6-story hotel and retail, built in 1909, steam heat	clothes pressers	1938 / 1938, 1940		not reviewed, not adjacent		Central	No		SC
210.1	210.1-1	iron works	1-story shop built in 1947, stove heat, chain hoist, grease pit	metal finishing & plating		1969	2-story office, built 1947, electric heat; portion of lot is parking lot.		North Waterfront, Seawall	Yes, both sections	High	SC
210.1	210.1-2	service station	1-story gas station built in 1935 with stove heat; tanks listed: 1 4000 gallon, 2-3000 gallon, 1-280 gallon, 1-hydraulic lift	gas station	1938, 1960, 1965, 1970	1949, 1969	lots 1-5: parking lot		North Waterfront, Seawall	Yes, both sections	Low	RP
210.1	210.1-3	auto repair		auto repair		1949			North Waterfront,	Yes, both sections	Low	RP
210.2	210.2-1	retail and office building	7-story retail, loft, café built in 1915 with stove heat and suspended gas and 1 steam pipe	labels / printing	1965, 1970, 1975		6-story retail/office, built 1915, heat pump.		Central, Seawall	Yes, Central	Low	RP
210.3	210.3-1	sheet metal works	1-story market, built 1908, (steam heat)		1938, 1940		not reviewed, not adjacent		Central, Seawall	No		RP
210.5	210.5-1	printers	printing, built 1922, torn down in 1962				not reviewed, not adjacent		Central	No		SC
210.5	210.5-2	cleaners and blockers	2-story office and retail building, steam heat	cleaners and blockers	1951, 1956, 1960, 1965, 1970		not reviewed, not adjacent		Central	No		SC
220.1	220.1-1	gas station		gas station & auto parking	1938		no tax assessor records for this block, roadway		Central, Seawall	Yes, both sections	Low	RP
220.1	220.1-2	fuel and transfer co.		auto freight	1940		no tax assessor records for this block, roadway		Central, Seawall	Yes, both sections	Low	RP

Appendix C

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220.2	220.2-1	iron works/auto repair	1-story machine shop built in 1918: auto repair, electric blacksmithing, acetylene welding, machine work				2-story retail/apartments/storage, built 1925 / condo?		Central, Seawall	Yes, Central	Low to Moderate	RP
220.2	220.2-2	motor oil company	1-story gas station with 1-300 gallon tank and 2-550 gallon tanks, stove heat inside, built 1932, torn down 1965				Condominium, 4 5-story buildings, built 1982, electric heat		Central, Seawall	Yes, Central	Low	RP
220.2	220.2-3	truck service		truck service		1969	2-story storage warehouse building, built 1951, space heaters		Central, Seawall	Yes, Central	Low	RP
220.3	220.3-1	auto laundry, car wash		auto laundry / car wash	1938		not reviewed, not adjacent		Central, Seawall	No		RP
220.3	220.3-2	dry cleaners	4-story hotel built in 1910 with an oil burner for heat		1951		not reviewed, not adjacent		Central, Seawall	No		SC
220.3	220.3-3	clothes cleaners	1-story retail built in 1925 with heat described as "stove-suspended gas"	clothes cleaners	1956, 1970, 1975		not reviewed, not adjacent		Central, Seawall	No		SC
220.4	220.4-1	paints	former building, oil burner/steam heat		1940		not reviewed, not adjacent		Central	No		RP
220.4	220.4-2	printers	5-story retail & loft building, built 1910		1938, 1940, 1943-44, 1951, 1956, 1960, 1970, 1975, 1980, 1985	1969	not reviewed, not adjacent		Central	No		SC
220.4	220.4-3	dry cleaners		dry cleaners	1989-90		not reviewed, not adjacent		Central	No		SC
220.4	220.4-4	retail business	5-story department store, built in 1930				not reviewed, not adjacent	Yes	Central	No		RP
230.2	230.2-1	power company	1-story building with basement built in 1895 (fronts Western) also 1-story boiler house built in 1955 with "oil tank retention wall" noted in drawing (AST)	(steam plant)	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989-90		2-story industrial light manufacturing (built 1900) and 1-story storage warehouse (built 1918)	Yes	Central, Seawall	Yes, Central	High	SC
230.2	230.2-2	power company	2-story coal pulverizing plant built in 1918						Central, Seawall	Yes, Central	Low	RP
230.2	230.2-3	truck service	1-story gas & service station built in 1950 with 3-3,000 gallon tanks, steam heat	gas station	1956, 1960, 1956, 1970	1969	Western & University surface parking lot (vacant)		Central, Seawall	Yes, Central	Low	RP
230.3	230.3-1	public utility	2-story substation on lot 1 with steam heat, built 1912 (demolished 1971); 1-story fuel house, no heat, built 1922? (demolished 1971); 1-story shed with chimney (for heat?) (demolished 1965); 2-story open roof bunker built -1922; tank in 1965; 1-story coal bunkers built 1940	plant, substation, and shop	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989-90	1949, 1969	not reviewed, not adjacent		Central, Seawall	No		SC
230.3	230.3-2	auto repairs	1-story parking garage & retail building, built 1928	auto repairs	1956, 1960		not reviewed, not adjacent		Central, Seawall	No		RP
230.3	230.3-3	cleaners			1965		not reviewed, not adjacent		Central, Seawall	No		SC
230.3	230.3-4	firing range		firing range	1940		not reviewed, not adjacent		Central, Seawall	No		RP
230.3	230.3-5	ink mfrs.	4-story retail & loft built 1919	ink mfrs.	1951, 1956		not reviewed, not adjacent		Central, Seawall	No		RP
230.3	230.3-6	printing plant		printing plant	1960, 1965		not reviewed, not adjacent		Central, Seawall	No		RP
230.3	230.3-7	printers			1960, 1965		not reviewed, not adjacent		Central, Seawall	No		RP
230.3	230.3-8	printers	1-story retail, built 1909		1938, 1940, 1943-44, 1956, 1960, 1965		not reviewed, not adjacent		Central, Seawall	No		SC
230.3	230.3-9	paints		paints		1969	not reviewed, not adjacent		Central, Seawall	No		RP
230.3	230.3-10	cleaners			1989-90		not reviewed, not adjacent		Central, Seawall	No		RP
230.3	230.3-11	leather works, mfrs. & delivery	3-story retail/hotel, built 1890, renovated to 6-story garage with basement tunnel to department store in 1967	mfrs. & delivery	1943-44		not reviewed, not adjacent		Central, Seawall	No		RP
230.4	230.4-1	printers	6-story office & retail building, steam heat		1940, 1943-44, 1951, 1956		not reviewed, not adjacent		Central, Seawall	No		RP
230.4	230.4-2	clothes cleaners		clothes cleaners	1938		not reviewed, not adjacent		Central, Seawall	No		RP

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Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
230.4	230.4-3	paint and varnish co.			1938, 1943-44		not reviewed, not adjacent		Central, Seawall	No		RP
240.2	240.2-1	marine supply	5-story warehouse built in 1918	machine shop		1949, 1969	6-story office, built 1918	Yes ⁴	Central, Seawall	Yes, Central	Moderate	SC
240.2	240.2-2	multi-use building	6-story warehouse constructed in 1910 with oil burner heat	metal works (Harbor Steps)	1940		offices, built 1910, heat pump; utility & railroad right-of-way	Yes	Central, Seawall	Yes, Central	Low	RP
240.3	240.3-1	auto repair	4-story warehouse constructed in 1919 with steam heat		1938		17-story apartment, built 1994, electric wall heat		Central, Seawall	Yes, Central	Low	RP
240.3	240.3-2	fertilizer mfrs.	3-story store & loft built in 1911	mfrs	1960, 1965, 1970, 1975, 1980		no tax assessor records for this lot		Central, Seawall	Yes, Central	Moderate	SC
240.3	240.3-3	laundry	4-story retail/hotel built 1910, acid tank in basement	Chinese laundry	1940		25-story apartment, built 1996, electric wall heat		Central, Seawall	Yes, Central	Moderate	SC
240.3	240.3-4	plating works		electroplating	1940, 1956, 1960, 1970, 1975	1949			Central, Seawall	Yes, Central	Moderate	SC
240.3	240.3-5	leather works	4-story office/loft, built 1901	mfrs & delivery	1938, 1940	1969			Central, Seawall	Yes, Central	Moderate	SC
240.4	240.4-1	laundry, printers	4-story hotel & retail, built 1889, oil burner		1938, 1940, 1943-44, 1985; printer 1951		4-story hotel, built 1900, steam heat		Central, Seawall	Yes, Central	Moderate	SC
240.4	240.4-2	printers	5-story retail, built 1906	printing		1969	2 buildings: 1) 6-story office building, built 1906, steam heat; 2) 2-story office building, built 1900, steam heat		Central, Seawall	Yes, Central	Low	RP
240.4	240.4-3	printers		printers	1938, 1940				Central, Seawall	Yes, Central	Low	RP
240.4	240.4-4	printers/hand laundry/service station		hand laundry	1938 / 1943-44, 1951, 1956, 1960, 1965		Vacant commercial lot	Yes ⁴	Central, Seawall	Yes, Central	Low	RP
250.2	250.2-1	parking lot and fueling	4-3,000-gallon tanks installed in ~1962; 1-6,000 gallon tank installed in 1974; 11'x4'6" building with stove heat	fueling		1969	Surface parking lot		Central, Seawall	Yes, Central	Low	RP
250.3	250.3-1	lithographer	4-story retail & loft constructed in 1907 with steam heat		1938, 1940, 1943-44, 1951, 1956, 1965	1949	parking garage, built 1983, "warmed and cooled air" for heat		Central, Seawall	Yes, Central	Moderate	SC
250.4	250.4-1	sheet metal works	4-story hotel & retail, built 1906, steam heat		1943-44, 1965		Condominiums, 6-story condominium building, built 1902, electric heat		Central, Seawall	Yes, Central	Moderate	SC
250.4	250.4-2	cleaners	4-story hotel & retail constructed in 1902 with oil heat	clothes cleaners	1938, 1985, 1989-90				Central, Seawall	Yes, Central	Moderate	SC
250.4	250.4-3	sheet metal works		sheet metal works	1938, 1940				Central, Seawall	Yes, Central	Low	RP
250.4	250.4-4	paint company	1-story retail building constructed in 1915, steam heat, corner of 1st and Spring		1940, 1943-44		Condominium, 22-story condominium, built 1983, complete HVAC		Central, Seawall	Yes, Central	Moderate	SC
250.4	250.4-5	printers			1940, 1956, 1960, 1965, 1975				Central, Seawall	Yes, Central	Moderate	SC
250.4	250.4-6	printers		printers	1943-44, 1951, 1956, 1960, 1965, 1970, 1975, 1980				Central, Seawall	Yes, Central	Moderate	SC
250.5	250.5-1	dry cleaners	1-story retail building, built 1914	dry cleaners	1956		29-story office building, built 1991, no heat		Central, Seawall	Yes, Central	Low	RP
250.5	250.5-2	printers		printers	1960, 1965, 1970, 1975	1969			Central, Seawall	Yes, Central	Moderate	SC
250.5	250.5-3	printers	6-story office & retail building, built 1903	printers	1938, 1940, 1943-44, 1951, 1956				Central, Seawall	Yes, Central	Moderate	SC
250.5	250.5-4	hatters	1-story retail building, built 1908, stove heat, torn down 1967, Building C, Laundry	cleaners	1951		Bank, 8-story office building, built 1968, heat pump		Central, Seawall	Yes, Central	Moderate	SC
250.5	250.5-5	printing company/auto repair shop	print shop, built 1911	auto repair shop		1969			Central, Seawall	Yes, Central	Low	RP
250.5	250.5-6	printing and publishing co.	2-story bank, built 1908, torn down 1969		1938, 1940, 1943-44, 1951				Central, Seawall	Yes, Central	Low	RP
260.1	260.1-1	waterfront property, seafood business					1-story storage warehouse, built 1900, complete HVAC	Yes ⁴	Central, Seawall	Yes, both sections	High	SC
260.2	260.2-1	mixed use building	2-story warehouse, built in 1909, demolished in 1962 and block converted to paved parking lot				13-story condominium building, built 1983, complete HVAC	Yes	Central, Seawall	Yes, Central	Low	RP
260.3	260.3-1	printing	6-story building (retail) constructed in 1905, covers entire block	printing		1969	not reviewed, not adjacent		Central, Seawall	No		RP

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260.4	260.4-1	sheet metal works	6-story hotel & retail with oil burner, paint store on first floor, built 1902		1938, 1940, 1943-44, 1951, 1956, 1970		not reviewed, not adjacent		Central, Seawall	No		SC
260.4	260.4-2	dry cleaners		dry cleaners	1985, 1989-90				Central, Seawall	No		RP
260.4	260.4-3	sign painter	5-story building constructed in 1904 with oil heat	sign painter	1938		not reviewed, not adjacent		Central, Seawall	No		RP
260.5	260.5-1	printer	6-story retail/loft building, built 1908	printer	1940		not reviewed, not adjacent		Central, Seawall	No		SC
270.1	³ (waterfront from 220.05 to 290.1)	central Seattle waterfront sediments					NA		Central, Seawall	Yes, Central		SC
270.2	270.2-1	printing co., chemical co.	5-story warehouse with retail, built in 1910 covering entire block	mfrs	1989-90 / 1938 / 1951	1969	5-story office/retail, built 1910, heat pump		Central, Seawall	Yes, Central	Moderate	SC
270.2	270.2-2	tailors and cleaners			1951, 1956, 1960, 1965				Central, Seawall	Yes, Central	Moderate	SC
270.2	270.2-3	Engine Company		diesel	1938, 1940, 1943				Central, Seawall	Yes, Central	Low	RP
270.2	270.2-4	motor car company		marine & station engineers	1938, 1940				Central, Seawall	Yes, Central	Low	RP
270.2	270.2-5	cleaners		clothes cleaners	1938, 1940				Central, Seawall	Yes, Central	Moderate	SC
270.4	270.4-1	printers	6-story retail & office, built 1890, oil burner heat, torn down 1971		1938, 1940		not reviewed, not adjacent		Central, Seawall	No		RP
270.4	270.4-2	clothes cleaners	2-story retail, built 1914, torn down 1971	clothes cleaners	1965, 1970		not reviewed, not adjacent		Central, Seawall	No		SC
280.1	280.1-1	Colman Dock					Washington State Ferry Terminal, two-story building, built 1992, heat pump	Yes	Central, Seawall	Yes, both sections	Moderate	SC
280.2	280.2-1	printing/lithography company	Constructed 1906, 4-story commercial with steam heat	printers book & commercial	1970		4-story parking garage, built 1906, no heat		Central, Seawall	Yes, Central	High	SC
280.2	280.2-2	Parking Facility	Constructed 1906, first floor of 4-story building described in 1936 as service station - "gasoline equipment" listed but no tanks listed	gas station	1938, 1940	1949, 1969	parking lot	Yes	Central, Seawall	Yes, Central	Low	RP
280.2	280.2-3	Parking Facility	half of printing building torn down to leave lot 4 with 1-story gas station built in 1942; stove heating, 3 pumps listed in 1967; tanks: 3-1000-gallon & 1-550-gallon	gas station	1975, 1980, 1985, 1989-90				Central, Seawall	Yes, Central	Low	RP
280.2	280.2-4	Parking Facility					3-story office building, built 1906, steam without boiler	Yes	Central, Seawall	Yes, Central	Moderate	SC
280.3	280.3-1	auto repair	one 4 story building on entire block, built 1890	auto repairs	1951		parking lot		Central, Seawall	Yes, Central	Low	RP
280.3	280.3-2	cleaners		clothes pressers	1938, 1940, 1943-44				Central, Seawall	Yes, Central	Low	RP
280.3	280.3-3	printers			1951, 1956, 1960, 1965				Central, Seawall	Yes, Central	Low	RP
280.3	280.3-4	metal works and tin shop		metal works	1938, 1943-44				Central, Seawall	Yes, Central	Low	RP
280.5	280.5-1	cleaners	3-story hotel & retail building, built 1890, steam heat, torn down 1955	clothes cleaners	1938		17-story office building, built 1958, heat pump		Central, Seawall	Yes, Central	Moderate	SC
280.5	280.5-2	auto repair	16-story office & retail building, built 1959	auto repair	1960, 1965				Central, Seawall	Yes, Central	Low	RP
290.2	290.2-1	printers	Constructed 1910, 6-story commercial/retail building	printing	1960	1969	6-story office, built 1910, steam heat without boiler		Central, Seawall	Yes, Central	Low	RP
290.2	290.2-2	ink mfr.		ink mfr.		1969			Central, Seawall	Yes, Central	Low	RP
290.2	290.2-3	engineer company		marine gasoline & diesel	1938, 1940, 1943-44				Central, Seawall	Yes, Central	Low	RP
290.2	290.2-4	gas station, auto repair	Constructed 1938, 1-story, automotive repair building, 1 tank, 2 hydraulic lifts, stove heat, demolished 1966 for parking lot	gas station, auto repair	1938 / 1940, 1943-44, 1951, 1956, 1960, 1965	1949	surface parking lot		Central, Seawall	Yes, Central	Low	RP

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290.2	290.2-5	warehouse					One 6-story Warehouse storage building built 1910, steam without boiler.	Yes ⁴	Central, Seawall	Yes, Central	Low	RP
290.3	290.3-1	printers	4-story building, built 1914	printing materials / machine shop	1938, 1940	/ 1969	built in 1914, steam heat without boiler		Central, Seawall	Yes, Central	Moderate	SC
290.3	290.3-2	mfg. chemists		mfg chemists	1938				Central, Seawall	Yes, Central	Low	RP
290.3	290.3-3	electric company/power company	2 buildings: 1901 3-story brick powerhouse with 1-14,000 gallon tank (under Post St.); 1911 1-story garage with steam heat	power plant	1940, 1943-44	1969	2 buildings: 1) 3-story industrial steam plant, built 1901; 2) 1-story storage warehouse, built 1925, no heat.		Central, Seawall	Yes, Central	Moderate	SC
290.3	290.3-4	oil clarifier distributors	3-story hotel constructed in 1913-14 with steam heat		1940 / 1951		Condo per map		Central, Seawall	Yes, Central	Low	RP
290.3	290.3-5	power machine works/welding company		welding shop	1938, 1940, 1943-44, 1956, 1960, 1965, 1970 / 1956, 1965	1969	2 buildings: 1) 3-story industrial steam plant, built 1901; 2) 1-story storage warehouse, built 1925, no heat.		Central, Seawall	Yes, Central	Moderate	SC
290.3	290.3-6	steam company						Yes	Central, Seawall	Yes, Central	Moderate	SC
290.4	290.4-1	tailors and cleaners	6-story office & retail building, built 1908, steam heat		1960		9-story parking garage/bank/retail/office, built 1970, no heat listed		Central, Seawall	Yes, Central	Low	RP
290.4	290.4-2	smelter	6-story office & retail building, built 1897, steam heat		1940		6-story office, built 1900, warmed and cooled air heat		Central, Seawall	Yes, Central	Moderate	SC
290.5	290.5-1	auto repair	building constructed 1958, stove heat, 4-1,000 gallon tanks, 1-500 gallon tank				3-story parking garage, built 1958		Central, Seawall	Yes, Central	Low	RP
290.5	290.5-2	printers	16-story retail & office building, steam heat		1938		17-story office building, built 1911, heat pump		Central, Seawall	Yes, Central	Low	RP
290.5	290.5-3	dye works/cleaners and tailors		clothes pressers	1940, 1943-44, 1951, 1985 / 1965		3-story office building, built 1903, steam without boiler		Central, Seawall	Yes, Central	Moderate	SC
290.5	290.5-4	real estate co., condo					Condominium, 20-story condominium building, built 2000, Complete HVAC	Yes ⁴	Central, Seawall	Yes, Central	Low	RP
300.1	300.1-1	printers	10-story office/retail building, steam heat, built 1906	printers	1940 / 1970		not reviewed, not adjacent		Central, Seawall	No		SC
300.1	300.1-2	printers	2-story office/retail building, built 1894, 2 oil burners		1940, 1943-44		not reviewed, not adjacent		Central, Seawall	No		RP
300.1	300.1-3	paints	6-story retail/loft building, built 1889, steam heat	paints		1969	not reviewed, not adjacent		Central, Seawall	No		RP
300.1	300.1-4	clothes pressers and cleaners	6-story retail/office building, built 1890, steam heat	clothes pressers	1940, 1943-44, 1951, 1956, 1965, 1970 / 1938, 1940		not reviewed, not adjacent		Central, Seawall	No		SC
300.1	300.1-5	clothes pressers	1-story office building, built ~1927, steam heat	clothes pressers	1943, 1951, 1960, 1965		not reviewed, not adjacent		Central, Seawall	No		RP
300.1	300.1-6	parking garage	2-story retail building & garage, built 1903, no heat	clothes cleaners	1951, 1956, 1960, 1965, 1970, 1975		not reviewed, not adjacent	Yes	Central, Seawall	No		RP
310.1	310.1-1	fueling, dying	5-story hotel/retail building, built 1890, 2 oil burners, torn down 1961; 4-level parking garage built in 1961-1962	fueling	1938, 1940, 1943-44, 1951, 1956, 1960	1969	not reviewed, not adjacent		Central, Seawall	No		SC
320.1	320.1-1	clothes cleaners and dyers	3-story hotel/retail building, built 1911	clothes cleaners	1938, 1940, 1943-44, 1951		3-story office, built 1911, electric wall heat; Hotel: 4-stories, built 1914, electric wall heat		Central, Seawall	Yes, Central	High / Moderate	SC
320.1	320.1-2	lithographer		lithographer	1960		4-stories, built 1914, electric wall heat		Central, Seawall	Yes, Central	Low	RP
320.1	320.1-3	steel company and storage	6-story factory and loft building, built 1902	metal stamping and machine shop		1969	Built in 1902, mixed use office building/apartment with heat pump		Central, Seawall	Yes, Central	Moderate	SC
320.1	320.1-4	mfg. chemists, print shop, mimeo department	3-story loft and print shop, built 1908	mfg. chemists / mimeo department	1938 / 1951, 1956, 1960, 1965, 1970, 1975, 1980		office/retail building, built 1900, forced air unit.		Central, Seawall	Yes, Central	Moderate	SC
320.1	320.1-5	cleaners			1951, 1956, 1960, 1965		Hotel: 4-stories, built 1914, electric wall heat		Central, Seawall	Yes, Central	Moderate	SC
320.1	320.1-6	printers		printers	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975, 1980	1950, 1969	office/retail building, built 1900, forced air unit.		Central, Seawall	Yes, Central	Moderate	SC

Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
320.1	320.1-7	printers/lithographer		printers	1938, 1940, 1943-44, 1951, 1956, 1960, 1965/ 1951, 1956, 1960, 1965/ 1951, 1956	1950, 1969	5-story office, built 1900, hot water heat		Central, Seawall	Yes, Central	Moderate	SC
320.1	320.1-8	engine works	2-story shop building, built 1918, stove heat	machine shop & pattern shop		1916	2-story retail, built 1918, space heaters		Central, Seawall	Yes, Central	Low	RP
320.2	320.2-1	cleaners			1938		not reviewed, not adjacent		Central, Seawall	No		SC
320.2	320.2-2	dry cleaners		dry cleaners	1943, 1956		not reviewed, not adjacent		Central, Seawall	No		SC
320.2	320.2-3	laundry, clothes cleaners		laundry / clothes cleaners	1940 / 1951 / 1960		not reviewed, not adjacent		Central, Seawall	No		SC
320.2	320.2-4	clothes cleaners		clothes cleaners	1938		not reviewed, not adjacent		Central, Seawall	No		SC
330.1	330.1-1	gas station		gas station	1938, 1940		Pier 48 Victoria Line 2-story dock, built 1901		Central, Seawall	Yes, Central	Low	RP
330.3	330.3-1	lithographers, bank printers	5-story store and loft building, built 1903, lithographing business	lithographers / bank printers	1940, 1943, 1951		not reviewed, not adjacent		Central, Seawall	No		RP
340.1	340.1-1	parking garage	2-story garage, built 1909, oil burner, 3 gas tanks, automotive and truck steam cleaning	parking garage with autobody shop & auto repair		1969	3-story parking garage, built 1909, no heat.	Yes	Central, Seawall	Yes, Central	Low	RP
340.1	340.1-2	printing and lithograph company	4-story store & warehouse, built 1900	printing	1951, 1956, 1960	1916 / 1950	Condominiums, per map		Central, Seawall	Yes, Central	Moderate	SC
340.1	340.1-3	printing company	4-story hotel/manufacturing, built 1900		1943, 1956, 1965	1950	4-story office, built 1900, forced air unit		Central, Seawall	Yes, Central	Moderate	SC
340.1	340.1-4	textile mfr.	3-story hotel/retail, built 1898, stove heat	machine shop	1938, 1940, 1943-44, 1951, 1956, 1960, 1965	1916	3-story office, built 1900, restaurant, forced air unit		Central, Seawall	Yes, Central	Moderate	SC
340.2	340.2-1	rubber co.	4-story store/loft, built in 1898, stove heat		1940		not reviewed, not adjacent		Central, Seawall	No		RP
340.2	340.2-2	machine shop	3-story hotel/warehouse, built 1890, stove heat	machine shop		1916	not reviewed, not adjacent		Central, Seawall	No		RP
340.2	340.2-3	textile co., metal works	4-story store/loft, built 1902	Seattle Textile Co.	1938, 1940 / 1970, 1975		not reviewed, not adjacent		Central, Seawall	No		RP
340.2	340.2-4	printing		printing		1916	not reviewed, not adjacent		Central, Seawall	No		RP
350.1	350.1-1	repair workshop	1-story shop, built in 1967, repair workshop	gas & oil		1916	Pier 46, marine/commercial/fish terminal		Central	Yes, Central	Low	RP
350.1	350.1-2	gas station	1-story warehouse, built 1963-64, inventory is listed in tank section, a portion of the inventory is covered by photo	gas station	1938, 1940	1950	Pier 46 terminal (marine/commercial/fish) - 4 buildings: 1) 2-story transit warehouse/gate/guardhouse, built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3) transit	Yes	Central	Yes, Central	Low	RP
350.1	350.1-3	welding		welding		1950	warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/maintenance, built 1967, space heaters		Central	Yes, Central	Low	RP
350.1	350.1-4	gas station		gas station		1916			Central	Yes, Central	Low	RP
350.1	350.1-5	plating & machine shop, sheet metal works		plating & machine shop / sheet metal works		1950 / 1916			Central	Yes, Central	High	SC
350.2	350.2-1	gas station	1-story gas station, built 1937, stove heat	gas station	1938	1950	3-story parking structure, built in 1984, unknown heating system		Central	Yes, Central	Low	RP
350.3	350.3-1	paint co.			1980		not reviewed, not adjacent		Central	No		RP
350.3	350.3-2	scientific supplies	2-story warehouse/loft/retail building, built 1902				not reviewed, not adjacent		Central	No		RP
350.3	350.3-3	printer		printer	1938, 1940, 1943-44		not reviewed, not adjacent		Central	No		RP
360.1	360.1-1	plating works, boiler works, brass foundry, tin shop, blacksmith, machine shops, gas & oil		plating works, boiler works, brass foundry, tin shop, blacksmith, machine shops / gas & oil		1916 / 1950	Pier 46 terminal (marine/commercial/fish) - 4 buildings: 1) 2-story transit warehouse/gate/guardhouse, 401 Alaskan Way South, built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3) transit warehouse/transit shed, built 1967, space heaters;		South	Yes, South	High	SC

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Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
360.1	360.1-2	copper works, machine shop		Seattle Copper works / machine shop		1916	4) storage warehouse/maintenance, built 1967, space heaters.		South	Yes, South	Low	RP
360.1	360.1-3	sheet metal works, gas station, brass foundry, boiler works, plating works, machine shop	1-story metal shop/restaurant/office building, built in 1890, stove heat	sheet metal works / gas station / brass foundry, boiler works, plating works, machine shop	1938, 1940 //	/ 1950 / 1916			South	Yes, South	High	SC
360.1	360.1-4	dock	dock, built 1964-65, 2,000 gallon tank						South	Yes, South	Low	RP
360.1	360.1-5	machine shop, gas & oil, repair shop	1-story scale house, built 1923, stove heat	machine shop / gas & oil / repair shop		1916 / 1950 / 1969			South	Yes, South	Low	RP
360.1	360.1-6	railroad	1-story office/dock building, built 1943, inventory is listed in tank section, a portion of the inventory covered by photo	Round House Machine Shop & Coal Burners: blacksmith, machine shops / machine shop & blacksmith		1916 / 1950			South	Yes, South	High	SC
360.1	360.1-7	repair shop		repair shop		1969			South	Yes, South	High	SC
360.1	360.1-8	gasoline and service station	1-story service station, unknown construction date, stove heat, 4x14 grease pit	gas & service station	1938, 1940, 1951, 1956, 1960	1950			South	Yes, South	Low	RP
360.1	360.1-9	construction and dry dock company		includes: machine shops, blacksmith, auto repairs, forge shops, copper shop, and foundry		1916			South	Yes, South	High	SC
360.1	360.1-10	machine & steel shops, oil house	2-story machine shop/office building, built 1945, 3 oil burners	machine & steel shops, oil house		1950, 1969			South	Yes, South	High	RP
360.1	360.1-11	boat shop	2-story boat shop, construction date unknown, stove heat						South	Yes, South	Moderate	RP
360.1	360.1-12	locomotive repairing		locomotive repairing / equipment repairing		1950 / 1969			South	Yes, South	Moderate	RP
360.15	360.15-1	sheet metal works	1-single story freight depot, built 1931, stove heat	sheet metal works		1916	Surface parking lot / 3-story industrial, built 1921, steam heat		South	Yes, South	High	SC
360.2	360.2-1	paint mfrs.	No Records Available	paint mfrs.	1951		7-story office building, built 1904, warmed and cooled air heat	Yes ⁴	South	Yes, South	Low	RP
360.2	360.2-2	fuel company	No Records Available	fuel	1938, 1940		Retail and athletic club, masonry building built in 1923; warmed and cooled air		South	Yes, South	Low	RP
360.2	360.2-3	automobile service	No Records Available	tires, gas, & oil	1938, 1940	1950			South	Yes, South	Low	RP
360.2	360.2-4	painters, sign co.	No Records Available	painters	1951				South	Yes, South	Low	RP
360.3	360.3-1	machine works, tool mfrs.	No Records Available		1938, 1940		not reviewed, not adjacent		South	No		RP
360.3	360.3-2	sawmill machinery	No Records Available	sawmill machinery	1940		not reviewed, not adjacent		South	No		RP
360.3	360.3-3	machinery mfrs.	No Records Available	machinery mfrs.	1938, 1940, 1951		not reviewed, not adjacent		South	No		RP
360.3	360.3-4	oils & lubricants	No Records Available	oils & lubricants	1938, 1940, 1951		not reviewed, not adjacent		South	No		RP
360.3	360.3-5	sheet metal mfrs.	No Records Available		1989		not reviewed, not adjacent		South	No		RP
360.3	360.3-6	oil & gas burning equipment	No Records Available	oil & gas burning equipment	1956		not reviewed, not adjacent		South	No		RP
360.3	360.3-7	chemical co.	No Records Available		1970		not reviewed, not adjacent		South	No		RP
360.3	360.3-8	printers	No Records Available		1970, 1975		not reviewed, not adjacent		South	No		RP
360.3	360.3-9	tools mfrs.	No Records Available	tools mfrs.	1938		not reviewed, not adjacent		South	No		RP
370.1	370.1-1	gas station		gas station			Terminal - 3 buildings: 1) 1-story transit/freight warehouse, built 1912, steam & no boiler heat; 2) 1-story transit warehouse/loading dock, built 1935, no heat; 3) 2-story office, built 1912, forced air unit		South	Yes, South	Low	RP
370.1	370.1-2	railroad						Yes	South	Yes, South	Low	RP
370.2	370.2-1	gas station	No Records Available	gas station	1938, 1940, 1943	1950	No parcel, part of roadway		South	Yes, South	Low	RP
370.2	370.2-2	pattern works			1938, 1943	1916, 1950	Commercial Parking Lot		South	Yes, South	Moderate	SC

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370.2	370.2-3	brass works		machinists	1938, 1943				South	Yes, South	Low	RP
370.2	370.2-4	pattern and model works, machine works	2-story machine shop, built 1890, stove heat		1938, 1940, 1943 / 1938, 1940, 1943				South	Yes, South	Moderate	SC
370.2	370.2-5	chemical mfrs.			1960		2-story commercial office/warehouse building, built 1920, space heaters		South	Yes, South	Low	RP
370.2	370.2-6	warehouse	2-story retail/warehouse building, built 1920, oil burner & stove					Yes	South	Yes, South	Low	RP
370.2	370.2-7	fuel co. and iron wire rope mfrs.	4-story warehouse, built 1904, 2 oil burners		1965		2-story commercial office/warehouse building, built 1920, space heaters; 4-story office/warehouse, built 1904, hot water heat		South	Yes, South	Low	RP
370.2	370.2-8	aluminum company		plant	1965, 1970		4-story office/warehouse, built 1904, hot water heat		South	Yes, South	Low	RP
370.2	370.2-9	copper and brass works	1-story store, built 1927				1-story warehouse building, built 1927, space heaters		South	Yes, South	Moderate	SC
370.2	370.2-10	copper and brass works, wire and cable co.	1-story store, built 1929, oil burner	machine shop		1916	1-story industrial light manufacturing warehouse, built 1929, space heaters		South	Yes, South	Low	RP
370.2	370.2-11	electric company	1-story store, built 1903				commercial parking lot		South	Yes, South	Moderate	SC
370.2	370.2-12	electric motors and chains	1-story store, date built unknown, oil burner.				6-story retail, office, vacant warehouse building, built 1910, through-wall heat pump		South	Yes, South	Moderate	SC
370.2	370.2-13	machinery mfrs.	1-story store/office building, built 1918, oil burner				1-story restaurant, built 1918, complete HVAC		South	Yes, South	Low	RP
370.2	370.2-14	oil company/battery and chemical company		paint mfrs. & paint spraying / metallurgist / oil dealers	1940, 1943 / 1940, 1943 / 1951 / 1960 / 1960	/ 1969	6-story retail, office, vacant warehouse building, built 1910, through-wall heat pump		South	Yes, South	Low	RP
370.2	370.2-15	paint co.	4-story warehouse building, built 1909, oil burner				4-story storage warehouse, built 1909, space heaters		South	Yes, South	Low	RP
370.2	370.2-16	machinery and equipment co.	2-story warehouse building, built 1900, stove heat				1-story warehouse and showroom store, built 1900, space heaters		South	Yes, South	Low	RP
370.2	370.2-17	machine shop		machine shop		1950	4-story storage warehouse, built 1909, space heaters		South	Yes, South	Low	RP
370.2	370.2-18	junk company	1-story warehouse/store/office building, built 1920, oil burner	junk yard		1916	Commercial Parking Lot		South	Yes, South	Moderate	SC
370.2	370.2-19	gas station	1-story gas station, built 1942, stove heat; 6-1,000 gallon tanks; repair garage, built 1946	gas station with auto service	1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989	1950, 1969	1-story retail store, built 1996, heat pump (gas)	Yes	South	Yes, South	Low	RP
380.1	380.1-1	Pier 37/Gasoline Station	gas station, built 1922, stove heat, torn down 1944; garage remodeled in 1939 for tire room; rear structure on property; grease shed with gas station.	machine shops & maintenance shop, paint shop / boat repair / gas station	1938, 1940 (gas station)	1950, 1969 / 1950, 1969	Metro Sewer Station; 1-story utility, built 1970, no heat		South	Yes, South	High	SC
380.1	380.1-2	junk company				1916	Terminal 37, 42 and 47 (marine/commercial/fish) - 4 buildings: 1) 2-story transit warehouse/gate/guardhouse, built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3) transit warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/maintenance, built 1967, space heaters		South	Yes, South	Low	RP
380.1	380.1-3	coal briquette plant		Coal briquette plant		1916			South	Yes, South	Low	RP
380.1	380.1-4	automotive service (Terminal 37)	garage/service station, built 1914, stove heat, fuel pumps					Yes	South	Yes, South	Low	RP
380.1	380.1-5	Terminals 37, 42, 47	2 buildings, built 1920s, both stove heat, one torn down 1943, the other torn down 1961						South	Yes, South	Low	RP
380.2	380.2-1	fuel company	Building listed as office		1938, 1940		cargo, operating terminal (auto,bus,other), built 1914, 2-story industrial, hot water heat		South	Yes, South	Low	RP
380.2	380.2-2	machine works	1-story iron works/foundry, built 1902, no heat, torn down 1949	variety foundry co.	1938, 1940, 1943-44	1916	built 1914, 2-story industrial, hot water heat		South	Yes, South	High	SC
380.2	380.2-3	junk company	built 1903, oil burner, torn down 1951	junk yard		1916	vacant lot / 1-story warehouse, built 1957, space heaters / vacant lot		South	Yes, South	High	SC

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380.2	380.2-4	can company	warehouse, built 1902, stoker heat			1916	vacant lot /1-story warehouse, built 1957, space heaters	Yes ⁴	South	Yes, South	Low	RP	
380.3	380.3-1	cleaning products		cleaning compounds	1938, 1940, 1943-44		built 1914, 2-story industrial, hot water heat		South	Yes, South	Low	RP	
380.3	380.3-2	junk company	built 1954, stove heat	junk yard		1916			South	Yes, South	High	SC	
380.3	380.3-3	truck sales & service	1-story garage/sales, built 1938, oil burner, 2 sumps, pumps, gas tanks	truck sales & service	1956	1950, 1969	2-story warehouse, built 1938, space heaters		South	Yes, South	Low	RP	
380.4	380.4-1	auto repairs and gas station	service station, built 1939, stove heat; tanks: 2-2,000; 1-1,000; 1-550; and 2-300 gallon	repairs and gas station	1940, 1943, 1956, 1960	1950, 1969	Sport Facility		South	Yes, South	Low	RP	
380.4	380.4-2	machine shop	warehouse/office/loft, built 1917, oil burner	machine shop		1916	Sport Facility		South	Yes, South	Low	RP	
380.4	380.4-3	auto supply company/paint warehouse	warehouse, built 1904	paint warehouse		1969	Sport Facility		South	Yes, South	Low	RP	
380.4	380.4-4	oil & gas co.	warehouse, built 1910	oil & gas co.	1938, 1940		Sport Facility		South	Yes, South	Low	RP	
380.4	380.4-5	automotive supply	warehouse, built 1926, oil burner; sign indicates automotive supply (i.e.batteries, tires)				Sport Facility		South	Yes, South	Low	RP	
390.1	390.1-1	warehouse		machine shops & blacksmith		1916	Terminals 37, 42 and 46 (marine/commercial/fish) Port of Seattle- 4 buildings: 1) 2-story transit warehouse/gate/guardhouse, built 1967, warmed and cooled air; 2) office building, built 1967, warmed and cooled air; 3) transit warehouse/transit shed, built 1967, space heaters; 4) storage warehouse/maintenance, built 1967, space heaters.	Yes	South	Yes, South	Low	RP	
390.1	390.1-2	gas station	Built 1906, warehouse with stove, torn down 1941; gasoline station, built 1924, 4-550 gallon tanks with pipe line, grease pit						South	Yes, South	Low	RP	
390.1	390.1-3	marine repair shop		marine repair shop		1950			South	Yes, South	Low	RP	
390.1	390.1-4	metals company	warehouse, built 1934, oil burner						South	Yes, South	Low	RP	
390.1	390.1-5	U.S. Military		ship building yards		1916			Yes	South	Yes, South	Low	RP
390.1	390.1-6	blacksmith shop		blacksmith shop		1916			South	Yes, South	Low	RP	
390.2	390.2-1	railroad repair shop	repair shop with 3 additional shed structures, built -1927				warehouse (shed) Railroad		South	Yes, South	Low	RP	
390.3	390.3-1	machinery company	former shop, built 1926, stove heat	shop & storage yard	1965, 1970, 1975 / 1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975	1969 / 1950, 1969	3 buildings: 1 & 2) 1-story industrial, built 1926, space heaters; 3) 1-story equipment shed/shop, built 1951, no heat / vacant lot	Yes	South	Yes, South	Low	RP	
390.3	390.3-2	bus garage	garage and grease rack, built 1937, 1,600 gallon gas tank, grease pit 4'x64'x4'				3 buildings: 1 & 2) 1-story industrial, built 1926, space heaters; 3) 1-story equipment shed/shop, built 1951, no heat		South	Yes, South	Low	RP	
390.3	390.3-3	public utility	power plant with battery room	substation	1951, 1960, 1965, 1970, 1975, 1985, 1989-90	1916, 1950, 1969	2 buildings: 1) 1-story storage warehouse/utility, built 1969, forced air unit; 2) 1-story storage warehouse/utility, built 1990, no heat	Yes	South	Yes, South	Moderate	SC	
390.5	390.5-1	warehouse and transfer company	warehouse: signs indicate chemicals, adhesives, colors, foundry & steel mill supplies, built 1926				2-story building, built 1901, space heaters		South	Yes, South	Low	RP	
390.5	390.5-2	electric motors/distribution company	store, built 1901, stove heat	oil and gasoline / oil treating compounds	1960	1916	2-story building, built 1901, space heaters, 1-story parking, labs and office building, built 1937, warmed and cooled air		South	Yes, South	Low	RP	
390.5	390.5-3	metal finishing and painting operation	built 1937, stove heat	metal finishing and painting		1916	1-story parking, labs and office building, built 1937, warmed and cooled air		South	Yes, South	Low	RP	
390.5	390.5-4	radiator business	warehouse, built 1928, stoker heat				2-story storage warehouse, built 1928, forced air unit heat		South	Yes, South	Low	RP	
390.5	390.5-5	auto wrecking	built 1916, stove heat		1938, 1940, 1943		1-story warehouse, built 1970, space heaters		South	Yes, South	Moderate	SC	
390.5	390.5-6	textile bag mfr.	built 1938, stove heat	textile bag mfrs	1985, 1989-90	1950, 1969	2-story office building, built 1996, space heaters		South	Yes, South	Moderate	SC	

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400.1	400.1-1	furniture mfg., bulk petroleum storage	furniture factory, built 1909, oil burner/1920s-1995 bulk petroleum storage facility. Port of Seattle purchased in 1993 (Pier 34) to be redeveloped for freight container handling facility.			1950	3 buildings: 1) 1-story industrial, built 1909, no heat; 2) 1-story industrial, built 1909, no heat; 3) 1-story industrial, built 1942, no heat		South	Yes, South	Low	RP
400.1	400.1-2	foundry supplies, painting		foundry supplies	1965 / 1989-90				South	Yes, South	Low	RP
400.1	400.1-3	machine shops		machine shops		1916, 1950			South	Yes, South	Low	RP
400.1	400.1-4	aluminum business warehouse	aluminum business warehouse, built 1942, stove heat						South	Yes, South	Low	RP
400.1	400.1-5	disposal company	Transfer Station				3 buildings: 1) built in 1991, 1-story government services, warmed & cooled air; 2) 1-story storage warehouse, built in 1991, unknown heating; 3) 1-story office building, built in 1992, warmed & cooled air / - 2 buildings: 1) 1-story multi-purpose, built in 1991, heat pump; 2) 1-story storage warehouse, built 1991, no heat.	Yes	South	Yes, South	Low	RP
400.1	400.1-6	ink mfg.	built 1950, oil burner, 1-10,000 gallon fuel oil tank, 2 other large tanks	ink mfg	1951, 1956, 1960, 1970, 1975, 1980, 1985, 1989	1969	1-story industrial building, vacant, built 1950, no heat	Yes	South	Yes, South	Moderate	SC
400.1	400.1-7	Pier 34 (former petroleum company)	boiler house w/ stove/oil burner; bulk rail loading rack, bulk truck loading rack, garage, wash rack, pump house, 6 tanks, tank farm, warehouse for drum storage & loading; salt tower (petroleum refining), built 1928	tank farm	1938, 1940, 1951, 1960, 1989	1950, 1969	container yard, vacant / terminal (marine/commercial/fish)	Yes	South	Yes, South	Moderate	SC
400.3	400.3-1	fuel company	coal bunkers (1946)	(yard)	1956		Railway Company operating property		South	Yes, South	Low	RP
400.3	400.3-2	oil tanks, railyard co.	garage, built 1926, stove heat	oil tanks		1916			South	Yes, South	Low	RP
400.3	400.3-3	coal bins	1-story warehouse/office building, oil burner, built 1917, shack, 2 coal bins						South	Yes, South	Low	RP
400.3	400.3-4	paint storage		paint storage		1916			South	Yes, South	Low	RP
400.3	400.3-5	machinery co.			1965				South	Yes, South	Low	RP
400.3	400.3-6	metal products co.			1951, 1956, 1960				South	Yes, South	Low	RP
400.4	400.4-1	oil burner mfr., machine shop	store, built 1927, oil burner	oil burner mfrs	1943, 1956, 1960		3-story storage warehouse, built 1910, space heaters / 1-story industrial, built 1927, space heaters		South	No		RP
400.4	400.4-2	paint mfrs.		mfrs	1943		not reviewed, not adjacent		South	No		RP
400.4	400.4-3	machine shop	warehouse/store, built 1921	machine shop		1916	3-story office, built 1921, package unit heating		South	No		RP
400.4	400.4-4	lithographics	warehouse/store, built 1927, oil burner		1989		1-story industrial, built 1927, space heaters		South	No		RP
400.4	400.4-5	plumbing and heating supply warehouse	warehouse, built 1904, oil burner				1-story storage warehouse, built 1904, space heaters		South	No		RP
400.4	400.4-6	gasoline, engine co.	store/warehouse, built 1925, oil burner	gasoline	1965, 1970		1-story storage warehouse, built 1925, space heaters		South	No		RP
400.4	400.4-7	blacksmith		blacksmith		1916	not reviewed, not adjacent		South	No		RP
400.5	400.5-1	bronze foundry		bronze foundry		1950	not reviewed, not adjacent		South	No		SC
400.5	400.5-2	tank and boiler cleaners			1938		not reviewed, not adjacent		South	No		RP
400.5	400.5-3	blacksmith		blacksmith		1916	not reviewed, not adjacent		South	No		RP
400.5	400.5-4	auto wrecking	built 1907		1938, 1940, 1951	1950, 1969	not reviewed, not adjacent		South	No		SC
400.5	400.5-5	sheet metal works	built 1907, oil burner		1943, 1951, 1956, 1965	1916, 1950	not reviewed, not adjacent		South	No		RP
400.5	400.5-6	blacksmiths, carriage mfr.		blacksmiths	1938, 1940 / 1938, 1940		not reviewed, not adjacent		South	No		RP
400.5	400.5-7	machine shop, junk yard	built 1918, stove heat, fourth business is supply/cleaning company				not reviewed, not adjacent		South	No		RP

Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
410.1	410.1-1	Terminal 30	built 1913: 1-story garage (2), maintenance shop, warehouse (2), truck oil loading rack, train loading rack, pipe shed, and tanks (tank farm, bulk)	tank farm	1943-44, 1951, 1956, 1960, 1970, 1975	1916, 1950, 1969	Port Terminal 30	Yes	South	Yes, South	Moderate	SC
410.1	410.1-2	gas station	1-story service station, built 1950, stove heat; 2-1,000 gallon and 1-550 gallon tanks	gas station	1938, 1943-44, 1951, 1956, 1960, 1965	1950, 1969			South	Yes, South	Low	RP
410.2	410.2-1	oil tank, railroad	railroad operating property: fuel tank, sanding tower, locker/wash/office, filter house (1922)	steel oil tank		1969	railroad operating property - commercial rail terminal		South	Yes, South	Low	RP
410.2	410.2-2	railroad repair shop	1-story tool and motor car house, built 1955, stove heat						South	Yes, South	Low	RP
410.2	410.2-3	railroad, tank	500-BBL tank						South	Yes, South	Low	RP
410.2	410.2-4	railroad repair shop, blacksmith	1-story shop, built in 1954; sand house, garage, blacksmith, built 1945-46; 2-story yard office, oil burner						South	Yes, South	Low	RP
410.2	410.2-5	railroad machine shop, power house, storage tank, garage	1-story locker house, machine shop, storage shed, lumber shed, power house, bar car, storage shed, 5-car garage (2), box car (2), and storage tank						South	Yes, South	Low	RP
410.2	410.2-6	railroad oil shed	1-story oil shed						South	Yes, South	Low	RP
410.3	410.3-1	railroad workshop, wire rope co., freight terminal	1-story warehouse built 1925, 1-story warehouse built 1944, workshop built 1966, oil burners/stove	wire rope / operating department, freight terminal	1938 / 1943, 1951		Railway company operating property		South	Yes, South	Low	RP
410.4	410.4-1	gas station, auto repairs	1-story gas station, built 1935, 2-3,000 gallon, 1-8,000 gallon, 1-1,000 gallon tanks	gas station / auto repairs	1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980	1950, 1969	not reviewed, not adjacent		South	No		RP
410.4	410.4-2	mill, equipment co.	1-story mill, built 1938, stove heat						South	No		RP
410.4	410.4-3	scientific company	1-story office/retail building, built 1937						South	No		RP
410.4	410.4-4	auto service, welding apparatus		auto service / welding apparatus	/ 1951	1969	not reviewed, not adjacent		South	No		RP
410.4	410.4-5	dye, pattern makers		dye/pattern makers	1970, 1975		not reviewed, not adjacent		South	No		RP
410.4	410.4-6	mfr. and steel plating works	1-story warehouse, built 1914, stove heat	mfrs and plating works	1951		not reviewed, not adjacent		South	No		SC
410.4	410.4-7	machinery mfr.		machinery mfrs	1940		not reviewed, not adjacent		South	No		RP
410.4	410.4-8	soap and grease mfrs.	1-story factory, built 1914, 2-story warehouse, built 1920, oil burner and stove heat		1938, 1940		not reviewed, not adjacent		South	No		RP
410.4	410.4-9	auto salvage	3-story retail/warehouse, built 1910		1975		not reviewed, not adjacent		South	No		SC
410.4	410.4-10	brass and copper co.	1-story retail/warehouse, built 1922, stoker		1940		not reviewed, not adjacent		South	No		RP
410.5	410.5-1	truck rentals & repair		truck rentals & repair		1969	not reviewed, not adjacent		South	No		RP
420.1	420.1-1	railyard roundhouse, track dept, car dept, oil tank, pump house		yard office, roundhouse, track dept, car dept, oil tank, pump house	/ 1943, 1951	1969	Railway company operating property		South	Yes, South	Low	RP
420.1	420.1-2	railyard, parking garage	14,000 gallon diesel oil tank, built 1960				railway company operating property / Parking Garage 2 buildings: 1) 7-story parking garage, built 1976, space heaters; 2) 7-story parking garage, built 2002, unknown heat source		South	Yes, South	Low	RP
420.1	420.1-3	railroad property	1-story shop, built 1970				railway company operating property / Parking Garage 2 buildings: 1) 7-story parking garage, built 1976, space heaters; 2) 7-story parking garage, built 2002, unknown heat source		South	Yes, South	Low	RP
420.2	420.2-1	chemical co.			1940, 1943		not reviewed, not adjacent		South	No		RP

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420.2	420.2-2	blacksmith, wagon shop, restoration		blacksmith, wagon shop, restoration		1916	not reviewed, not adjacent		South	No		SC
420.2	420.2-3	salvage and metal co.	2-story warehouse/office, built 1910, stove heat				not reviewed, not adjacent		South	No		SC
420.2	420.2-4	mill	2-story warehouse/office, built 1910				not reviewed, not adjacent		South	No		RP
420.2	420.2-5	furniture store	2-story warehouse/machine shop/office, built 1910, oil burner, hide & wool products business				not reviewed, not adjacent	Yes	South	No		RP
420.2	420.2-6	gas station	1-story service station, built 1939, 3-1,000 gallon tanks, 1-550 gallon tank, stove heat, torn down 1949	gas station	1940, 1943		not reviewed, not adjacent		South	No		RP
420.3	420.3-1	chemical co., oil refiners, grinding and metal perforating	4-story wholesale grocery, built 1909, oil burner. 2-250 T. Cap. ammonia machine	mfrs / refiners / grinding and metal perforating	1943 / 1938, 1940, 1951, 1956, 1960	// 1969	not reviewed, not adjacent		South	No		RP
420.3	420.3-2	auto repairs	1-story service garage, built 1930, oil burner	auto repairs	1938, 1940, 1943, 1956, 1960, 1965, 1975, 1980, 1985, 1989 / 1938	1950, 1969	not reviewed, not adjacent		South	No		RP
420.3	420.3-3	textile mfg.	1-story office/warehouse, built 1925		1980, 1985, 1989-90		not reviewed, not adjacent		South	No		RP
420.3	420.3-4	machine shop	1-story store, built 1918				not reviewed, not adjacent		South	No		RP
420.3	420.3-5	auto wrecking	2-story office/store/warehouse, built 1900		1940	1950	not reviewed, not adjacent		South	No		SC
420.3	420.3-6	chemical warehouse		chemical warehouse		1969	not reviewed, not adjacent		South	No		RP
420.3	420.3-7	gas station, auto repairs	1-story gas station, built 1930; remodeled 1953, 2-4,000 gallon & 1-550 gallon tanks, 2 deep wells, stove heat	gas station / auto repairs	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975	1950, 1969	not reviewed, not adjacent		South	No		RP
430.1	430.1-1	chemical mfr.	1-story garage, built 1960; also ferry landing, piers, warehouses, track pier	chemical mfrs	1951, 1956		Terminal 30, 1-story government building, passenger terminal, built 2003, complete HVAC		South	Yes, South	Moderate	SC
430.1		sewage station	sewage station, built 1970						South	Yes, South	Moderate	RP
430.1	430.1-2	ironworks		foundry & forge shop		1916, 1950			South	Yes, South	Moderate	SC
430.1	430.1-3	gas station		gas station	1943, 1956				South	Yes, South	Low	RP
430.1	430.1-4	brass foundry & pattern shop		brass foundry & pattern shop		1916			South	Yes, South	Moderate	SC
430.1	430.1-5	railyard dock		40-gallon chemical containers		1916, 1950			South	Yes, South	Moderate	SC
430.1	430.1-6	gas station	1-story warehouse, 2-story dock, built 1918, oil burner; storage/shop building	gas station	1951				South	Yes, South	Low	RP
430.1	430.1-7	Pier 28		transit shed		1969			South	Yes, South	Low	RP
430.1	430.1-8	boiler works				1916			South	Yes, South	Low	RP
430.1	430.1-9	machine works				1916			South	Yes, South	Low	RP
430.2	430.2-1	railroad oil house, railroad car repair	1-story car repair, built 1954	oil house		1969	Railway company operating terminal		South	Yes, South	Low	RP
430.2	430.2-2	railyard carpenter and paint shop		carpenter and paint shop		1969			South	Yes, South	Low	RP
430.3	430.3-1	steel co. and machine shop	1-story machine shop, built 1925				not reviewed, not adjacent		South	No		RP
430.3	430.3-2	blacksmith, chain mfg.		blacksmith		1916	not reviewed, not adjacent		South	No		RP
430.3	430.3-3	fuel co.			1938		not reviewed, not adjacent		South	No		RP
430.3	430.3-4	auto repairing		auto repairing		1950	not reviewed, not adjacent		South	No		RP
430.4	430.4-1	sheet metal works		sheet metal works		1916	not reviewed, not adjacent		South	No		RP
430.4	430.4-2	machine shop		machine shop	1938, 1940, 1943, 1951, 1956, 1960	1916, 1950	not reviewed, not adjacent		South	No		SC

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430.4	430.4-3	farm machinery co.			1943-44		not reviewed, not adjacent		South	No		RP
430.4	430.4-4	auto factory & repair		auto factory & repair		1916	not reviewed, not adjacent		South	No		RP
430.4	430.4-5	retail business		gas station	1938, 1940, 1943, 1951, 1956	1950	not reviewed, not adjacent	Yes	South	No		RP
430.5	430.5-1	blacksmith, wagon shop, & painting	2-story retail/warehouse building, "old", remodeled 1925, oil burner & stove heat	blacksmith, wagon shop, & painting		1916	not reviewed, not adjacent		South	No		RP
430.5	430.5-2	sign painting, brass and plating co.	1-story warehouse/retail building, built 1926, stove heat	/ sign painting	1960	/ 1969	not reviewed, not adjacent		South	No		RP
430.5	430.5-3	paints	1-story warehouse/store, built 1928, stove heat		1956		not reviewed, not adjacent		South	No		RP
430.5	430.5-4	paints	1-story warehouse, built 1918, stove heat	paints		1969	not reviewed, not adjacent		South	No		SC
430.5	430.5-5	steel fabricators	1-story warehouse/retail building, built 1909, stove heat	steel fabricators	1951		not reviewed, not adjacent		South	No		RP
430.5	430.5-6	auto repairs	1-retail/warehouse building, built 1927, stove heat	auto repairs	1940		not reviewed, not adjacent		South	No		RP
430.5	430.5-7	auto business	1-story warehouse/retail building, built 1941				not reviewed, not adjacent		South	No		RP
430.5	430.5-8	plumbing supplies, paints	1-story retail building, built 1937, plumbing supplies & paints				not reviewed, not adjacent		South	No		RP
440.1	440.1-1	railroad	shop building, built 1957, stove heat; 1-8,000 gallon tank; 35' x 4' x 3 1/2' pit inside				Railway company rail terminal- 4 structures (see block 450.1 for details)		South	Yes, South	Low	RP
440.2	440.2-1	steel co.			1938, 1943-44, 1956	1950	not reviewed, not adjacent		South	No		SC
440.2	440.2-2	iron and metals co.			1938		not reviewed, not adjacent		South	No		RP
440.2	440.2-3	auto sales/service	warehouse sales/service, built 1941, 2 stoves; 11 USTs: 7-500; 2-1,000; and 2-3,000 gallon oil tanks	(automotive center)	1975, 1980, 1985, 1989-90	1969	not reviewed, not adjacent	Yes	South	No		RP
440.2	440.2-4	automotive center		automotive center	1970, 1975		not reviewed, not adjacent		South	No		RP
450.05	450.05-1	iron works, boat building	built 1943-44, boiler, 1944 permit for new buried oil tank/replace old tank; 1-story factory, built 1927; coal shed, washroom, shop, built 1917; 1-story machine shop & foundry, built 1927 / railroad barracks, built 1942, stove heat	steel fabricating / with iron works	1938, 1940, 1943, 1951 (iron works)	1969, 1950 / 1916	marine/commercial/fish terminal - 6 buildings: 1) 1-story gatehouse, built 1991, electric heat; 2) 1-story storage warehouse, built 1980, space heaters; 3) 2-story storage warehouse/fish shed, built 1938, no heat; 4) 1-story storage warehouse, built 1916, no heat; 5) 7-story cold storage warehouse, built 1916, refrigerated cooling; 6) 3-story cold storage warehouse, built 1921, refrigerated cooling		South	Yes, South	Moderate	SC
450.05	450.05-2	tool mfr.		mfrs	1960				South	Yes, South	Low	RP
450.05	450.05-3	gas station	1-story café, built date unknown, stove heat	gas station	1938, 1940				South	Yes, South	Low	RP
450.05	450.05-4	railroad	tanks: 3-25'6" diameter x 26' height approximately 3,159 barrels (bbls) each; 1-36"x28' approximately 6,872 bbls; and 1-11'x12' approximately 269 bbls, all equals 31.5 gallon bbl., built 1927						South	Yes, South	Moderate	SC
450.1	450.1-1	railroad					Railway, operating railroad	Yes	South	Yes, South	Low	RP
450.2	450.2-1	chain and supply company	One prefabricated metal warehouse building, built 1970, no heat, one metal warehouse-shed building, built 1946, no heat, torn down 1970; one post and beam warehouse building, built 1938, stove heat; one warehouse mill building, built ? (1941), no heat; Block 20 owned by Railyard Co. in 1912; masonry office and crane way, built 1949, oil burner; black top built 1946; Wood barn built 1908, no heat, torn down 1946	Junk and used pipe storage, used machinery, wire and rope warehouse	1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989-90	1950, 1969	10 buildings: 1) built 1938, wood frame industrial, heat none or unknown, (industrial light mfg); 2) 1943, masonry warehouse, heat none or unknown; 3) 1949, wood frame shed, (material storage), heat none or unknown; 4) 1970, prefabricated steel equipment shed, heat none or unknown; 5) 1969, prefabricated steel equipment shop, no heat; 6) 1952, (industrial heavy mfg) structural steel building, no heat; 7) 1965, (industrial heavy mfg) structural steel building, no heat; 8) 1939, wood frame (industrial light mfg), hot water-radiant heat; 9) 1966, (industrial light mfg) prefabricated steel building, no heat; 10) 1939, wood frame garage (storage), no heat.	Yes ⁴	South	Yes, South	Moderate	SC

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450.2	450.2-2	machinery assembly	Crane shed, steel frame and concrete block, built 1955, no heat; Mill construction concrete "fabricating steel" building, built 1942, no heat	Machinery Assembly	Not Listed	1950, 1969	Two buildings one wood frame built 1942, and one prefabricated steel built 1955, heat source none or unknown		South	Yes, South	Moderate	SC	
450.2	450.2-3	metal fabricators	One tank housing masonry building, built 1964, no heat; one single-frame factory building, built 1943, oil burner	Wood working, iron works, steel and castings storage	1989-90	1950, 1969	One wood frame warehouse building built 1943, space heaters, used for industrial light mfg	Yes ⁴	South	Yes, South	Moderate	SC	
460.1	460.1-1	Terminal 25	offices & lab, built date unknown, oil burner				marine/commercial/fish terminal - 6 buildings: 1) 1-story gatehouse, built 1991, electric heat; 2) 1-story storage warehouse, built 1980, space heaters; 3) 2-story storage warehouse/fish shed, built 1938, no heat; 4) 1-story storage warehouse, built 1916, no heat; 5) 7-story cold storage warehouse, built 1916, refrigerated cooling; 6) 3-story cold storage warehouse, built 1921, refrigerated cooling	Yes	South	Yes, South	High	SC	
460.2	460.2-1	aluminum stripping, machine shop	1-story lumber storage, built 1917, oil burner, removed 1955 to 1-story manufacturing/shop, oil burner	aluminum stripping (lot 7-10), machine shop (lot 6-7 W por), oil house (lot 6 E por)		1969	5 buildings: 1) built 1971; 2) built 1956; 3) built 1955; 4) built 1951 - all 1-story industrial buildings, no heat; 5) built in 1999, 1-story storage warehouse, space heaters		South	Yes, South	Low	RP	
460.2	460.2-2	food warehouse					1-story warehouse, built 1952, space heaters	Yes	South	Yes, South	Low	RP	
460.3	460.3-1	produce company warehouse, former garage	1-story warehouse built 1926, oil-burner; garage built 1955, no heat (many 55-gallon drums in photo); Café/Tavern, built 1920, moved 1954, stove, torn down 1968; garage built 1927, stove	Bolt and nut mfg., 2nd hand machinery storage	1980, 1985, 1989-90	1969	One warehouse building built in 1926, no heat		South	Yes, South	Moderate	SC	
460.3	460.3-2	machine storage company	built 1922, no heat; machine shop and shed, built 1921, no heat; office, built 1922, stove	2nd Hand machinery junk yard and machine manufacturers	1938, 1940, 1943-44, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989-90	1916, 1950, 1969	Two buildings: one (industrial light manufacturing) built in 1974 space heaters; one (office) building built 1974, forced air.		South	Yes, South	Moderate	SC	
470.1	470.1-1	brass foundry		foundry	1940		marine/commercial/fish terminal - 6 buildings: 1) 1-story gatehouse, built 1991, electric heat; 2) 1-story storage warehouse, built 1980, space heaters; 3) 2-story storage warehouse/fish shed, built 1938, no heat; 4) 1-story storage warehouse, built 1916, no heat; 5) 7-story cold storage warehouse, built 1916, refrigerated cooling; 6) 3-story cold storage warehouse, built 1921, refrigerated cooling		South	Yes, South	Moderate	SC	
470.1	470.1-2	wholesale paints		wholesale paints	1940				South	Yes, South	Low	RP	
470.1	470.1-3	auto repair	1-story auto repair shop, built 1968, 2 wash & dry areas, preparation area, mech. & paint area, paint storage, gasoline pump island, 1-1,000 gallon gas tank						South	Yes, South	Low	RP	
470.1	470.1-4	electric company and manufacturing company	1-story factory, built 1918, oil burner, 1-1,600 gallon & 1-1,800 gallon tank						South	Yes, South	Low	RP	
470.1	470.1-5	wire manufacturing company		wire products & tying machinery	1938, 1940				South	Yes, South	Low	RP	
470.1	470.1-6	saw mill company		machine shop / saw mill with oil house		1969 / 1916, 1950			South	Yes, South	Low	RP	
470.1	470.1-7	saw mill company	1-story fuel bunker, built 1915, 2-story machine shop, built 1921, stove heat					not reviewed, not adjacent		South	Yes, South	Low	RP
470.2	470.2-1	brass foundry/pipe warehouse		/ machine shop	1938, 1943, 1951, 1956	/ 1950, 1969	maintenance shop - 2 buildings: 1) 1-story garage/maintenance shop, built 1959, space heaters; 2) 1-story garage, built 1976, no heat		South	Yes, South	High	SC	
470.2	470.2-2	auto body repair		repairs	1938, 1940				South	Yes, South	High	SC	
470.2	470.2-3	maintenance facility	1-story shop, built 1959, 1-1,000 & 2-300 gallon tanks; 2-story shop & store, built 1917, oil burner, 1-40-gallon oil tank	metal & machine shops, print shop	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989	1950, 1969			Yes	South	Yes, South	High	SC
470.2	470.2-4	foundry	1-1/2 story office, shop, & stavedore shop, built 1942, stove heat, 3 1/2 ton crane over dip tank		1938, 1940, 1943-44				South	Yes, South	High	SC	
470.25	470.25-1	crane company	1-story warehouse/shop, built 1918, coal stoker	garage & shop	1938, 1940, 1943		vacant lot / 1-story warehouse, built 1964, no heat		South	Yes, South	Low	RP	
470.25	470.25-2	trucking company	1-story office, built 1966, tank (8,000 gallon?)				1-story storage building, built 1983, no heat	Yes	South	Yes, South	High	SC	

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470.3	470.3-1	steel fabricating shop		steel fabricating		1969	4 buildings: 1) 1-story metal fabricating building, built 1917, space heaters; 2) 2-story office, built 1942, hot water heat; 3) 1-story manufacturing building, built 1917, no heat; 4) 1-story manufacturing building, built 1967, no heat		South	Yes, South	Low	RP
470.3	470.3-2	brass foundry		brass foundry	1938, 1940, 1943-44, 1951, 1960	1950, 1969			South	Yes, South	Moderate	SC
470.3	470.3-3	machinery company		machine shop	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985, 1989	1950, 1969	2 buildings: 1) 1-story machine shop, built 1917, space heaters; 2) 2-story pattern storage building, built 1937, no heat		South	Yes, South	Moderate	SC
470.35	470.35-1	sheet metal, casting foundryies, wire rope and equipment, engineering supply company, wire company	1-story warehouse, built 1918, stove/oil burner, 16'x16' fenced transformer	/ whse, factory / saw mill machinery / mesh manufacturers	1985, 1989 / 1938, 1940, 1951 / 1960 / 1965		- 3 buildings: 1) 1-story industrial, built 1918, no heat; 2) 1-story industrial, built 1941, no heat; 3) 1-story industrial, built 1965, no heat		South	Yes, South	Moderate	SC
470.35	470.35-2	water distribution company	2-story office, built 1951, oil burner				4 buildings: 1) 1-story industrial, built 1941, no heat 2) 1-story industrial, built 1969, no heat 3) 2-story offices, built 1951, hot water heat 4) 1-story part washing building, built 1993, no heat	Yes	South	Yes, South	Low	RP
470.35	470.35-3	brass foundry	1-story machine shop & foundry, built date unknown, stove heat						South	Yes, South	Low	RP
470.35	470.35-4	engineering works		boiler shop		1950	commercial service building (no details listed)		South	Yes, South	Low	RP
470.35	470.35-5	machinery manufacturing	1-story factory, built 1941, oil burner				lots 12-16: commercial service building (no details listed)		South	Yes, South	Low	RP
470.35	470.35-6	truck repair		truck repair		1969		Yes	South	Yes, South	Low	RP
470.35	470.35-7	machine shop & pattern shop		machine shop & pattern shop		1950			South	Yes, South	Low	RP
470.35	470.35-8	warehouse	1-story warehouse/shop, built 1969, service area				1 story, built 1969, no heat, listed as storage warehouse		South	Yes, South	Low	RP
480.5	480.5-1	brass foundry	1- & 2-story warehouse, built 1924, oil burner; 2-story foundry & factory, built 1917, stove heat			1929	1-story warehouse, built 1924, no heat / Copper Works/Mechanical - 3 buildings covering portions of lots 1-3 & 21-22: 1) 1-story industrial, built 1918, no heat; 2) 1-story industrial, built 1947, no heat; 3) 1-story industrial, built 1917, no heat		South	Yes, South	Moderate	SC
480.5	480.5-2	copper works and machine shop	1-story factory, manufacturing, sales; machine shop built 1918, oil burner	welding & fabricating	1938, 1940, 1943, 1951, 1956, 1960, 1965, 1970, 1975, 1980, 1985	1967, 1949, 1929 (1929 - 3600 only)	Copper Works/ Mechanical - 3 buildings covering portions of lots 1-3 & 21-22: 1) 1-story industrial, built 1918, no heat; 2) 1-story industrial, built 1947, no heat; 3) 1-story industrial, built 1917, no heat		South	Yes, South	Moderate	SC
480.5	480.5-3	Forge Works		blacksmiths & toolmakers	1938, 1940	1929	1-story warehouse, built 1924, no heat		South	Yes, South	Low	RP
480.5	480.5-4	Machine Works	1-story warehouse, shop, and factory, built 1941, 1947, 1956, oil burner	machinery shop	1985, 1989		1-story industrial, built 1941, no heat		South	Yes, South	Moderate	SC
480.5	480.5-5	machinery sales & service		machinery sales & service		1949	3 buildings: 1) 20 story office, built 1946, forced air unit; 2) 1-story industrial shop, built 1945, no heat.; 3) 1-story industrial shop, built 1949; Manufacturing Company, Inc. - 8 buildings: 1) 1-story industrial, built 1947, no heat; 2) 20 story office, built 1946, forced air unit; 2) 1-story industrial shop, built 1945, no heat.; 3) 1-story industrial shop, built 1949		South	Yes, South	Low	RP
480.5	480.5-6	steel works	1- & 2-story warehouse/office, built 1945, two oil burners						South	Yes, South	Moderate	SC
480.5	480.5-7	oil house		oil house		1967	8 buildings: 1) 1-story industrial, built 1947, no heat; 2) 1-story fabrication shop, built 1949, no heat; 3) warehouse, built 1949, labeled "bldg.#3,4,5.&6", no heat; 4) 1-story office, built 1949, labeled as "bldg.#7 & #8", forced air unit		South	Yes, South	Low	RP
480.5	480.5-8	steel fabricating company		fabricating, steel product mfgs	1951, 1956, 1960, 1965, 1970, 1975, 1989	1967, 1949			South	Yes, South	Moderate	SC
480.5	480.5-9	sheet metal works	1-story sheet metal shop/warehouse/office, built 1947-49, stove heat, deep pit 12'x16', painting, spray structure, sand blast structure	steel fabricating & welding, gas tank shown	1951, 1956, 1960	1967, 1949			South	Yes, South	Moderate	SC

Appendix C

Exhibit C-1. Sites With Documented and Potential Contaminant Releases

Block	Site No.	Type of Business/ Reference Name	Description (Archive)	Description (Polk or Sanborn)	Polk Directory Years	Sanborn Map Years	Current Tax Assessor Notes for Adjacent Properties Only	Listed Site ¹	Sections	Property adjacent to sections (Y/N)	Rank (adjacent properties only)	RP/SC ²
480.5	480.5-10	auto truck repair		auto truck repair		1949	1-story industrial, built 1941, no heat		South	Yes, South	Low	RP
480.5	480.5-11	tool works		2 oil tanks		1949			South	Yes, South	Low	RP
480.5	480.5-12	chains and sprockets, metals company, ice machine company		/ 1 gas tank shown / machine shop & mfg. 1 gas tank		1967 / 1949 / 1929	Vacant commercial land / 3 buildings: 1) 20 story office, built 1946, forced air unit; 2) 1-story industrial shop, built 1945, no heat.; 3) 1-story industrial shop, built 1949;		South	Yes, South	Low	RP
480.55	480.55-1	steel fabricating & truck repairing		steel fabricating & truck repairing		1967	Terminal 106 East: 1-story warehouse, built 1886, space heaters		South	Yes, South	Low	RP
480.6	480.6-1	iron works, foundry	1-story foundry, built 1918, stove heat			1967, 1949, 1929	1-story foundry building, built 1918, no heat	Yes	South	Yes, South	High	SC
480.6	480.6-2	machine works		auto parts / machine shop		1949 / 1967	2 1-story buildings: 1) office building built 1920, space heaters; 2) machine shop built 1957, space heaters		South	Yes, South	High	SC
480.7	480.7-1	sheet metal manufacturing	1-story warehouse, built 1926, stove heat			1949, 1929	4 buildings: 1) 1-story building, built 1926, no heat; 2) 1-story warehouse building, built 1949, hot water heat; 3) 1-story warehouse building, built 1952, no heat; 4) 1-story warehouse building, built 1976, no heat		South	Yes, South	Moderate	SC
480.7	480.7-2	power company	1-story power plant, built 1920, 2 rotary generators (13,000 volts)	/ substation		/ 1949, 1929			South	Yes, South	Moderate	SC
480.75	480.75-1	Building Company	1- & 2-story warehouse, built 1954, oil burner, vehicle service area				2-story warerhouse, built 1954, no heat		South	Yes, South	Low	RP
480.75	480.75-2	Wax Manufactures	1-story warehouse, built 1948, oil burner	Floor wax mfrs.	1951, 1956, 1960, 1965, 1970	Maps not available	One warehouse building, built 1948, no heat		South	Yes, South	Low	RP

- 1 Site Listed in Environmental Records (databases)
- 2 RP = Reasonably Predictable; SC = Substantially Contaminated
- 3 Site Listed in Environmental Records; however this site is not identified on Exhibit 4-1 because it encompasses sediments from Block 220.05 to 290.1.
- 4 Site Listed in UST database only, installed prior to 1980; no known release.

Blank cells in Polk Directory, Sanborn Map, Description Archive, and Listed Site columns indicate there was no environmental problem identified

PET = petroleum

MET = metals

SOLV = solvents

GAS = gasoline

PCBs = poly-chlorinated biphenyls

PAHs = polycyclic aromatic hydrocarbons

UST = underground storage tank

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