APPENDIX A

Determination of Significance

Determination of Significance and Request for Comments on the Scope of the Supplemental Environmental Impact Statement for the City of Seattle Solid Waste Facilities Master Plan

Proponent, Location, and Description of Proposal

In 1998, Seattle Public Utilities prepared *Seattle's Solid Waste Plan, On the Path to Sustainability* as well as a programmatic environmental impact statement (EIS) that addressed the potential impacts of implementing this plan. The 1998 plan included recommendations that led to the preparation of the City of Seattle Solid Waste Facilities Master Plan in 2003. The Solid Waste Facilities Master Plan identifies the following recommended improvements to the City's solid waste facilities:

- Building a new solid waste intermodal transfer facility
- Rebuilding the two existing city transfer stations.

Although a programmatic EIS was prepared for the 1998 *Seattle Solid Waste Plan*, the 2003 Solid Waste Facilities Master Plan takes the process one step further by recommending specific facility improvements to address the waste management needs identified in the 1998 plan. Seattle Public Utilities has concluded that a facility-specific environmental review under the Washington State Environmental Policy Act (SEPA) is needed to evaluate the recommended facility improvements.

The following alternatives will be considered in the environmental review:

Alternative 1 (No Action): Continuation of the status quo, maintenance of the existing City-owned transfer stations as required for them to stay operational, replacement of equipment when it wears out, and replacement of the offices and scale houses, as necessary, to meet building codes.

Alternative 2: Construction of an intermodal solid waste transfer facility on the west side of Harbor Island at Terminal 10, and demolition and rebuilding of the North Recycling and Disposal Station and the South Recycling and Disposal Station using additional property adjacent to each station.

Alternative 3: Construction of an intermodal solid waste transfer facility with King County on the west side of Harbor Island at Terminal 10 and on the adjoining Pendleton property south of Terminal 10; and demolition and rebuilding of the North Recycling and Disposal Station and the South Recycling and Disposal Station using additional property adjacent to each station.

Alternative 4: Construction of an intermodal solid waste transfer facility near South Corgiat Drive, northeast of Boeing Field, between the rail road tracks and Interstate 5; and demolition and rebuilding of the North Recycling and Disposal Station and the South Recycling and Disposal Station using additional property adjacent to each station.

Alternative 5: Construction of an intermodal solid waste transfer facility to the west of Airport Way South and south of South Edmunds Street; and demolition and rebuilding of the North Recycling and Disposal Station and the South Recycling and Disposal Station using additional property adjacent to each station.

Requirement for an Environmental Impact Statement

As the lead agency for the SEPA process, Seattle Public Utilities has determined that at least one of the alternatives under consideration has the potential to result in significant adverse impacts on the environment. In accordance with Section 43.21C.030(2)(c) of the Revised Code of Washington and Chapter 25.05 of the Seattle Municipal Code, an EIS will be prepared. This EIS will be a supplement to the 1998 EIS prepared for *Seattle's Solid Waste Plan*.

Seattle Public Utilities has identified six environmental elements that will be evaluated in detail in the supplemental EIS:

- Transportation
- Noise
- Air quality and odor
- Land use
- Aesthetics and visual quality
- Plants and animals.

The proposed project is unlikely to result in significant adverse impacts on the following environmental elements; therefore, the supplemental EIS will cover these elements in less detail:

- Earth
- Water
- Hazardous materials
- Recreation
- Public services and utilities.

Comments on Scope of Supplemental Environmental Impact Statement

Agencies, affected tribes, and the public are invited to comment on the scope of the supplemental EIS. Comments on alternatives, mitigation measures, probable significant adverse impacts, and required licenses or other approvals are welcome. Written comments on the scope of the supplemental EIS may be sent to the contact person indicated below and must be postmarked ON OR BEFORE SEPTEMBER 12, 2004. Oral and written comments on the scope of the supplemental EIS may also be provided at two public meetings to be held on the following dates at the locations indicated.

Tuesday, **August 10th** at 6:30 p.m.

B.F. Day School gym
3921 Linden Avenue North
Seattle, Washington 98103

Thursday, **August 12th** at 6:30 p.m.

South Park Neighborhood Center
8201 10th Avenue South
Seattle, Washington 98108

These locations are wheelchair accessible.

Contact Person

Henry Friedman, Solid Waste Facilities Planning Manager
Seattle Public Utilities
Seattle Municipal Tower
P.O. Box 34018
Seattle, Washington 98124-4018

Email: henry.friedman@seattle.gov

Responsible Official

Chuck Clarke, Director
Seattle Public Utilities
Seattle Municipal Tower
P.O. Box 34018
Seattle, Washington 98124-4018

Date of Determination of Significance

DATE: August 2, 2004

Signed by Sharon K. White for Chuck Clarke on July 27, 2004

Appeal of Determination

This determination of significance may not be appealed. An opportunity to appeal the adequacy of the final supplemental EIS will be provided after the final supplemental EIS has been published.

Note: This material is available in alternative formats upon advance request.

APPENDIX B

Summary of Comments Received during the Scoping Period

Summary of Scoping Comments
Solid Waste Facilities Master Plan
Supplemental Environmental Impact Statement

August through October 2004
Seattle Public Utilities

Meetings Summary

Seattle Public Utilities issued a Determination of Significance on August 2, 2004 and invited public comment on the scope of the Solid Waste Facilities Master Plan Supplemental Environmental Impact Statement (SEIS) through October 25, 2004. The purpose of the SEIS is to address any potential environmental impacts identified in review of the recommended option of the master plan. SPU hosted three public meetings to discuss the SEIS and solicit comments in Wallingford on August 10, in South Park on August 12, and in West Seattle on October 11, 2004. In addition, neighboring property owners, interested citizens, identified project stakeholders as well as the public at large were invited to send written comments.

Attendees received a presentation on the alternatives for implementing the preferred solid waste facilities option that was selected by the Seattle City Council and Mayor. The option calls for rebuilding the existing recycling and disposal transfer stations and creating a new solid waste intermodal facility. The attendees also received information about SEIS development and the potential environmental impacts to be addressed in the SEIS. Attendees were asked to comment on those potential environmental impacts and suggest additional environmental impacts the City should consider when developing the SEIS.

A majority of the comments about the North Recycling and Disposal Station focused on traffic issues surrounding the station. The recommendation to consider relocating the North Station was also made. Comments on the South Recycling and Disposal Station addressed concerns with landscaping and building design as well as the potential impacts of expanding into a former landfill property. The majority of comments related to creating a new intermodal facility centered on traffic and access concerns. Comments concerning land use compatibility, potential odor, noise, dust, and other impacts also were raised for all three facilities.

Although the purpose of the meetings was to collect comments on the scope of the SEIS, several questions arose related to the project purpose, cost, and selection of the recommended option as well as concerns with existing facilities, particularly related to traffic, noise, dust, odors, and rats. These comments will be addressed through the appropriate channels separate from the SEPA process. Fact sheets 1, 2, and 3 address the project history, process, and criteria for selecting the recommended option.

Comments collected at these public meetings and received via email or mail are summarized below.

SCOPING COMMENTS/ISSUES

ALTERNATIVES

- Add a new alternative to study the benefits and impacts of moving the North Recycling and Disposal Station (NRDS) to Interbay or another North of Elliott Bay relocation.
- Add an alternative that would combine the intermodal facility and NRDS on one site such as Interbay.
- Add the BINMIC Interbay area as an alternative site for the new intermodal facility.
- Add an alternative that would combine both transfer stations and the intermodal onto one site.
- Add an alternative that eliminates operation of NRDS and just leaves the SRDS operational.
- Add an alternative that rebuilds NRDS without expanding its footprint.

REBUILDING TRANSFER STATION – NORTH

Traffic

- Consider the adverse impacts of customer traffic on the surrounding residential streets and consider traffic restrictions to mitigate those impacts.
- Consider the size and class of streets to handle the traffic.
- Would traffic flow to the station remain about the same?
- Currently, there is too much truck traffic on surrounding streets, and on N. 34th Street in particular.
- Vehicles on N. 34th Street drive too fast, and instead of slowing down for drivers exiting or entering the transfer station, they swerve into the oncoming lane to go around the slower vehicle. This is a danger for eastbound and westbound traffic, but westbound is worse. Traffic flow in this area needs to be studied.
- Consider changing Woodlawn North Avenue and Densmore N. Ave. to northbound one-way streets. There's already a one-way street nearby that was created to force self-haulers to use the main arterial.
- Consider making the entrance from the main arterial [N. 34th St.] the only option.
- Currently, the queue on N. 34th St. to get into the transfer station can be a major obstacle. For example, it's hard to turn onto 34th from smaller streets because the queue can block the way. The queue creates dangerous driving conditions on N. 34th St. and nearby side streets.
- The new transfer station should designate a separate lane for compacted loads.
- Consider floatplane traffic overhead that is affected by building height.

Litter/Dumping

- Litter from uncovered loads is a problem in the neighborhood.
- The Cover Your Load regulation should be more strictly enforced.

- The transfer station helps minimize illegal dumping in the neighborhood.

Air Quality

- Currently, dust and particulates are a problem and potential health hazard for immediate neighbors and users of the nearby portion of the Burke-Gilman trail.
- In the metal recycling area, people dump asbestos covered items that are then crushed and compacted, which can release asbestos particles into the air.
- Currently, the facility is very odorous, which affects residential neighbors and users of the nearby portion of the Burke-Gilman trail.
- There is often an onshore wind from Lake Union that blows the dust and odor to nearby residences, including a home immediately north of the transfer station. The misting system used at the transfer station is inadequate.
- Currently, on-site outdoor storage of compost contributes a lot to odors, especially after hours.
- A resident across the street from the station indicated that his house would be a good location to study dust, noise, and odor.

Noise

- Currently, noise pollution from the facility operation is a problem.
- Noise carries well to N. 35th Street. The time of day that noise is created is important. For example, noise is especially aggravating early on weekend days.

Location

- Current location is convenient, which encourages use of the facilities.
- Move the transfer station away from the neighborhood to another neighborhood, such as Interbay.
- What impact will an improved facility have on property values?
- Concern about land-use compatibility of a transfer station in a predominantly residential neighborhood.
- Consider loss of parking opportunities at 1550 N. 34th Street and impact on local businesses.

Visual Design/Lighting

- It's much better when the outside lights are turned off. Consider having shades to direct outside light down to minimize stray light pollution.
- Consider impact of the building height on views; maintain or lower the existing roofline height.
- Existing view corridors must be maintained.

Drainage

- Study drainage issues through and off transfer station site. There are many buried ephemeral streams in Wallingford. Look at the old main that runs under the site. The main on Ashworth North may have been its replacement.

Construction Impacts

- What will happen to solid waste while the transfer station is demolished and the new one built?

Plants & Animals

- Eagles fly through the area of the transfer station site.
- Study designing the new facility's roof as wildlife habitat or a "green roof." Birds live on the roof currently and use water puddles when it rains.

Health/Nuisance

- Residences near the transfer station have rat problems that potentially pose health risks. Bones are found around nearby residences, possibly left by rats or crows. This problem must be alleviated.

ADDITIONAL COMMENTS - NORTH

- The recycling operation needs to be monitored/staffed.
- The proposed recycling/re-use store is an economic boon to schools, non-profits, etc. as source of inexpensive materials.
- The proposed facility should be used for educational purposes.
- Community involvement should be emphasized.
- Current facilities are antiquated.
- Impacts on economic development should be considered.
- Include a plan for recovering reusable scrap.

REBUILDING TRANSFER STATION – SOUTH

Noise
Air Quality and Odor
Plant and Animal Impacts
Transportation

- Mitigation measures associated with these issues should be developed.

Aesthetics/Landscaping

- Improve landscaping
- Consider green roofs and other environmentally friendly features.
- Mitigation measures should take into account that the property abuts residential uses. Sidewalks and vegetated buffers should be incorporated into any use of the Landfill Property under the plan.

Earth

- Significant portions of the Landfill Property may require capping that meets applicable regulatory standards.
- The presence of buried garbage may require special consideration for construction.

Water

- Groundwater encountered in any excavation at the Landfill Property will have to be properly stored and treated or disposed.
- Surface water issues must be addressed due to the large ditch that transects the Landfill Property and the ditch located alongside the west side of the Landfill Property.

Hazardous Substances

- Need to address potential disturbance of contaminated soils, buried garbage, and methane gas if expanding into the King County Landfill Property.
- The Landfill Property is currently enrolled in the Voluntary Cleanup Program under the auspices of the Washington State Department of Ecology. Remedial actions will need to be approved by Ecology, the Puget Sound Clean Air Agency, and the Seattle-King County Department of Health.

Land Use

- The expansion of the SRDS onto King County Landfill Property may not be the highest and best use.

ADDITIONAL QUESTIONS/COMMENTS – SOUTH

- Equity is a problem: the larger, taller facility is in a poorer area, compared to the North Transfer Station.
- If fewer than the proposed 20 acres were used, would capacity needs arise again in the near future?
- It is a good idea to keep adjoining property in public ownership.

POTENTIAL NEW INTERMODAL STATION

Air Quality

- The Duwamish waterway already has the poorest air quality in the City, and adding about 200 more trucks a day will make it worse.
- Consider use of clean-fuel burning garbage trucks.
- Concern with the impact potential odors might have on the quality of life and redevelopment of Georgetown and Beacon Hill.
- Concern that nearby residential areas already suffer noise, dust and pollution impacts from Birmingham Steel, the Port of Seattle, and other industrial facilities.
- Concern about odor impacts to nearby residents and on Port-based tourism.
- Consider impact of trains on air quality.
- Study the impact of odor on the Spokane Street corridor, Harbor Avenue, neighborhoods that climb the hillside that flanks Harbor Avenue.

Water Quality

- There are currently efforts to improve the water quality in the Duwamish Head/Duwamish River area. Consider the effect of seepage and runoff from the intermodal station on already poor water quality.

- Consider the impact of the facility on Longfellow Creek, particularly if SPU plans to barge traffic in the future.

Land Use
- Question whether this is the best or most appropriate use for the site on Harbor Island.
- Question whether the land use for an intermodal facility on Harbor Island is compatible with the travel/tourism industry in Elliott Bay.
- Question whether an intermodal facility at Airport Way is compatible due to proximity to legitimate residential uses south of Lucile Street and at Sunny Arms artist loft cooperative north of Edmunds Street.
- Use of a deep-water port site on Harbor Island as a solid waste facility may not be best use of site.
- Address concerns relating to potential conflicting land uses near an airport and impacts on airport operations and airspace safety.
- Concern that Alternatives 4 and 5 will directly affect residential areas and require businesses to move.
- Concern regarding hardship on business properties already impacted by State DOT and Sound Transit takings.
- Consider impact on unique uses and needs of the Puget Sound Energy's Georgetown Facility.
- Concern that South Seattle residents bear a greater proportion of the burden of unwanted facilities.

Visual Impacts/Aesthetics
- Concern about the effect of a visible intermodal station on Port-based tourism.

Noise
- Trains on Harbor Island create a lot of noise in West Seattle. Would additional trains necessitated by the intermodal station have noise abatement procedures, e.g. limited hours of operation?
- Concern about train whistle noise, particularly at night.
- Concern about noise from increased truck traffic.

Litter
- Concern about the potential impact of increased litter and trash in parks and roadsides due to transportation of waste into Georgetown and Beacon Hill.

Plants & Animals
- Study impacts to marine life and possibility of small-scale habitat restoration for Harbor Island sites.

Transportation/Traffic
- Traffic impacts should be studied, including combined impacts from a combined city/county intermodal; it sounds like too much more traffic in a currently

congested area. Also consider impacts to economically important, Port-based businesses.
- Look at flexibility of site for access to roads, rail, and barge or shipping infrastructures.
- Concern that Alternatives 4 and 5 would increase traffic through Georgetown's revitalizing center.
- Consider a new southbound freeway on-ramp to route truck traffic away from Georgetown.
- Traffic impacts should be studied in conjunction with plans for the Alaskan Way Viaduct and the monorail and impact of both partial and complete interruption of service on the Alaskan Way viaduct during a prolonged period of construction.
- Traffic study should look at what road improvements are funded and likely to happen.
- Transportation studies should evaluate access to Harbor Island by the two bridges; the flat bridge is in poor repair.
- Trucks are often backed up on Harbor Island already. Trucks entering Terminal 18 back up westbound access to the island.
- The West Seattle bridge near I-5 is often jammed already.
- On northbound East Marginal Way South, there is often a backup of trucks waiting to turn by the last exit before the viaduct.
- Some traffic back-ups due to trains crossing – which train tracks would intermodal serve in the future? Consider the effect of increased train crossings on auto traffic.
- Concern that Harbor Island alternatives will negatively impact east-west traffic.
- How will the project impact West Seattle?
- Traffic study should look at impact on emergency services as well as impact on commuters.
- Recommendation to consult with garbage truck drivers.
- Concern for impact on traffic at Swift and Albro. This set of intersections is already overloaded during the evening rush and includes METRO buses, concrete trucks, gas trucks, etc. This interchange is only one of two with access to Beacon Hill.
- Consider looking at operational strategies such as conducting garbage pickup at night to reduce traffic load.
- Traffic study should include accurate estimates of anticipated private packer trucks and other users in addition to the SPU vehicles.
- Traffic study should consider mix of vehicles and resulting safety issues from increased trucks.

Rail Impacts
- Address impact on rail system.
- Address capacity of rail bridge to handle new train, particularly if the existing bridge is compromised in some way.
- Consider the effect of increased train traffic due to a new intermodal station on other economically important, Port-based train traffic.

Site Access

- Consider what will happen to the garbage transfer system if road or rail access to Harbor Island is cut-off, either due to accident, construction, or earthquake.

Seismic

- Study impact of a major earthquake on facility operations.

Cultural Resources

- Address possible impacts to cultural resources.

APPENDIX C

Transportation Technical Report

TRANSPORTATION TECHNICAL REPORT FOR THE
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

SEATTLE PUBLIC UTILITIES
SOLID WASTE FACILITIES MASTER PLAN

June 2005

Prepared by:

heffron transportation, inc.

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ph: (206) 523-3939 ◆ fx: (206) 523-4949

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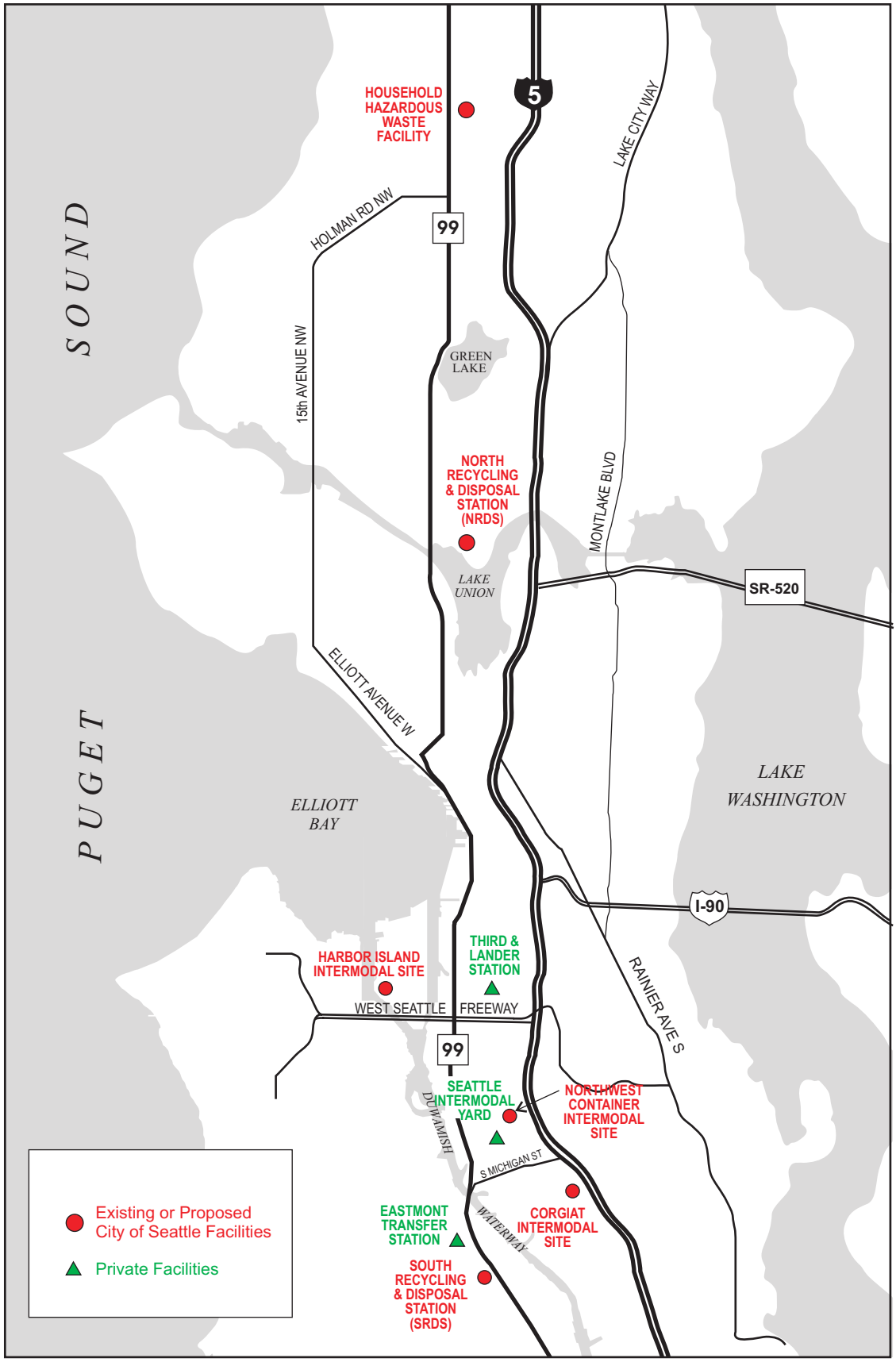
1. SUMMARY

This transportation technical report provides supporting information for the Seattle Public Utilities (SPU) *Solid Waste Intermodal Transfer Facility Supplemental Environmental Impact Statement (SEIS)*. This report documents the transportation impacts associated with the operation of a new intermodal transfer facility at three alternative sites. It should be noted that the operation of the intermodal transfer facility includes the operational assumptions for both the North Recycling and Disposal Station (NRDS) in Wallingford, and the South Recycling and Disposal Station (SRDS) in south Seattle described in SPU's *Solid Waste Facilities Master Plan*.

The transportation analysis for the intermodal transfer facility determined the net increase in passenger-vehicle and truck traffic at each site, and how the traffic change would affect traffic operations and on-site queuing. This report also documents train operations and how trains could affect street operations in the vicinity of each site.

2. PROJECT DESCRIPTION

SPU is proposing to develop a publicly-owned intermodal solid waste transfer facility. Currently, collection trucks drop off waste at the two city-owned recycling and disposal stations and two private transfer stations, where it is compacted and loaded into intermodal containers. These containers are trucked to a rail yard for transport to a landfill. With the new intermodal facility, most collection trucks would be re-routed directly to the new facility. Waste would be compacted into rail containers at the intermodal facility and loaded directly to rail. By eliminating the need to transport the compacted containers over the road, more weight can be put into these containers, which would improve efficiency. In addition, all three of the potential intermodal facility sites would have access to both the Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) railroads, each of which provides service to a different landfill. Figure 1 shows the location of the potential intermodal facility locations.



SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

Figure 1

LOCATION OF SOLID WASTE FACILITIES

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3. AFFECTED ENVIRONMENT

This section of the report discusses the existing and year 2028 No-Action conditions. The No-Action condition is the future condition without the proposed changes in facilities or operations. These are the base conditions against which the impacts of the project are evaluated. The affected environment for each site is described below.

3.1. Harbor Island Intermodal Facility

3.1.1. Transportation Network

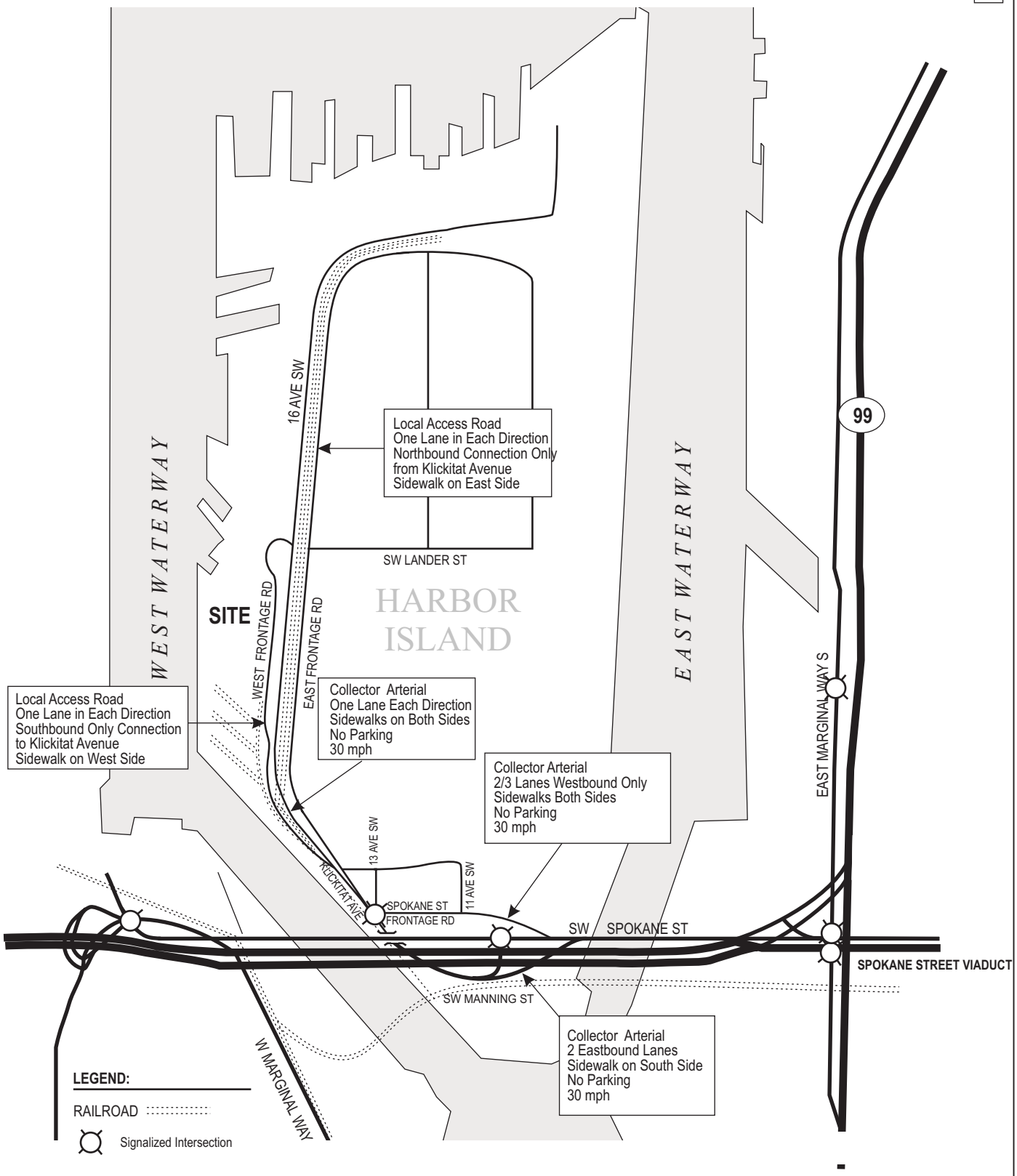
Most of the roadway network on Harbor Island was recently reconstructed as part of the Port of Seattle's Terminal 18 Improvement Project. The Harbor Island Intermodal Facility site would be located on the west side of Harbor Island along what is known as the "West Frontage Road." Access to this road is provided from 16th Avenue SW at SW Lander Street. Vehicles can egress on this same route or egress to the south where the West Frontage Road reconnects with 16th Avenue SW just north of SW Spokane Street. The ingress and egress route to the north is separated from Harbor Island's railroad tracks and storage yards by the grade-separated bridge on 16th Avenue SW. The egress route to the south, however, crosses the rail tracks (service tracks) that would feed the inter-modal site as well as the primary lead track serving all of Harbor Island. Key attributes of the Harbor Island roadway network are shown on Figure 2.

No new roadway projects are planned on Harbor Island. However, the Port of Seattle has plans to grade-separate East Marginal Way South from the two railroad crossings, east of Harbor Island, which is described in the following section. The City of Seattle plans to replace the lift/turn cylinders on the Spokane Street Swing Bridge, located west of Harbor Island. The cylinders are being manufactured off site and are planned to be installed on the bridge in 2005.

There are two major transportation project proposed in the site vicinity that will affect traffic when they are under construction. One of these is the Spokane Street Viaduct widening project. This project will widen the viaduct by adding a structure to the north side of the existing viaduct. The project will also change the on and off-ramps for westbound traffic. The existing off-ramp to 4th Avenue will be closed, and new ramps will be created for on and off traffic at 1st Avenue S. The other major project is the Alaskan Way Viaduct Replacement. Washington State Department of Transportation (WSDOT) and the City of Seattle are currently evaluating various construction options for the viaduct, which could include full closure of the facility. The planning and design for the Alaskan Way Viaduct will determine traffic management improvements and detours needed to accommodate traffic during construction.

3.1.2. Traffic Volumes and Operations

A new traffic count was performed at the SW Spokane Street/Klickitat Avenue SW intersection on Thursday September 23, 2004. This count was performed between 2:00 and 5:00 P.M. to account for the peak conditions associated with truck traffic to Terminal 18 as well as the afternoon departure from Todd Shipyards. The peak one-hour volumes occurred from 3:30 to 4:30 P.M. when about 740 vehicles entered the intersection. Approximately 39% (285 vehicles) were trucks. Level of service analysis was performed for this existing intersection, which currently operates at LOS A during the PM peak hour.



SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

Figure 2

HARBOR ISLAND
ROADWAY NETWORK

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Another key intersection in the vicinity of the Harbor Island site is the intersection at South Spokane Street/East Marginal Way South. This intersection is currently a boulevard-type intersection with the north and south roadways of Spokane Street split by a median where columns supporting the Spokane Street Viaduct are located. Just south of the intersection on East Marginal Way are two railroad crossings—one operated by the BNSF and the other by the UP Railroad—that link the rail yards in West Seattle and on Harbor Island to the mainline tracks and support yards. The Port of Seattle is proposing to reconstruct East Marginal Way South to grade-separate the roadway from the two railroad crossings. As part of project, the intersection of South Spokane Street/East Marginal Way South would be reconstructed. The existing boulevard-type intersection that is now controlled by two signals would be changed to a single intersection controlled by one signal.

Future traffic volumes on and in the vicinity of Harbor Island are expected to change dramatically in the future due to growth in container operations at the Port of Seattle. Future year 2030 conditions were evaluated as part of the Port of Seattle's *Container Terminal Access Study Update* (Heffron Transportation, Inc., December 2003) and for the Port of Seattle's East Marginal Way project (*East Marginal Way Grade Separation Project Transportation Technical Report for Environmental Review*, Heffron Transportation, Inc, February 9, 2004). The latter study, which is the most recent, included the following changes in the area:

- Full utilization of Terminal 5, including its on-dock intermodal facility.
- Full utilization of Terminal 18, including its on-dock intermodal facility.
- Expansion of Hanjin's operations at Terminal 46.
- The new Cruise Ship Terminal at T-30.
- King County's potential solid waste intermodal transfer facility on Harbor Island.
- Growth in through traffic on Spokane Street and East Marginal Way (non Port-related traffic) of 0.5% per year.

Container truck volumes through the Port of Seattle were estimated using information from the Port of Seattle's *Container Terminal Access Study (CTAS) Year 2003 Update*. For the year 2030 conditions, it was assumed that overall container volumes at the Port would grow to 3.0 million TEUs (twenty-foot equivalent units) per year, which represents about a 132% increase over the year 2002 volume of 1.3 million TEUs (twenty-foot equivalent units). This is roughly equivalent to 3.1% compound annual growth in container volumes. The worst-case condition for traffic operations at the local intersections would occur if the majority of the future containers are drayed (trucked) between the marine terminals and the off-dock railroad yards. Analysis in the *CTAS Update* determined that the Port's terminals would generate 11,900 truck trips per day with this future growth condition. About 5,700 of these truck trips would be generated by Terminal 18 on Harbor Island.

Currently, Terminal 18 operates with two gates: the South Gate and the North Gate. All inbound truck traffic to the terminal enters through the South Gate and exits through the North Gate. A small number of empty containers are sometimes returned through the North Gate or through an auxiliary access gate located off 13th Avenue SW. In the future, the terminal could operate with two independent gates. If this were to happen, the *Terminal 18 Redevelopment Project Draft Supplemental Environmental Impact Statement* (Port of Seattle, April 1999) estimated that 25% of all inbound and outbound traffic would be served by the North Gate and the rest would be served through the South Gate. From a traffic operations standpoint along 16th Avenue SW and Klickitat Avenue SW, the worst-case condition would be the existing condition with 100% of the outbound traffic using this

street, since this translates to a higher volume than 25% of the total terminal traffic. Thus, this condition was assumed for all analysis.

Based on the assumptions described above, Port of Seattle growth could add up to 2,850 southbound truck trips to 16th Avenue W each day. The peak traffic of the terminal would occur between 11:00 A.M. and noon when about 17% of the truck traffic would use the street. During the commuter PM peak hour (3:30 to 4:30 P.M. on Harbor Island), about 5% of the truck traffic would be on the street. This relates to about 485 trucks per hour during the terminal peak, and about 142 trucks per hour during the commuter peak hour. These are similar to the long-range truck projections that were made as part of the *Terminal 18 Redevelopment Project Draft Environmental Impact Statement* (Port of Seattle, March 1997). As previously discussed, the commuter peak hour is when traffic operations in the site vicinity are the worst (including at intersections along 16th Avenue SW and Klickitat Avenue SW because of the commuter exit from Todd Shipyards). Therefore, the analysis reflects the commuter peak hour condition.

In addition to the Port truck traffic that could occur in 2028 with the No-Action condition, King County is also evaluating the potential of locating a solid-waste intermodal transfer facility on Harbor Island. This project is in the early stages of planning; however, preliminary truck estimates have been prepared. King County is planning on receiving about 1.16 million tons of waste per year. About 85% of this waste would be hauled on weekdays and the other 15% on weekends. Assuming 25 tons per truck and two trips for each load received, the site would generate approximately 300 trips each weekday. During the commuter peak hour, it is assumed that the King County site would generate 32 truck trips. An estimated 20 employees would work at this facility, which would add another 40 vehicle trips each day. However, employees are expected to stay until past 5:00 P.M., which is later than Harbor Island's commuter peak hour (3:30 to 4:30 P.M.) due to Todd Shipyards. The 2028 No-Action traffic volumes are shown on Figure 3.

Traffic operating conditions are characterized by "level of service (LOS)." Six letter designations, "A" through "F," are used to define level of service. LOS A is the best and represents good traffic operations with little or no delay to motorists. LOS F is the worst and indicates poor traffic operations with long delays. Levels of service analysis were performed using the methodology in the *Highway Capacity Manual,* (Transportation Research Board, 2000). Level of service analysis determined that the three study area intersections—SW Spokane Street/Klickitat Avenue SW, 16th Avenue SW/SW Lander Street, and South Spokane Street/East Marginal Way South—would all operate at LOS C in the year 2028 without SPU's Harbor Island Intermodal Facility.

3.1.3. Site Access and Circulation

The Harbor Island site was vacant at the time of the transportation study and generated no vehicular or rail volumes at that time.

3.1.4. Traffic Safety

Accident data were obtained from the City of Seattle to determine if there are any traffic safety conditions that could impact or be impacted by the Proposed Actions. Signalized intersections with 10 or more accidents per year and unsignalized intersections with five or more accidents per year are considered high accident locations by the City of Seattle. More than three years of the most recent available data were obtained from the City, which includes the period from January 1, 2001 through August 23, 2004. The accident data are summarized in Table 1.

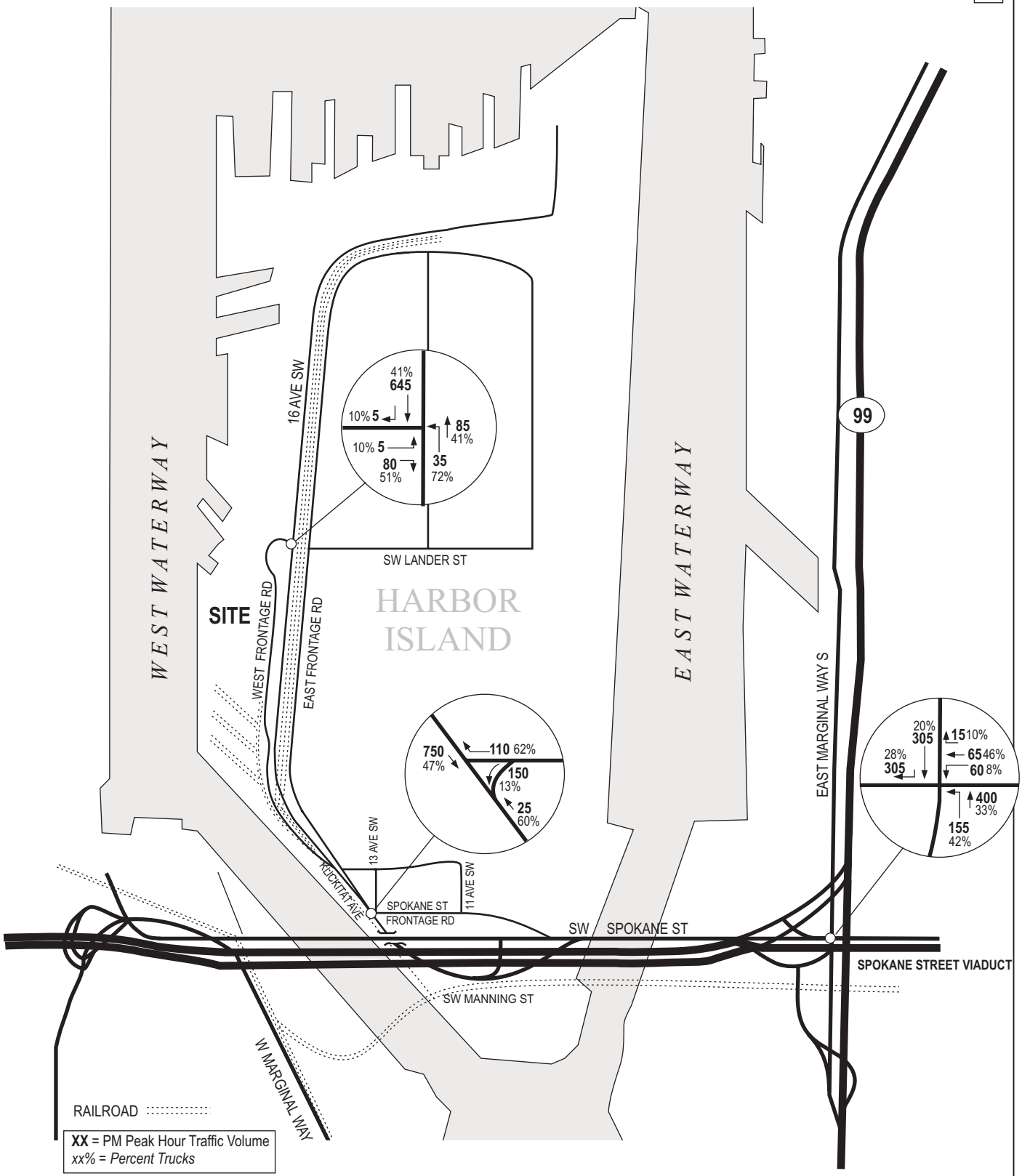

Figure 3

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

YEAR 2028 PM PEAK HOUR TRAFFIC VOLUMES
NO ACTION CONDITION

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Table 1. Intersection Accident Summary – Near Harbor Island Site

Intersection / Roadway	Type of Accident (Totals for Three Years) Head -On	Rear-End	Side-Swp	Right Turn	Left Turn	Right Angle	Peds/ Cycl	Other	Total	Average per Year
Klickitat Ave SW/Spokane St	0	0	0	1	0	0	0	0	1	0.3
Spokane St/11th Ave SW	0	0	1	0	1	0	0	0	2	0.6
Spokane St/SW Manning St	0	0	0	0	0	0	0	1	1	0.3
16th Ave SW/SW Lander St	0	0	0	0	0	0	0	0	0	0
SW Spokane Street – from Viaduct Ramps to Klickitat Avenue SW [a]	2	1	2	0	1	4	0	1	11	3.7

Source: City of Seattle. Data were obtained for the period from 01/01/2001 through 08/23/2004 (a 3.7-year period).
Data for the SW Spokane Street/Viaduct Ramps merge intersection reflect the period from January 1, 2002 thru December 31, 2004 (a 3-year period).

There have been a low number of accidents in the site vicinity in the past 3.7 years. All of the conventional intersections studied had less than one (1) accident per year on average. The roadway segment on SW Spokane Street between the merge point at Klickitat Avenue SW and the Spokane Street Viaduct ramps experienced 11 accidents in three years. Two of the accidents were head-on collisions. Although no accident diagrams were obtained, truckers who frequent the area have previously expressed concern about U-turns that occur on SW Spokane Street west of the ramps. Motorists make U-turns to access the northbound SR 99 ramps from the Spokane Street Viaduct. None of the analysis intersections met the City of Seattle's threshold for a high-accident intersection.

There is good emergency vehicle access to the site. Harbor Island was designed with extensive coordination with the Seattle Fire Department. All properties on Harbor Island have at least two means of access, which provides redundant access in the event that one route is blocked by a train.

3.1.5. Transit and Non-Motorized Facilities

Transit information at Harbor Island was reviewed to determine if there are existing bus service in the vicinity that might be affected by a new intermodal facility, and because some employees may use available service.

King County/Metro provides bus transit service to the study area. The site is directly served by Route 35. This route provides service between Downtown Seattle and Harbor Island. In the vicinity of the site, the bus route is along Spokane Street, Klickitat Avenue SW, 16th Avenue SW and SW Manning Street. The terminus on Harbor Island is at 16th Avenue SW/SW Florida Street.

When the Port of Seattle reconstructed the Harbor Island roadway network, sidewalks were added to one or both sides of all roadways on Harbor Island. A sidewalk currently exists along the entire length of the West Frontage Road adjacent to the site. This sidewalk connects at the north to 16th Avenue SW and to the south through the Port's public access area north of Spokane Street. All sidewalks also connect to the West Seattle Bicycle Trail, which is located along SW Spokane Street. It should be noted that the West Seattle Bicycle Trail crosses the SW Spokane Street's North Frontage Road and the access road to Terminal 18 at unsignalized intersections.

3.1.6. Parking

The Harbor Island site is currently vacant, and does not generate any parked vehicles. No on-street parking is permitted near the site on 16th Avenue South or the West Frontage Road. However, there are many areas within the City-owned and Port-owned rights-of-ways that have been developed as public parking areas. These areas were developed to accommodate Todd Shipyard's parking needs that were displaced by the Terminal 18 Improvement Project.

3.1.7. Rail Transportation

Harbor Island is served by both the Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) railroads. When Harbor Island was reconstructed as part of the Terminal 18 Improvement Project, all of the rail lines and rail yards on Harbor Island were also reconstructed. Both railroads' primary access tracks to the island are located along the south and west sides of Klickitat Avenue, and pass under the Spokane Street Swing Bridge. North of Spokane Street, 16th Avenue SW passes over the rail lines and the island's main rail yard located east of 16th Avenue SW. The main railroad lead tracks to Harbor Island do cross the West Frontage Road at grade near its southern intersection with the 16th Avenue SW corridor.

The Port of Seattle is undertaking a comprehensive rail operations study of Harbor Island. This study will evaluate rail operating issues associated with growth in container traffic at the Port to its long-term target of 3 million TEUs (twenty-foot equivalent units). In addition to rail traffic generated by the Port, the study will include other existing rail traffic on Harbor Island (e.g., rail barge) as well as potential future rail traffic associated with King County's and SPU's solid waste intermodal facilities. Results of this study will not be available until spring 2005.

3.2. Corgiat Site Intermodal Facility

3.2.1. Transportation Network

The Corgiat site is located between South Corgiat Drive, which is located immediately west of and parallel to Interstate 5, and the BNSF/UP railroad tracks along the east side of Airport Way. The site extends south from South Graham Street to the dead-end of South Corgiat Drive. Key attributes of roadways located in the vicinity of this site are also shown on Figure 4.

No new roadway projects are planned near the Corgiat Site.

3.2.2. Traffic Volumes and Operations

There are three signalized intersections in close proximity to the Corgiat site: 1) South Albro Place/South Corgiat Drive/I-5 off-ramp, 2) South Albro Place/Swift Avenue South, and 3) South Albro Place/Stanley Avenue South. New counts were performed at all three intersections on September 23, 2004. Road construction was occurring at the Swift Avenue South intersection during these counts; therefore, the counts were compared against recent counts performed by the City of Seattle. It was determined that the construction had no effect on traffic volumes. The PM peak hour occurs from 3:00 to 4:00 P.M. A traffic count at the intersection at S Bailey Street/13th Avenue S/Stanley Avenue S intersection was performed on April 7, 2005.

Historic volumes from the City of Seattle's count archives show that traffic volumes have fluctuated in the past 10 years. Some movements have experienced a decline in volumes (e.g., Swift Avenue

South north of South Albro Place), while others have increased from between 1.2% to 1.8% per year. Year 2028 traffic volumes were estimated by applying a 1.5% per year uniform growth rate to all movements. The 2028 No-Action traffic volumes are shown on Figure 5.

Level of service analysis was performed for the three intersections listed above using the methodology in the *Highway Capacity Manual.* Data regarding the intersection geometry and signal operations were obtained from the Seattle Department of Transportation (SDOT) as well as the Washington State Department of Transportation (WSDOT, the agency responsible for operating the signals at the I-5 ramps). The level of service results are summarized in Table 2.

Table 2. Existing and Future No-Action Level of Service - Near Corgiat Site

	Existing (2004) Conditions		Year 2028 No-Action Conditions	
Signalized Intersections	LOS[1]	Delay[2]	LOS[1]	Delay[2]
S Albro Place/Swift Avenue S	C	25.7	E	79.8
S Albro Place/S Corgiat Drive/I-5 Off-ramp	B	17.2	C	21.2
S Albro Place/Stanley Avenue S	A	6.6	A	9.0
S Bailey Street/13th Avenue S/Stanley Avenue S	B	10.9	C	20.3

Source: Heffron Transportation, Inc. using the methodology in the 2000 Highway Capacity Manual.

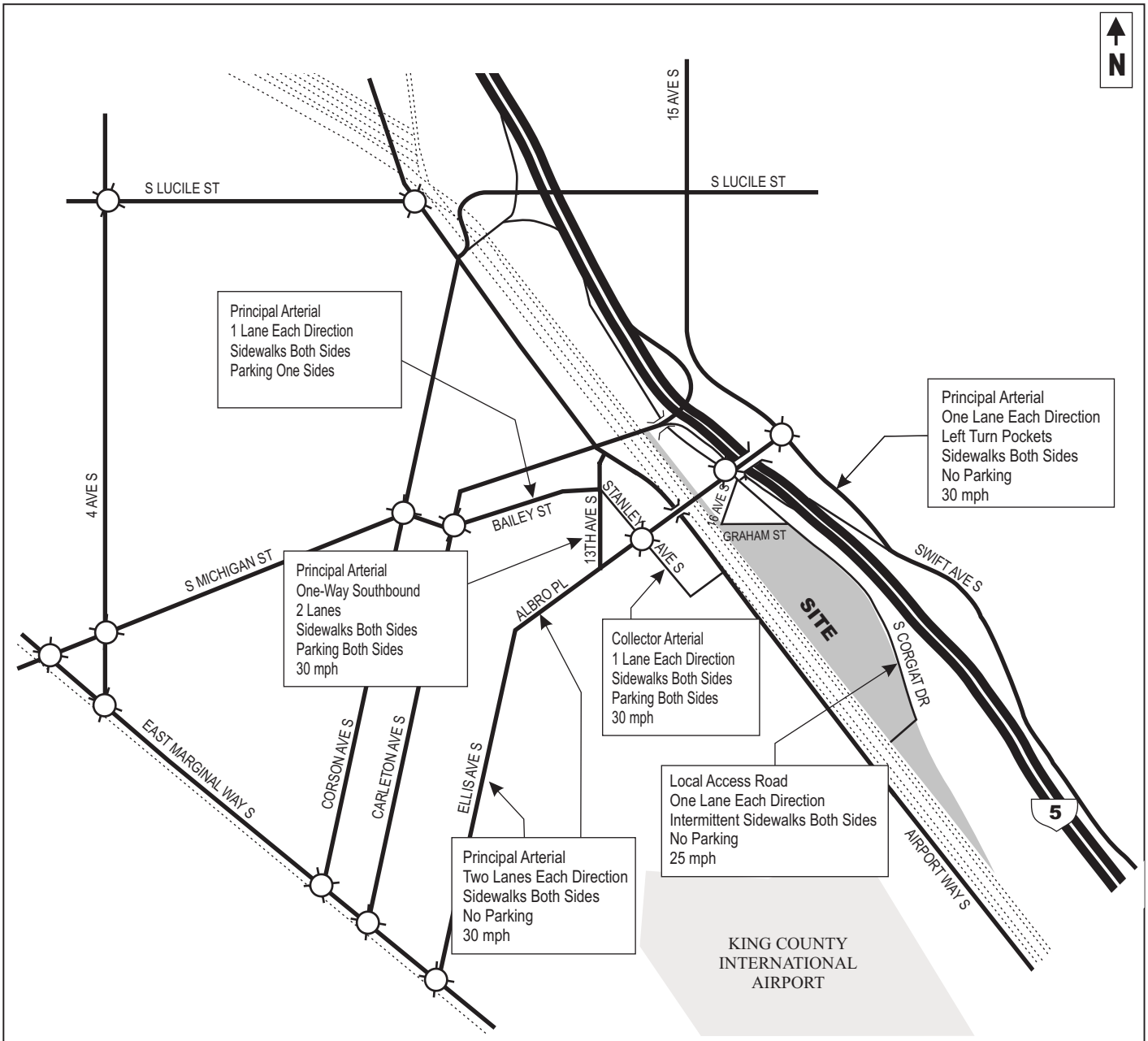
1. *Level of service*
2. *Average seconds of delay per vehicle*

3.2.3. Site Access and Circulation

The Corgiat site is currently occupied by many businesses that generate traffic. These businesses include the maintenance and dispatch yard for Puget Sound Energy (PSE); the yard for UltraBlock, Inc., where unused concrete is recycled into landscape blocks; a yard for MV Transportation, Inc., and other warehouse and business office uses. The UltraBlock site is currently accessed from South Graham Street, while most of the other uses on the site are accessed from South Corgiat Drive. The combined trip generation for these existing uses was estimated using an existing traffic count on South Corgiat Drive, as well as trip generation rates for various types of uses and the size of the uses now occupying the site. It is estimated that these uses generate a combined 780 trips per day, with about 75 trips occurring in the PM peak hour. Of these, PSE accounts for about 360 trips per day and 30 trips during the PM peak hour.

3.2.4. Traffic Safety

Accident data were obtained from the City of Seattle to determine if there are any traffic safety conditions that could impact or be impacted by the Proposed Actions. Three years of the most recent available data were obtained from the City, which includes the period from January 1, 2001 through August 23, 2004. The accident data are summarized in Table 3.



SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

Figure 4

CORGIAT SITE
ROADWAY NETWORK

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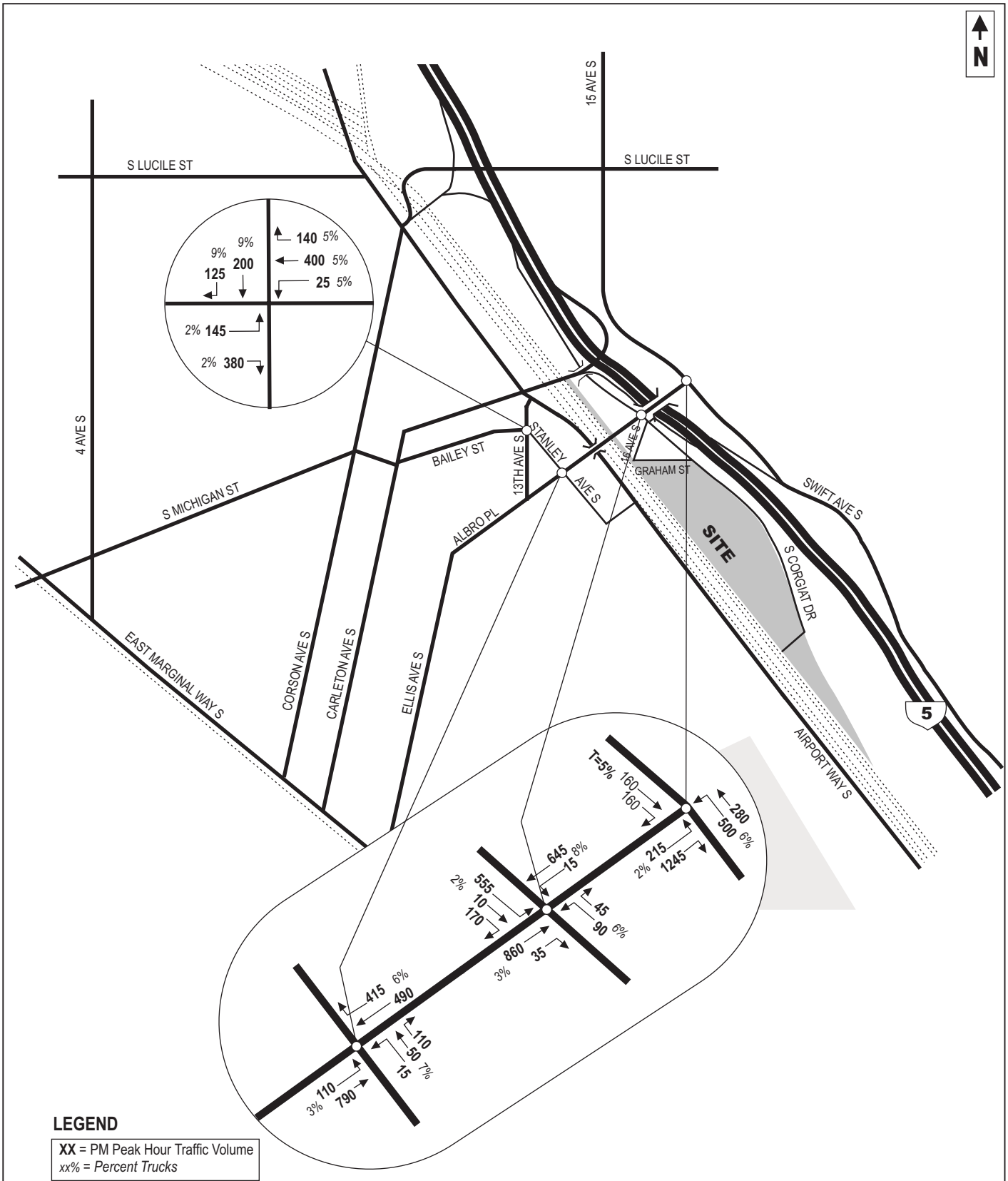


Figure 5

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

YEAR 2028 PM PEAK HOUR TRAFFIC VOLUMES
NO ACTION CONDITION

heffron transportation, inc.

Table 3. Intersection Accident Summary – Near Corgiat Site

	Type of Accident (Totals for Three Years)									
Intersection / Roadway	Head -On	Rear-End	Side-Swp	Right Turn	Left Turn	Right Angle	Peds/ Cycl	Other [a]	Total	Average per Year
S Albro Pl/Stanley Ave S	0	0	1	0	0	2	0	1	4	1.1
S Albro Pl/S Corgiat Dr	0	1	0	0	0	12	0	0	13	3.5
S Albro Pl/Swift Ave S	0	0	10	0	0	0	0	1	11	2.9
S Graham St/S Corgiat Dr	0	0	0	0	0	0	0	0	0	0
S Bailey St/13th Ave S/Stanley Ave S [b]	0	0	1	0	0	1	0	0	2	0.67

Source: City of Seattle. Data were obtained for the period from 01/01/2001 through 08/23/2004 (a 3.73-year period).

a Includes vehicle backing up, improper lane movement, and unidentified accident type.

b Data for the S Bailey Street/13th Avenue S/Stanley Avenue S reflect the period from 01/01/2002 through 12/31/04, a three-year period.

All the analysis intersections are signalized except the intersection of South Graham Street/South Corgiat Drive. The intersection at South Albro Place/South Corgiat Drive experienced the highest number of accidents. Twelve of the 13 accidents at this intersection were right-angle collisions, which can indicate motorists running red lights. However, at 3.5 accidents per year, the number of accidents would not meet the City's threshold as a high accident intersection (10 accidents per year at signalized intersections and 5 accidents per year at unsignalized intersections).

The site has emergency vehicle access via South Corgiat Drive, which is a relatively low-volume roadway that is not crossed by railroad tracks.

3.2.5. Transit and Non-Motorized Facilities

King County/Metro provides bus transit service in the vicinity of the study area. However, there are no transit stops located within an 800-foot walking distance. The closest southbound stop is located at South Eddy Street and the closest northbound stop is located at Stanley Avenue South.

There are sidewalks along both sides of South Albro Place. On South Corgiat Drive, sidewalks are intermittent. On the west side of the street, the sidewalk extends from South Albro Place to 18th Avenue South. On the east side, the sidewalk extends from South Graham Street to approximately 500 feet north of Ursula Place South. In areas without sidewalks, the road widens from about 22 feet to about 26 feet. The extra width provides a narrow shoulder for pedestrians. South of Ursula Place South, the width of South Corgiat Drive more than doubles as it serves both as local access to Airport Way South and access to the commercial buildings on either side of the road. There is adequate room for pedestrians in this area. There are no bicycle facilities in the site vicinity.

3.2.6. Parking

There is no on-street parking on South Corgiat Drive near the site vicinity. All vehicles currently generated by the existing uses park in parking areas on the site.

3.2.7. Rail Transportation

The Corgiat site is located adjacent to what is known as the Van Asselt Yard. There are three mainlines located on the west side of this yard: two owned by the Burlington Northern Santa Fe (BNSF) and one owned by the Union Pacific (UP). As part of the Joint Facility arrangement between the railroads and Sound Transit, the three mainlines would be shared between the Rhodes Interlocking and the Black River Interlocking (both of which are south of the Van Asselt Yard). This will provide additional capacity for both railroads and Sound Transit trains to operate in this corridor.

Another recent change near the Van Asselt Yard is the closure of the at-grade crossing at Military Road. This was the only remaining at-grade crossing in the area. No other public streets cross the tracks in the vicinity of the Van Asselt Yard.

3.3. South Edmunds Street Site Intermodal Facility

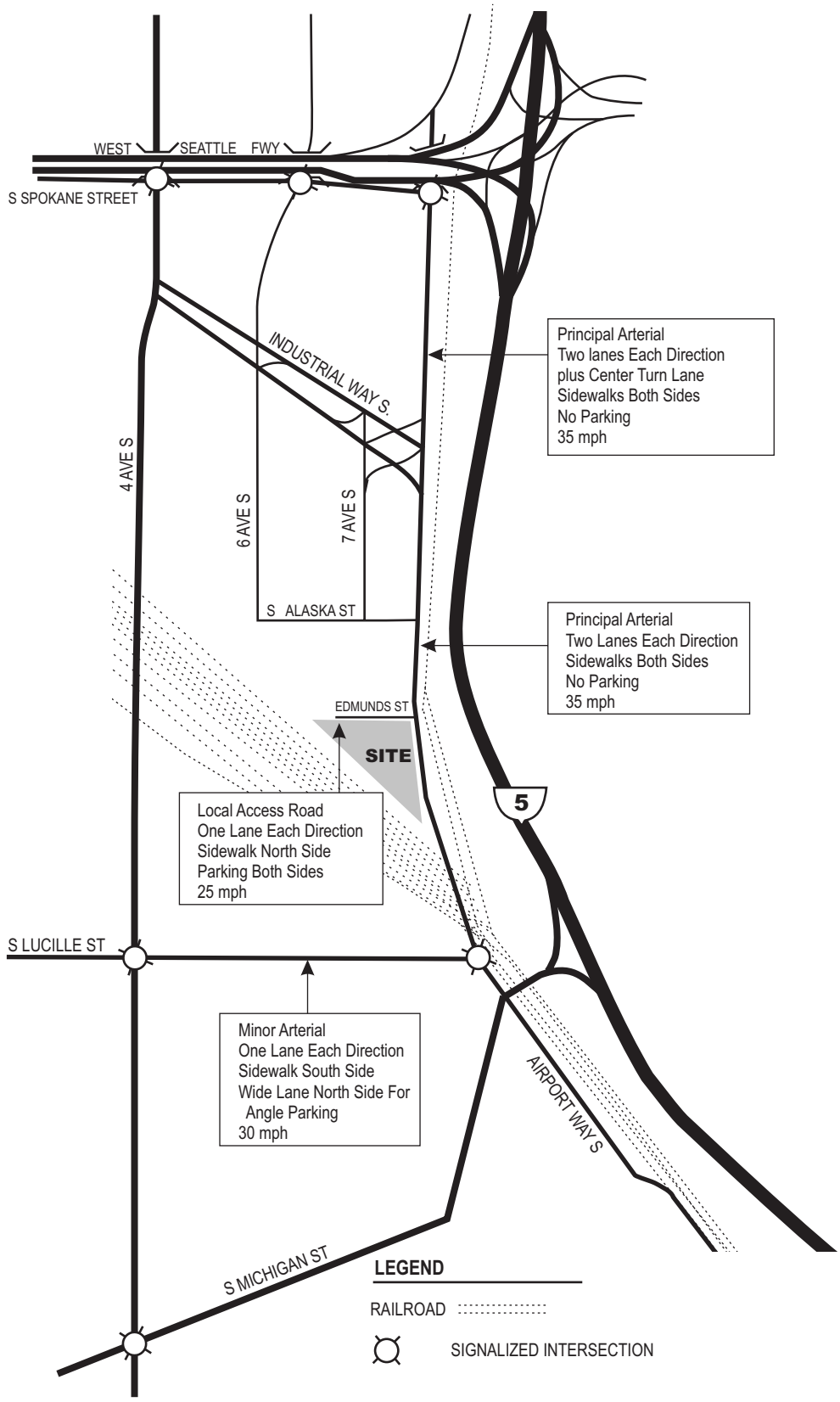
3.3.1. Transportation Network

The South Edmunds Street site is located on the east side of the Union Pacific Argo Yard, and west of Airport Way South just south of South Edmunds Street. This section of Airport Way South has four lanes, and widens to five lanes (two lanes in each direction plus a center left turn lane) north of the site area. The nearest traffic signals are located at South Lucile Street south of the site and at South Spokane Street north of the site. Key attributes of roadways located in the vicinity of this site are shown on Figure 6.

The City of Seattle plans to paint the bridge at Airport Way South, over the Argo Railroad Yard, as part of their Bridge Painting Program. This program paints steel bridges to protect against deterioration and loss of strength. No other roadway improvements are planned near the project site.

3.3.2. Traffic Volumes and Operations

The South Edmunds Street site would be accessed from Airport Way South at South Edmunds Street. Traffic volumes along Airport Way South indicate two distinct peak periods coinciding with the morning and afternoon commute patterns. Volumes during the PM peak hour (4:00 to 5:00 P.M.) are the highest. The existing volumes on Airport Way South are shown on Figure 7.



SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

Figure 6

SOUTH EDMUNDS STREET SITE
ROADWAY NETWORK

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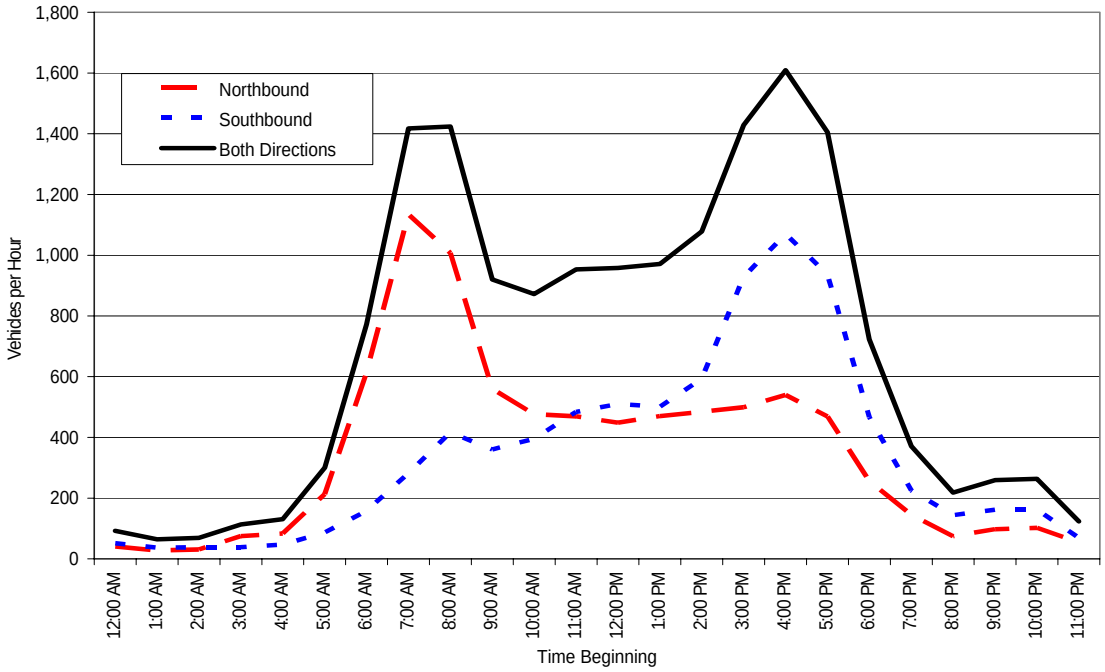
Figure 7. Existing Traffic Volumes on Airport Way South



Source: SDOT seven-day traffic count performed on Airport Way South north of Lucile Street beginning July 9, 2004.

A new count was performed at the Airport Way South/South Edmunds Street intersection on October 5, 2004. In addition, a new count was performed at the nearby intersection of Airport Way South/Industrial Way South on September 23, 2004.

Traffic volumes on Airport Way South have been growing at a faster rate than other arterials in the industrial area. This is likely due to commuters who have discovered Airport Way South as a way to bypass congestion on I-5. In the past 10 years, traffic volumes on Airport Way South just north of Lucille Street have grown at a rate of 2% per year. This growth rate was used to project future traffic volumes for the year 2028. The 2028 No-Action PM peak hour traffic volumes are shown on Figure 8.

Level of service analysis was performed for the two unsignalized intersections near the site using the methodology in the *Highway Capacity Manual.* The level of service results are summarized in Table 4. The analysis shows that left turns from the side streets currently operate at acceptable levels of service, but in the future, increased traffic volumes on Airport Way South would make these turns difficult to make. In the 2028 with the No-Action condition, left turns onto Airport Way South would operate at LOS F conditions. It should be noted that these level of service calculations assume the posted speed limit on Airport Way South of 35 mph. However, observations along the street show that actual speeds are likely much higher. The ability to turn onto Airport Way South is even more difficult when speeds are higher than the posted speed limit.

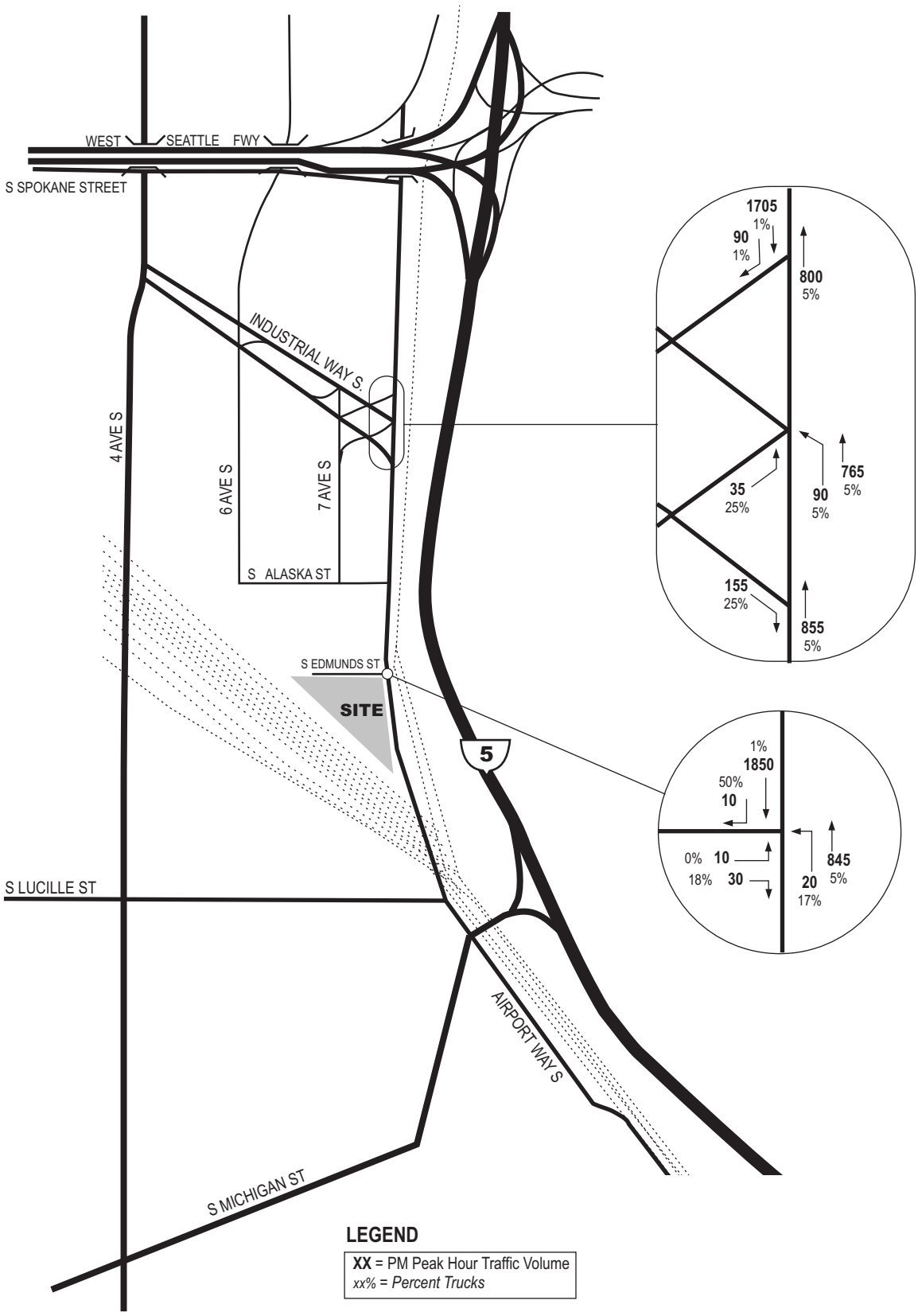


Figure 8

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

YEAR 2028 PM PEAK HOUR TRAFFIC VOLUMES
NO ACTION CONDITION

heffron transportation, inc.

Table 4. Existing and Future No-Action Level of Service - Near South Edmunds Street Site

Intersection	Existing (2004) Conditions LOS[1]	Existing (2004) Conditions Delay[2]	Year 2028 No-Action Condition LOS	Year 2028 No-Action Condition Delay
Airport Way South/South Edmunds Street				
Left turn from Edmunds Street	C	22.0	F	103.9
Left turn from Airport Way	A	1.1	A	3.5
Airport Way South/Industrial Way South				
Left turn from Industrial Way	D	28.1	F	75.1
Left turn from Airport Way	B	11.6	C	20.4

Source: Heffron Transportation, Inc. using the methodology in the 2000 Highway Capacity Manual.

1. Level of service

2. Average seconds of delay per vehicle

3.3.3. Site Access and Circulation

The existing South Edmunds Street site is occupied by warehouses and a freight terminal. These businesses generate passenger vehicle and truck traffic throughout the day, all of which access the site through the Airport Way South/South Edmunds Street intersection. A count of the traffic generated by the existing site was performed on October 5, 2004. This count determined that during the peak hour along Airport Way South (4:00 to 5:00 P.M.), the existing site generates 20 vehicle trips (8 inbound and 12 outbound). Of these, two (10%) were trucks.

3.3.4. Traffic Safety

Accident data were obtained from the City of Seattle to determine if there are any traffic safety conditions that could impact or be impacted by the Proposed Actions. Three years of the most recent available data were obtained from the City, which includes the period from January 1, 2001 through August 23, 2004. The accident data are summarized in Table 5.

Table 5. Intersection Accident Summary – Near South Edmunds Street Site

Intersection / Roadway	Type of Accident (Totals for Three Years) Head -On	Rear -End	Side-Swp	Right Turn	Left Turn	Right Angle	Peds /Cycl	Other [a]	Total	Average per Year
4th Ave S/Industrial Way	0	0	0	0	0	1	1	0	2	0.6
6th Ave S/Industrial Way	0	0	0	0	0	0	0	0	0	0.0
7th Ave S/Industrial Way	0	0	0	0	0	0	0	0	0	0.0
Airport Way S/Industrial Way	0	0	0	0	0	2	0	1	3	0.8
Airport Way S/Edmunds St	0	0	0	0	1	2	0	1	4	1.1
Airport Way S/S Lucille St	0	0	1	2	13	2	0	1	19	3.5

Source: City of Seattle. Data were obtained for the period from 01/01/2001 through 08/23/2004 (a 3.7-year period).

a Includes overturned vehicles.

All analysis intersections except for Airport Way South/South Lucille Street are unsignalized. As previously mentioned; unsignalized intersections are considered high accident locations if 5 or more

accidents occur per year; whereas signalized intersections are considered high accident locations if 10 or more accidents occur per year. None of the intersections in the site vicinity exceeded this threshold. The Airport Way South/South Lucille Street intersection experienced 13 left turn accidents in the study time period. Nine of the 13 accidents involved vehicles turning left from northbound Airport Way South to westbound South Lucille Street colliding with vehicles traveling southbound on Airport Way South.

The site has emergency vehicle access via South Edmunds Street, which is a relatively low-volume roadway that is not crossed by railroad tracks.

3.3.5. Transit and Non-Motorized Facilties

Transit information at the South Edmunds Street site was reviewed to determine if there are existing bus service in the vicinity that might be affected by a new intermodal facility, and because some employees may use available service. King County/Metro provides bus transit service to the study area with stops located along Airport Way South. The closest northbound stop is at the intersection of South Edmunds Street/Airport Way South. The closest southbound stop is at the intersection of South Alaska Street/Airport Way South. There is a bus pullout provided at this transit stop.

There are sidewalks along both sides of Airport Way South, and a sidewalk on the north side of South Edmunds Street. There are no bike facilities in the area.

3.3.6. Parking

There is no on-street parking along Airport Way South near the site. There is on-street parking on both sides of South Edmunds Street. Parking generated by the existing uses near the site use a combination of on-site and on-street parking spaces.

3.3.7. Rail Transportation

The South Edmunds Street site is located on the north side of the Union Pacific Argo Yard. The UP currently provides service to Northwest Container, the firm that operates the current intermodal facility that would be jointly operated with SPU if this site is selected. The BNSF mainline is located along the north side of the yard between the Georgetown Interlocking and the mainline right-of-way located between 1st and 4th Avenues South.

All public streets in the vicinity are grade-separated from the rail tracks that serve the South Edmunds Street site.

4. PROJECT IMPACTS

This section of the report describes the conditions that would exist with the proposed changes in facilities and operations. The primary change that would affect traffic volumes near the intermodal facility sites includes diverting most commercial and residential packer trucks to the new intermodal facility.

4.1. Trip Generation

The proposed changes to overall Solid Waste Utility operations would shift traffic among facilities in Seattle. This section describes the proposed changes and their effect on traffic volumes near the proposed intermodal facility sites. Trip generation for the intermodal facility was based on information in *Technical Memorandum No. 3 – Peak Flows and Waste Stream Analysis* (Herrera Environmental Consultants, July 31, 2003). These trip estimates are based on detailed future tonnage projections for each of the various waste streams, seasonal peaking characteristics, and average vehicle loads. The information was compiled for three levels of use—an average day, a peak design day, and an overall peak day. These levels of use are defined as:

- An **average day** is the average of all days in a year,
- A **peak design day** is the average day during the peak month of August (this is the condition for which all off-site traffic operations analysis was performed),
- An **overall peak day** is a theoretical condition when the design peak of each waste streams occurs on the same day.

SPU is evaluating three potential sites for the intermodal facility. Trip generation for each of the sites would be identical since it is based on the waste stream generated by City of Seattle residents. The new intermodal facility sites would generate trips from the following sources with the Proposed Actions:

- Commercial collection trucks and residential collection trucks bringing waste to the intermodal facility (including commercial collection trucks and residential organics collection trucks that currently take materials to private facilities),
- Transfer trucks bringing waste from NRDS and SRDS,
- Employees that work at the intermodal facility.

Daily commercial and residential collection truck trips generated by the intermodal facility in 2028 with the Proposed Actions are described in *Technical Memorandum No. 3 – Peak Flows and Waste Stream Analysis.* Daily transfer truck trips coming to the intermodal facility were assumed to be equal to the transfer truck trips generated by the NRDS and SRDS in 2028 with the Proposed Actions described previously in this document.

Employee trips generated by the intermodal facility in 2028 with the Proposed Actions were estimated based on projected employment information provided by SPU, which assumes 24 employees on the intermodal facility site at any one time. (Source: Jenny Bagby, Principal Economist, SPU, September 24, 2004). Intermodal facility employees include the crew chief, manager, laborers, compactor and heavy equipment operators, scale attendants, and truck drivers.

Total daily trips generated by the intermodal facility in 2028 with the Proposed Actions were estimated by accounting for all inbound and outbound trips associated with each collection truck, transfer truck, and employee vehicle. Table 6 summarizes the estimated daily trips at the intermodal facility for the three levels of use: the average day, peak design day, and overall peak day. The intermodal facility is estimated to generate approximately 598 vehicle trips (299 inbound and 299 outbound trips) on an average day, 652 vehicle trips on a peak design day, and 804 vehicle trips on an overall peak day. The majority of vehicles generated by the intermodal facility are expected to be collection trucks, which would comprise between 83% and 85% of the daily volume in 2028.

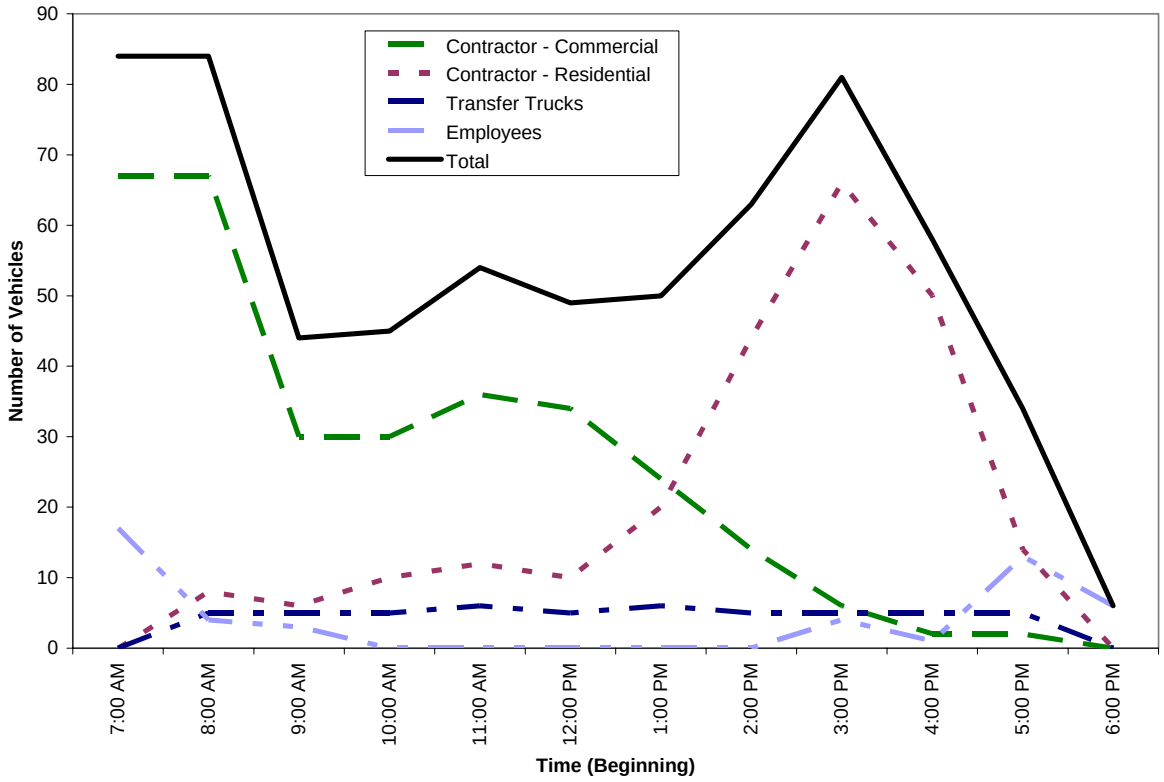
Table 6. Daily Trip Summary at the Intermodal Facility

	2028 with Proposed Actions		
Trip Type	Average Day	Peak Design Day	Overall Peak Day
Collection Trucks – Commercial	286	312	368
Collection Trucks – Residential	218	240	300
Self-Haul	0	0	0
Transfer Truck	46	52	88
Employee	48	48	48
Total	598	652	804

Source: Truck trips derived from information in Technical Memorandum No. 3 – Peak Flows and Waste Stream Analysis *(Herrera Environmental Consultants, July 31, 2003). Employee trip estimates from Seattle Public Utilities.*

Daily collection truck trips were translated into hourly trips based on trip data provided by SPU in the *Technical Memorandum No. 3 – Peak Flows and Waste Stream Analysis.* The hourly inbound transfer trucks were assumed to be equal to the hourly outbound transfer trucks generated by NRDS and SRDS. Daily employee trips were translated to hourly trips based on employee shift information included in *Traffic Impact Analysis South Recycling and Disposal Station Reuse/Recycling Center and Construction and Demolition Annex* (Heffron Transportation, December 20, 1999). Figure 9 shows the intermodal facility daily trips by hour in 2028 with the Proposed Actions conditions for a peak design day. Off-site traffic analysis for each of the three sites will be performed assuming peak design day traffic volumes. As previously described, the overall peak day is a theoretical maximum that could occur at the site, and was included in this analysis to make sure the on-site facilities could accommodate such a peak. However, this peak would occur very infrequently. Thus, it is not appropriate to use it as the basis for determining the traffic operational impacts of the site.

Figure 9. Hourly Distribution of Intermodal Facility Trips – Peak Design Day



Source: Truck trips derived from information in Technical Memorandum No. 3 – Peak Flows and Waste Stream Analysis *(Herrera Environmental Consultants, July 31, 2003). Employee trip estimates from Seattle Public Utilities and prior SRDS analysis.*

This figure shows that the largest number of trips generated by the intermodal facility would occur between the hours of 7:00 and 9:00 A.M. (estimated to be 84 trips each hour) and then again between 3:00 and 4:00 P.M. (81 trips). The morning peak volume includes mostly commercial collection vehicles that typically fill up early in the day. The afternoon peak is comprised primarily of residential collection vehicles that typically fill up later in the day. The individual site analyses determined that the afternoon peak is when traffic volumes in the vicinity of each site are the highest. During this time period the site would generate 6 commercial collection truck trips, 66 residential collection truck trips, 5 transfer truck trips, and 4 employee trips. The AM peak hour analysis assumes that the facility would open at 7:00 A.M. However, many commercial collection trucks pick up during off business hours in locations such as downtown Seattle. Therefore, it is likely that the facility will open earlier to accommodate these trucks. Therefore, the AM peak hour volumes used for all analyses are conservatively high and reflect a worst-case condition.

It should be noted that two of the three sites being evaluated for the intermodal facility have existing uses that generate trips. Thus, the change in trip generation would be different for each site. The net change in daily and peak hour trip generation is described for each intermodal site in described in subsequent sections of this report.

4.2. Trip Distribution Patterns

Collection trucks that currently take refuse to NRDS and SRDS would be rerouted to the new intermodal facility. In addition, collection trucks that are now delivering waste to one of the private facilities in the industrial area (e.g., the Seattle Intermodal Yard; the Rabanco's Recycling, Transfer, and Intermodal Facility; or the Eastmont Transfer Facility) would also be rerouted to the new intermodal facility.

The potential travel routes for the residential collection trucks would be based on the distribution of population throughout the City. This was determined using year 2000 Census data for the City of Seattle. Most of Seattle's population is located north of the industrial area (approximately 70%).

Commercial collection trucks are generated by non-residential uses. The majority of these are concentrated in downtown Seattle and areas north of downtown. Based on information from SPU, it is estimated 70% of the commercial collection trucks would come from areas north of the industrial area, and 30% would come from areas south. It is assumed that about half of the trucks coming from the south would be from areas west of the Duwamish River. The general distribution patterns for residential and commercial collection truck trips are shown on Figure 10.

Trucks arriving from these neighborhoods would use a combination of I-5, SR-99, and surface streets to access the new intermodal facility whichever of the three sites is chosen. Trips from neighborhoods located to the south are more likely to take different routes to each of the three sites. For example, trips from Beacon Hill would be more likely to use Columbian Way to the West Seattle Freeway if the site is located on Harbor Island, but could use Swift Avenue South if the Corgiat Site is chosen. Likewise, trips from West Seattle may use southern bridges across the Duwamish (e.g., First Avenue South Bridge) if the Corgiat site is chosen versus the northern bridges (e.g., Lower Spokane Street Swing Bridge) if the Harbor Island site is chosen.

It should be noted that major detours associated with projects such as the Alaskan Way Viaduct would likely affect truck traffic arriving from North Seattle regardless of whether the new intermodal facility is constructed. Both collection trucks and transfer trucks now use the Alaskan Way Viaduct to access the two existing intermodal transfer facilities at Rabanco and Waste Management. Therefore, the potential impact that the Alaskan Way Viaduct replacement project would have on truck movements is independent of the proposed action.

4.3. Harbor Island Intermodal Facility

Terminal 10 on Harbor Island is one of three sites being evaluated for a new intermodal transfer facility. One potential site layout is shown on
Figure 11. This facility would include:

- A main transfer building where waste is delivered; compacted, if necessary; and loaded into containers.
- An exterior container storage area.
- Rail siding tracks with adjacent cranes and other equipment for loading containers onto rail cars.
- An employee/office building with adjoining parking.
- Access driveways with entrance and exit scale facilities.
- A small fuel station for on-site equipment.

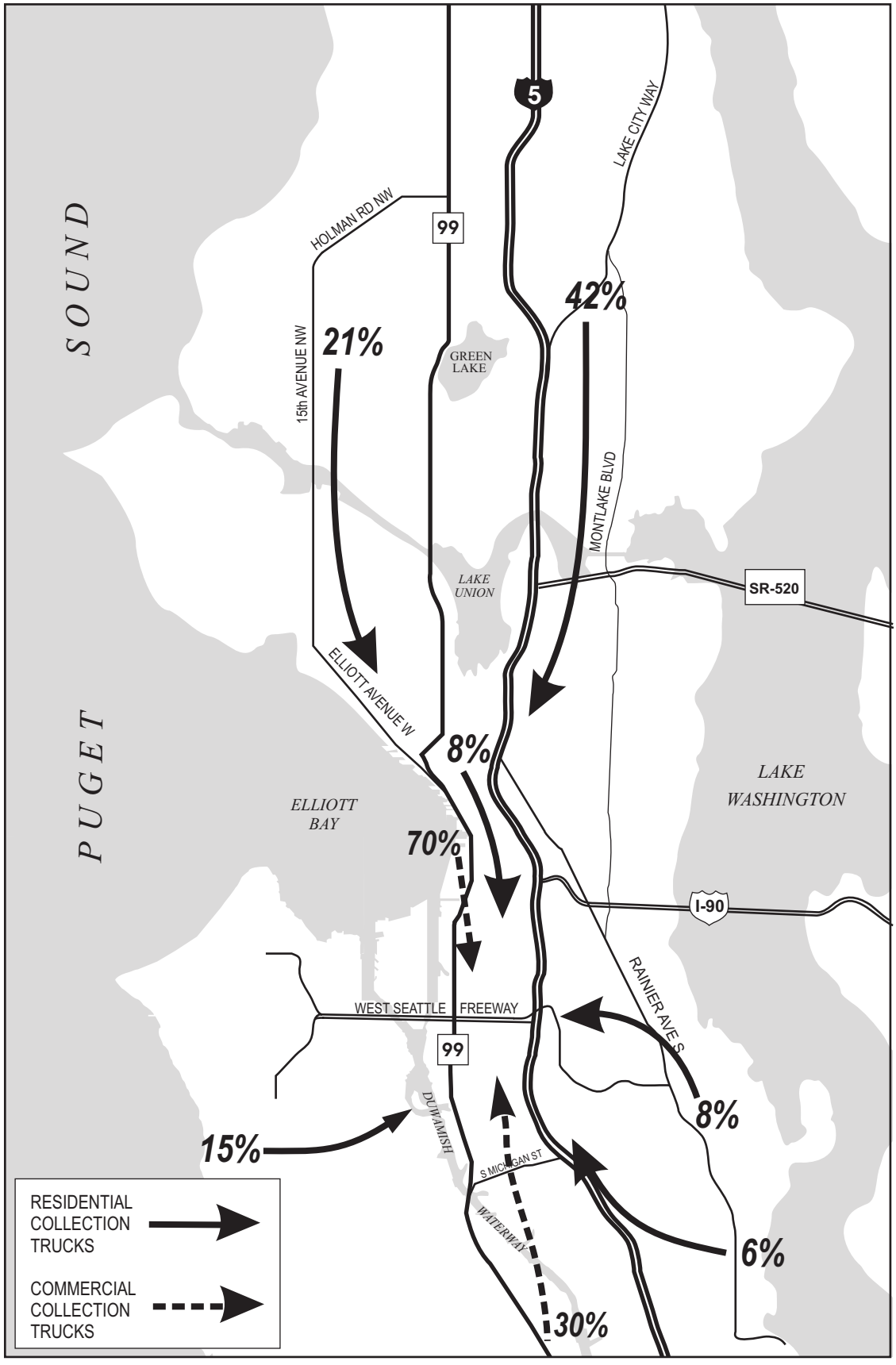
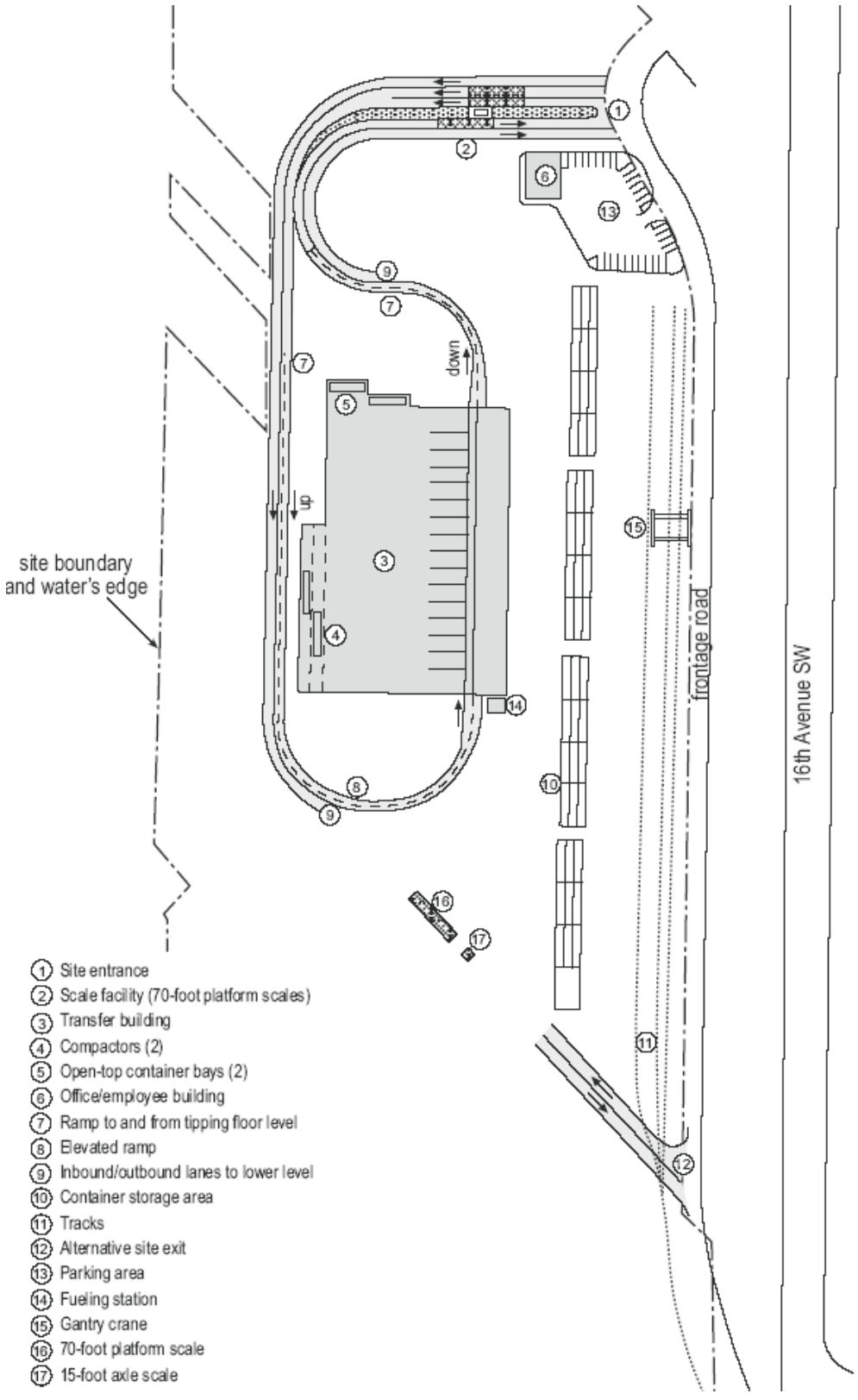


Figure 10

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

TRIP DISTRIBUTION PATTERN FOR COLLECTION TRUCKS

heffron transportation, inc.



SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

Figure 11

HARBOR ISLAND INTERMODAL FACILITY
POTENTIAL SITE LAYOUT

heffron transportation, inc.

Because King County is also evaluating the possibility of a solid waste intermodal transfer facility on Harbor Island using land to the south of Terminal 10, there are two options being evaluated for the Terminal 10 site. One would be a stand-alone operation for just the City of Seattle's waste. Under this scenario, King County and the City would have separate facilities on adjacent sites. The other option is to combine the operations so that some of the facilities (e.g., the transfer building) could be shared. The transportation impacts of each option are nearly identical. The same volume of waste would be generated by King County and the City of Seattle whether the facilities are shared or separate. Thus, the volume of truck and rail traffic would be the same for each condition. The traffic impact analysis presented below reflects the transportation impacts associated with either site option.

4.3.1. Transportation Network

The Proposed Actions would not alter the street network on Harbor Island. All streets on Harbor Island were recently reconstructed as part of the Terminal 18 Improvement Project. All have pedestrian facilities on one or both sides of the street, and the pavements are in excellent condition.

Changes to the rail network would be made to create a rail loading facility on the site. Most of these changes would involve making new connections to the lead tracks that previously served the Fisher Mills site and the area north of Fisher Mills (now known as the Pendleton site). Changes would not be made to the storage yards on Harbor Island nor the primary lead tracks that connect Harbor Island to the mainland.

4.3.2. Traffic Volumes and Operations

Future 2028 No-Action traffic volumes were previously discussed in the *Affected Environment* section of this report. All analysis is being performed for the year 2028. The future traffic volumes include growth in traffic due to Terminal 18 as well as growth in traffic generated by other businesses on Harbor Island. In addition, the 2028 traffic volumes include truck traffic generated by the potential King County solid waste transfer facility on Harbor Island.

Traffic generated by the SPU Intermodal facility was derived from detailed models of waste streams and projected growth in waste. A summary of the daily, facility peak hour, and commuter peak hour traffic volumes on a peak design day (an average day in the month of August) are presented in Table 7.

Table 7. Trip Generation Summary for Intermodal Facility – Peak Design Day

Weekday Trip Types	Daily Trips	Commuter AM Peak Hour (7:00 to 8:00 A.M.)	Facility PM Peak Hour (3:00 to 4:00 P.M.)	Commuter PM Peak Hour (5:00 to 6:00 P.M.)
Self Haul	0	0	0	0
Contractor - Commercial	312	67	6	2
Contractor - Residential	240	0	66	14
Transfer Trucks	52	0	5	5
Employees	48	17	4	13
Total	652	84	81	34

Source: Truck trips derived from information in Technical Memorandum No. 3 – Peak Flows and Waste Stream Analysis (Herrera Environmental Consultants, July 31, 2003). Employee trip estimates from Seattle Public Utilities.

As previously mentioned, the peak hour traffic volumes on Harbor Island occur from 3:30 to 4:30 P.M. when Todd Shipyard traffic is leaving the island and when Terminal 18 truck traffic is also exiting the North Gate. To determine how SPU would affect traffic operations on Harbor Island, the facility's PM peak hour (the traffic generated between 3:00 and 4:00 P.M.) was added to the peak-hour traffic on Harbor Island. The vast majority of the traffic generated by the proposed SPU intermodal facility would arrive and depart Harbor Island from the east. Trips from SR 99 and the Spokane Street Viaduct would access the site via direct ramps to Harbor Island. A small percentage (15%) would be from West Seattle, and would arrive and depart via the Spokane Street Swing Bridge. The local trip distribution pattern and trip assignment are shown on Figure 12. This figure shows both the daily traffic and afternoon peak hour traffic.

The SPU vehicles were added to the background traffic volumes. The effect that the SPU trucks would have on the volumes as well as the truck percentages are shown on Figure 13.

Level of service was determined for the Year 2028 conditions with SPU. The higher truck percentages were also included in the level of service calculations since trucks have a greater impact on traffic operations than a passenger vehicle. The level of service results are summarized in Table 8. This analysis shows that the increased truck traffic would not change the traffic operations in the site vicinity. Key intersections in close proximity to the site would continue to operate at LOS C or better in the year 2028 with the Proposed Actions.

Table 8. Level of Service for Intersections - Near Harbor Island Site

	Existing (2004) Conditions		Year 2028 No-Action		Year 2028 With Proposed Actions	
Intersection	LOS[1]	Delay[2]	LOS	Delay	LOS	Delay
16th Avenue SW/SW Lander Street [3]	B	14.0	C	18.4	C	22.4
SW Spokane Street/Klickitat Avenue SW	B	12.9	C	25.7	C	27.6
S Spokane Street/East Marginal Way [4]	C	27.6	C	24.8	C	24.9

Source: Heffron Transportation, Inc. using the methodology in the 2000 Highway Capacity Manual.

1 Level of service

2 Average seconds of delay per vehicle

3 Unsignalized intersection for which the delay reflects turns from Lander Street onto 16th Avenue SW. All other intersections listed are signalized.

4 Future conditions assume that the intersection would be modified as part of the East Marginal Way Grade-Separation project, which is currently funded.

It should be noted that the roadways on Harbor Island were designed assuming a relatively high-intensity use would be located on the former Lockheed Shipyard site. This is the site proposed to serve both the King County and Seattle Public Utilities intermodal transfer facilities. The amount of traffic generated by these uses is less than had been assumed to be generated by the site for the Terminal 18 Improvement Project analysis. This is why the intersections would operate at good levels in the future with these facilities.

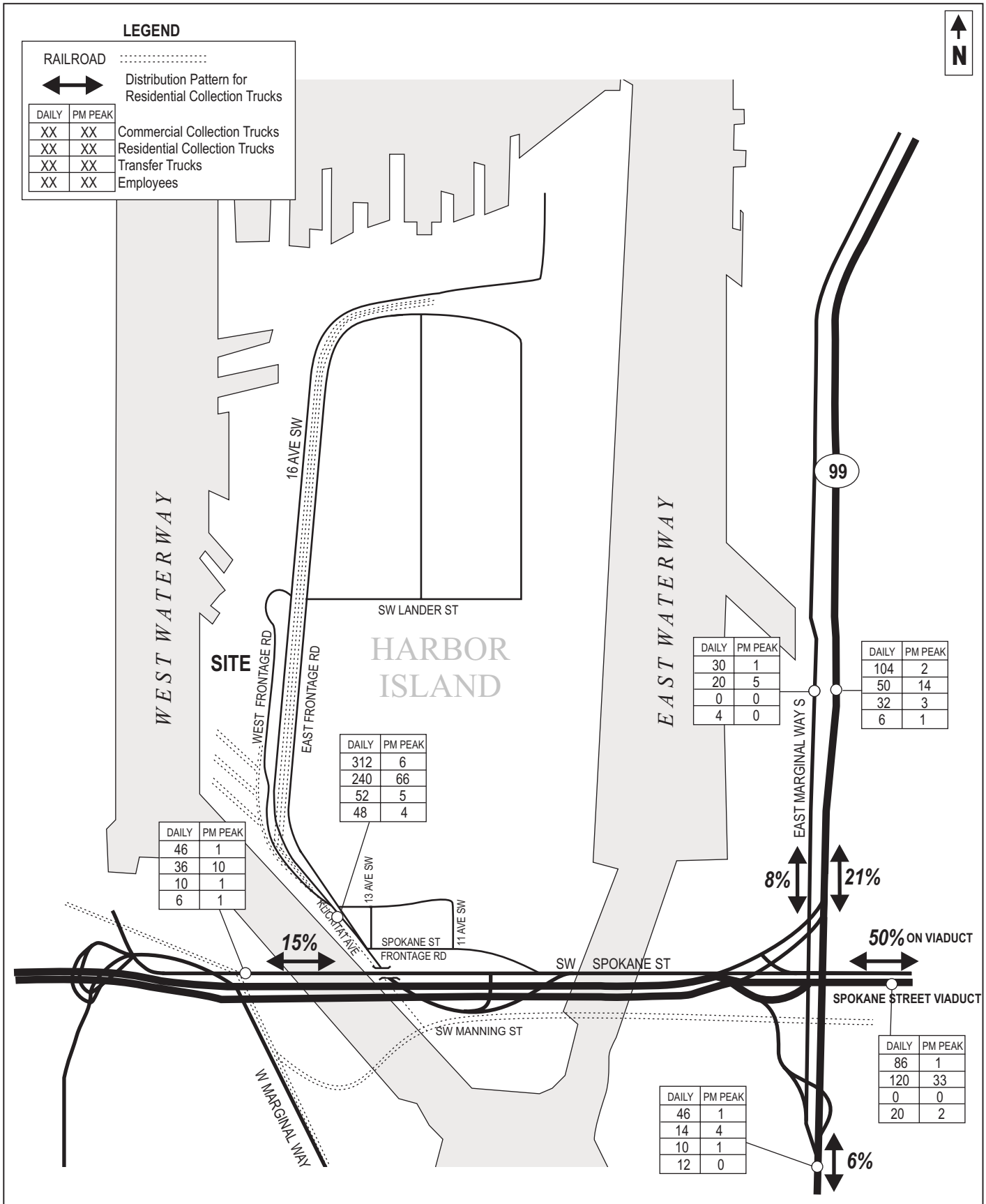


Figure 12

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

TRIP ASSIGNMENT
FOR HARBOR ISLAND INTERMODAL FACILITY

heffron transportation, inc.

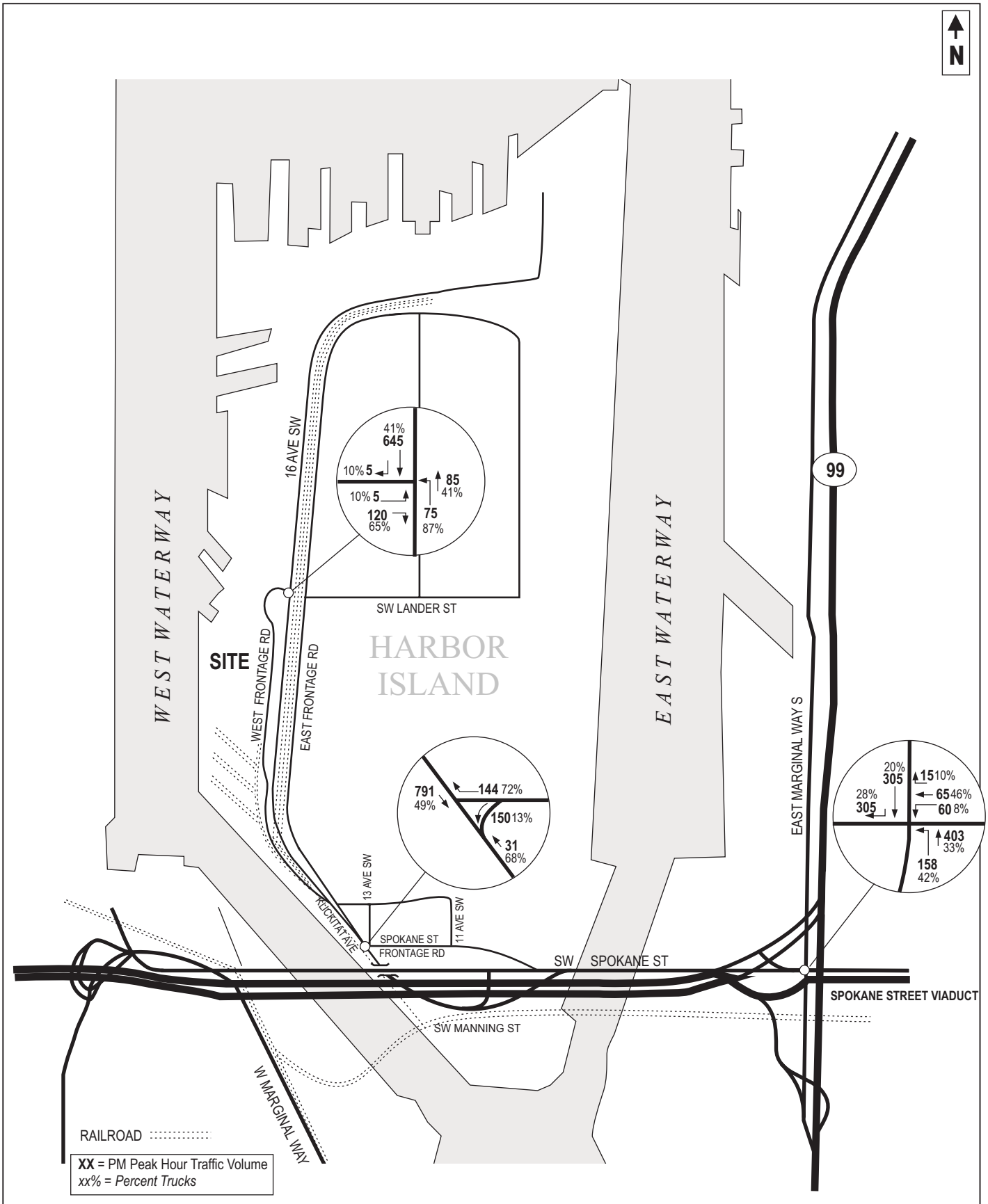


Figure 13

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

YEAR 2028 PM PEAK HOUR TRAFFIC VOLUME
WITH SPU INTERMODAL FACILITY

heffron transportation, inc.

4.3.3. Site Access and Circulation

The Harbor Island site would be accessed from the West Frontage Road. This is a very low volume roadway and turns to and from the facility would operate at LOS A.

The proposed facility's volume would be low enough that no on-site queuing is expected. Even under peak conditions, the queue is not expected to extend beyond the site. Therefore, no adverse site access or queuing impacts are anticipated with the SPU intermodal facility located on this site.

4.3.4. Traffic Safety

The Proposed Actions are not expected to adversely affect traffic safety in the site vicinity. All streets on Harbor Island were designed to accommodate high volumes of large trucks. The recent accident history indicates that there have been a very low number of accidents on Harbor Island since the roads were reconstructed.

Many trucks use the viaduct today, including collection trucks that access existing transfer facilities. A new facility at Terminal 10 would increase truck traffic on portions of the viaduct, which could increase the potential for accidents. The City of Seattle has a final design prepared to improve the Spokane Street Viaduct, a project that would improve many of the viaduct's substandard elements such as no/narrow shoulders, inadequate merge and diverge lengths on the ramps, and narrow lane widths. The Spokane Street Viaduct project would improve safety of that facility.

4.3.5. Transit and Non-Motorized Facilities

The project would add truck volumes to SW Spokane Street's North Frontage Road at the unsignalized crossing of the West Seattle Bicycle Trail. However, this crossing was designed to accommodate a higher volume of truck traffic than would occur with this project. Therefore, the Proposed Actions would not adversely affect any transit or non-motorized facilities in the vicinity. Since sidewalks currently exist along the entire site frontage, no improvements would be required.

4.3.6. Parking

Employment at the intermodal facility is expected to peak at about 24 persons on site at any one time. Parking for these employees would be provided on the site, and no off-site parking impacts are expected.

4.3.7. Rail Transportation

The proposed intermodal facility is expected to receive about 2,030 tons of waste on an average weekday (Monday through Friday), and approximately 2,230 tons on a peak design day in the year 2028. This would fill between 68 and 75 intermodal rail containers each day assuming that each container is packed with an average of 30 tons of waste. It was assumed that each intermodal train could hold 126 containers (21 double-stack rail cars, with three wells per car). This would translate to a train length of about 4,000 feet (not including the engines) assuming about 190 feet per car. Based on these assumptions, the City of Seattle waste would generate a demand for about three trains each week, which are projected to run Monday, Wednesday and Friday. It should be noted that although these trains would be new to Harbor Island, they would not be new to the system. If the City does not

build an intermodal facility, waste would continue to be loaded at other intermodal facilities that would generate the same demand for train capacity on the UP and/or BNSF mainlines.

One scenario at Harbor Island is to combine the City of Seattle waste with waste from King County, which is evaluating an intermodal yard on the adjacent site. King County is expected to generate about 3,000 tons of waste per day or about 100 containers. This tonnage would generate four trains per week, based on the information presented above. If combined with City of Seattle waste, the two facilities would generate one to two fully-loaded trains per day.

The Port of Seattle is undertaking a comprehensive rail operations study of Harbor Island. This study will evaluate rail operating issues associated with growth in container traffic at the Port to it long-term target of 3 million TEUs (twenty-foot equivalent units). In addition to rail traffic generated by the Port, the study will include other existing rail traffic on Harbor Island (e.g., rail barge) as well as future rail traffic associated with King County's and SPU's solid waste intermodal facilities. The study will evaluate the existing system's ability to accommodate the rail operation (switching and train building) needs of the various uses, as well as the track storage needs. If the current system cannot accommodate the demands, improvements or operating restrictions may be suggested. The results of this study may not be available until Spring 2005.

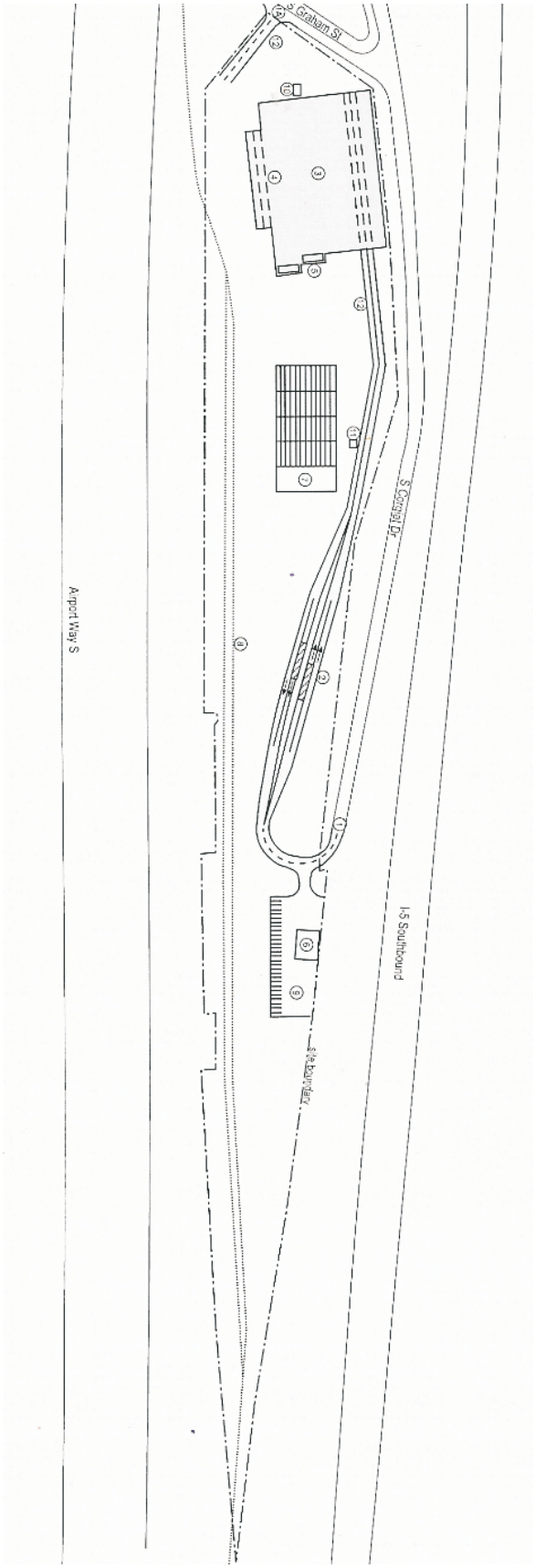
In addition to the Port's study, the City of Seattle and King County would also need to negotiate with both railroads regarding operations at the facility. Thus, any potential operational impacts associated with the facility will need to be mitigated to the satisfaction of the railroads.

The lead tracks to the Harbor Island facility would cross two public streets at grade: the West Frontage Road on Harbor Island and East Marginal Way. The lead tracks do not cross SW Spokane Street on Harbor Island since the tracks go under SW Spokane Street at Klickitat Avenue. Train blockages of the West Frontage Road would primarily affect truck traffic that may want to exit the new intermodal facility on the direct route to the south. If this route is blocked by a train, these trucks can exit the area by going north on the West Frontage Road and then turning south on the 16th Avenue South corridor, which passes over the tracks.

Train impacts to the at-grade crossing of East Marginal Way would be mitigated by the Port of Seattle's East Marginal Way Grade-Separation project. This roadway project would grade-separate East Marginal Way from both the UP and BNSF lead railroad tracks. It would also provide local businesses located adjacent to the tracks alternative entrance and egress routes if one route is blocked by a train. No further mitigation would be needed to accommodate the additional three trains per week generated by the City of Seattle's intermodal facility.

4.4. Corgiat Intermodal Facility

The Corgiat site is one of the three sites being evaluated for a new intermodal transfer facility. This site would only serve City of Seattle waste. The facilities proposed for the site would be similar to those proposed for Terminal 10 on Harbor Island. A potential site plan for the Corgiat Site is shown on Figure 14.



N

① Site entrance
⑭ Alternative service entrance
② Scale facility (70-foot platform scales)
③ Transfer building (two levels)
④ Compactors (2)
⑤ Open-top container bays (2)
⑥ Office/employee building
⑦ Container storage area
⑨ Parking area
⑩ Fueling station
⑪ 15-foot axle scale
⑫ Retaining wall and ramp up/down

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

Figure 14

CORGIAT SITE INTERMODAL FACILITY
POTENTIAL SITE LAYOUT

heffron transportation, inc.

4.4.1. Transportation Network

The proposed SPU facility would occupy a site located between South Corgiat Drive and the railroad tracks. The site layout would require use of two public street—18th Avenue South and Ursula Place South—and may require use of portions of South Corgiat Drive for scale facilities and queue lanes. This could be accomplished through either a street-use permit and/or street vacation for one or more of the streets. The need for these streets and the required permit or vacation action would be determined later in the design process.

4.4.2. Traffic Volumes and Operations

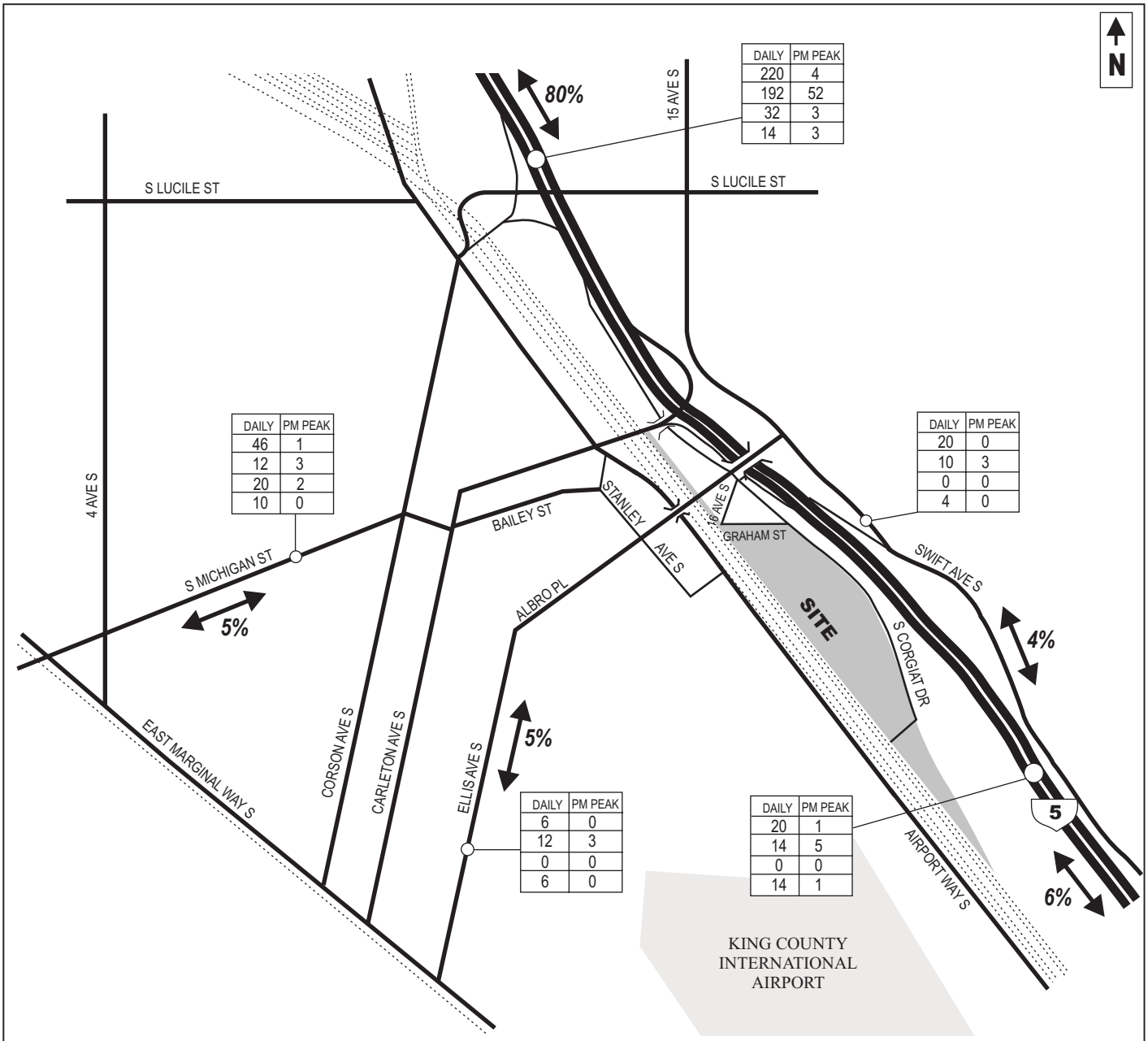
Peak design day trip generation for the intermodal facility would be the same as previously reported for the Harbor Island facility in Table 7. Peak hour traffic volumes in the vicinity of the site occurs between 3:00 and 4:00 P.M., as described previously. Therefore, trip generation during the PM peak hour of the intermodal facility, which also occurs during this hour, was added to the peak hour traffic volumes in the site vicinity. During this hour, the facility would generate approximately 81 trips—77 truck trips (one-way), and 4 employee trips.

The majority of traffic generated by the new intermodal facility would be from the north and would arrive and depart the site via Interstate 5. The off-ramp from southbound I-5 intersects South Albro Place opposite Corgiat Drive. The return route to I-5 would use the on ramps to both northbound and southbound ramps located off South Michigan Street and South Bailey Street. Trucks would use South Albro Place and Stanley Avenue South to access South Bailey Street. The access and egress routes are shown on Figure 15 along with the volume of traffic generated by the site. Trips generated by the facility during the PM peak hour were added to the roadway network to determine the effect on traffic operations.

As previously described, existing uses on the site would be removed to accommodate the SPU intermodal facility. It is estimated that these uses generate approximately 780 trips per day with about 75 trips occurring in the PM peak hour. One proposal would retain Puget Sound Energy's operation, which accounts for about 360 trips per day and 30 trips during the PM peak hour. Thus, the removed uses would reduce existing traffic volumes by about 420 daily trips and 45 PM peak hour trips. These trips were removed from study area intersections based on existing travel patterns to and from South Corgiat Drive. It should be noted that the site's existing trips come from all areas of the region and would have a high percentage of trips arriving and departing to the south on I-5. The trips generated by SPU, however, would only be from Seattle with very few trips arriving and departing south on I-5. For this reason, the proposed intermodal facility is expected to reduce traffic through the South Albro Place/Swift Avenue South intersection which is part of the route from northbound I-5. The project would increase traffic at the South Albro Place/Corgiat Avenue South intersection where the southbound off-ramp is located.

Year 2028 level of service analysis was performed with the net change in traffic associated with the intermodal facility as shown on Figure 16. The level of service results are summarized in intersections near the site would operate at LOS C or better in 2028 with the Proposed Actions. The all-way-stop intersection at South Bailey Street/13th Avenue South/Stanley Avenue South currently operates at LOS B, and would decline to LOS C by the year 2028 without the project due to growth in background traffic. Additional traffic generated by the project would degrade operations to LOS D. This is an acceptable level of service in the City of Seattle, and changes to the lane geometry or traffic control would not be needed.

Table 9. This analysis shows that the Proposed Actions would not change the level of service at the three intersections nearest the site. The intersection of South Albro Place/Swift Avenue South would operate at LOS E with the No-Action or Proposed Actions conditions. (The methodology used to estimate 2028 No-Action traffic volumes near the Corgiat site is described in Section 3.4.2.) Delay at this intersection would be reduced with the Proposed Actions since the intermodal facility would generate fewer trips that would impact critical movements compared to the No-Action condition. The other



LEGEND

XX% = Distribution Pattern for Residential Collection Trucks

TWO WAY TRAFFIC

DAILY	PM PEAK	
XX	XX	Commercial Collection Trucks
XX	XX	Residential Collection Trucks
XX	XX	Transfer Trucks
XX	XX	Employees

Figure 15

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

TRIP ASSIGNMENT FOR CORGIAT SITE
INTERMODAL FACILITY

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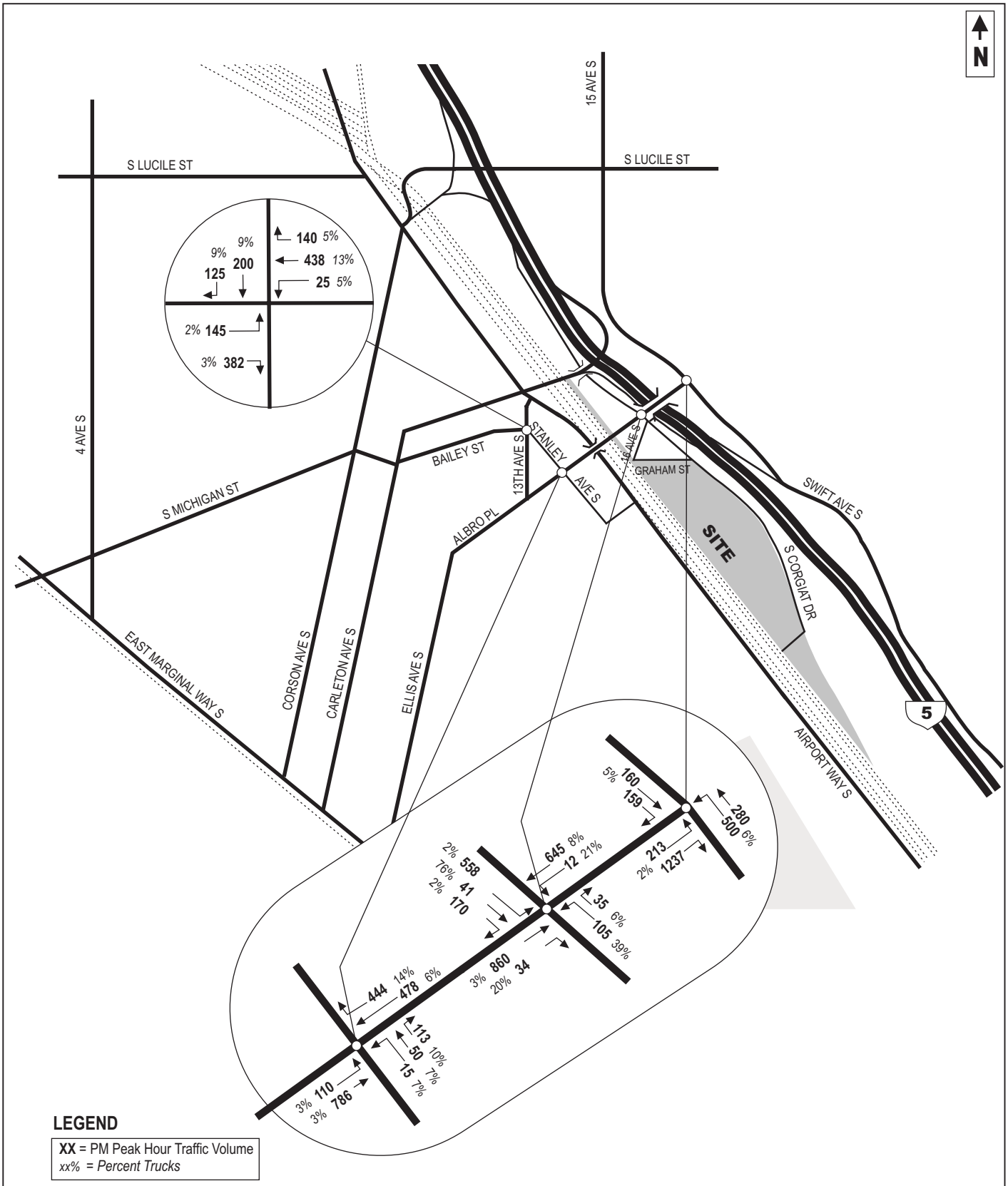


Figure 16

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

YEAR 2028 PM PEAK HOUR TRAFFIC VOLUMES
WITH SPU INTERMODAL FACILITY

heffron transportation, inc.

intersections near the site would operate at LOS C or better in 2028 with the Proposed Actions. The all-way-stop intersection at South Bailey Street/13th Avenue South/Stanley Avenue South currently operates at LOS B, and would decline to LOS C by the year 2028 without the project due to growth in background traffic. Additional traffic generated by the project would degrade operations to LOS D. This is an acceptable level of service in the City of Seattle, and changes to the lane geometry or traffic control would not be needed.

Table 9. Level of Service for Intersections – Near Corgiat Site

	Existing (2004) Conditions		Year 2028 No-Action		Year 2028 With Proposed Actions	
Intersection	LOS[1]	Delay[2]	LOS	Delay	LOS	Delay
S Albro Place/Swift Avenue S	C	25.7	E	79.8	E	78.5 [3]
S Albro Place/S Corgiat Drive/I-5 Off-ramp	B	17.2	C	21.2	C	24.0
S Albro Place/Stanley Avenue S	A	6.6	A	9.0	A	9.1
S Bailey St/13th Ave S/Stanley Ave S	B	10.9	C	20.3	D	26.1

Source: Heffron Transportation, Inc. using the methodology in the 2000 Highway Capacity Manual.

1 Level of service

2 Average seconds of delay per vehicle

3 Delay improves because traffic volumes would be reduced with the Proposed Actions since the intermodal facility would generate fewer trips that would impact critical movements compared to the No-Action condition..

4.4.3. Site Access and Circulation

The proposed intermodal facility would be accessed from South Corgiat Drive. The facility would be the only business located at the south end of Corgiat Drive, and therefore, its traffic would not conflict with any other traffic at the main access drive.

The proposed facility's volume would be low, so no on-site queuing is expected. Even under peak conditions, the queue is not expected to extend beyond the site. Therefore, no adverse impacts to site access, circulation, or on-site queuing are expected with the Proposed Actions.

4.4.4. Traffic Safety

Increased volumes can increase the potential for accidents. The net change in traffic generated by the intermodal facility would be small since some existing traffic would be removed from the site. However, the Proposed Actions may change the mix of vehicles to have a higher percentage of trucks. Given its location in the industrial area of Seattle, all of the major access routes to the site were designed to accommodate high volumes of trucks. In addition, existing accident records showed a very low rate of accidents in the site vicinity. Therefore, it is unlikely that the Proposed Actions would adversely affect safety in the site vicinity.

4.4.5. Transit and Non-Motorized Facilities

The Proposed Actions would not affect transit service or facilities in the site vicinity.

Sidewalks currently exist along the west side of South Corgiat Drive from South Albro Place to 18th Avenue South. On the east side, the sidewalk extends from South Graham Street to approximately 500 feet north of Ursula Place South. These sidewalks are adequate for the limited pedestrian access needs in the area, and SPU is not proposing to construct new sidewalks in the area.

4.4.6. Parking

Employment at the intermodal facility is expected to peak at about 24 persons on site at any one time. Parking for these employees would be provided on the site, and no off-site parking impacts are expected.

4.4.7. Rail Transportation

The Corgiat site intermodal facility would generate the same train volume as the Harbor Island facility, which was estimated to be approximately three trains per week. This site would not have the potential to be shared with King County. As with the Harbor Island site, these trains would not be new to the rail system. If the City does not build an intermodal facility, waste would continue to be loaded at other intermodal facilities that would generate the same demand for train capacity on the UP and/or BNSF mainlines.

Loading and train building on this site would occur on tracks adjacent to the existing Van Asselt Yard. These activities would not cross or block any public streets in the site vicinity.

If this site is chosen for the intermodal facility, further design work and rail operations analysis would be performed as part of negotiations with both the UP and BNSF railroads. Thus, any potential operational impacts associated with the facility will need to be mitigated to the satisfaction of the railroads.

4.5. South Edmunds Street Site Intermodal Facility

The South Edmunds Street site is one of the three sites being evaluated for a new intermodal transfer facility. This site would only serve City of Seattle waste. The facilities proposed for the site would be similar to those proposed for Terminal 10 on Harbor Island. A potential site plan for the South Edmunds Street site is shown on Figure 17.

4.5.1. Transportation Network

No changes to the transportation network are proposed to accommodate the facility on the South Edmunds Street site.

4.5.2. Traffic Volumes and Operations

Trip generation for the intermodal facility would be the same as previously reported for the Harbor Island facility in Table 7. As previously described, the peak hour along Airport Way South occurs from 4:00 to 5:00 P.M.; however, traffic volumes for the prior hour (3:00 to 4:00 P.M.) are only slightly lower. For this reason, traffic operational impacts that combine the PM peak hour of the street with the PM peak hour of the facility were evaluated. It was assumed that the facility would generate approximately 81 trips during the PM peak hour—77 truck trips, and 4 employee trips.

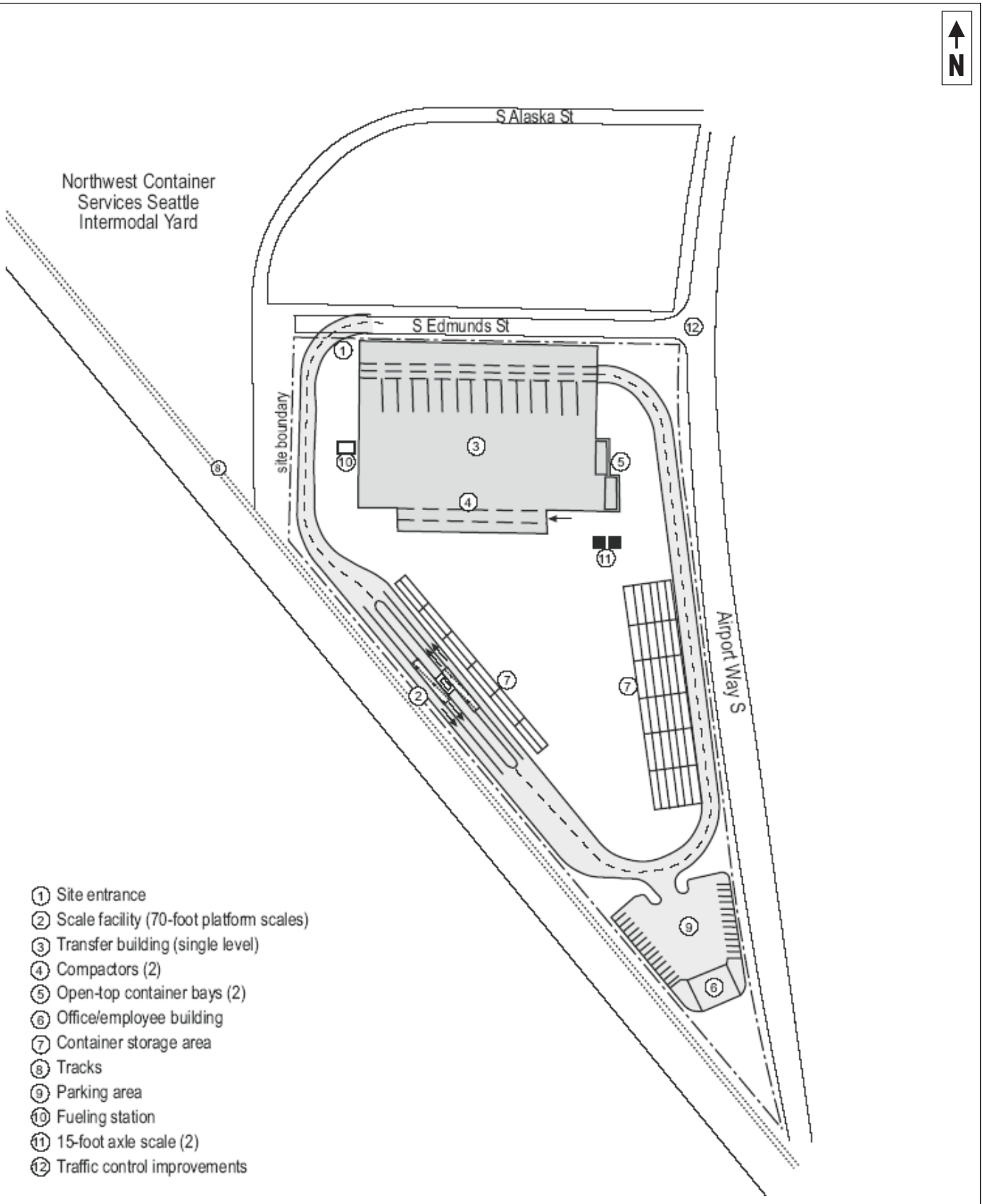


Figure 17

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

SOUTH EDMUNDS STREET SITE INTERMODAL FACILITY
POTENTIAL SITE LAYOUT

heffron transportation, inc.

Most of the trips generated by this site would arrive and depart to the north. Because there are no direct ramps from I-5 to Airport Way South, many of the project trips would likely use South Spokane Street, 6th Avenue South, and Industrial Way South to access the site. Some traffic would also arrive and depart from the south. The trip assignment for this site is shown on Figure 18.

The existing South Edmunds Street site is occupied by warehouses and a freight terminal. As previously discussed, a traffic count determined that these businesses generate 20 vehicle trips (8 inbound and 12 outbound) during the PM peak hour. Of these, two (10%) were trucks. These trips were removed from the study area intersections.

Year 2028 level of service analysis was performed with the net change in traffic associated with the intermodal facility, as shown on Figure 19. The level of service results are summarized in Table 10. This analysis shows that the Proposed Actions would worsen the levels of service for vehicles turning to and from Airport Way South. Turning left onto Airport Way South from South Edmunds Street would be very difficult in the afternoon. As previously mentioned, this level of service assumes the posted speed limit of 35 mph on Airport Way South; however, many vehicles have been observed exceeding this limit. Turns are more difficult when the speeds are higher. There is limited right-of-way on Airport Way South, and no room to create a left-turn pocket. Another option may be to require vehicles to turn right onto Airport Way South. This option was also tested, but given the volume of trucks that would need to exit the site, the right-turn movement would also operate at LOS F. Finally, the volume of traffic exiting the site would not be high enough to warrant a traffic signal. Therefore, if this site is selected, an alternate egress route should be provided. This route could include proceeding north to 7th or 6th Avenue South and connecting to Industrial Way South. If this route is selected, the project would add more trips to the left turn movement from Industrial Way onto Airport Way South. Since this movement is projected to operate at LOS F in 2028 with the No-Action condition, mitigation may be required with the Proposed Actions if this site and this alternate egress route are selected.

Table 10. Level of Service for Intersections – Near South Edmunds Street Site

	Existing (2004) Conditions		Year 2028 No-Action		Year 2028 With Proposed Actions	
Intersection	LOS[1]	Delay[2]	LOS	Delay	LOS	Delay
Airport Way South/South Edmunds Street						
Left turn from Edmunds Street	C	22.0	F	103.9	F	>200.0
Left turn from Airport Way	A	1.1	A	3.5	A	4.6
Airport Way South/Industrial Way South						
Left turn from Industrial Way	D	28.1	F	75.1	F	84.0
Left turn from Airport Way	B	11.6	C	20.4	D	34.9

Source: Heffron Transportation, Inc. using the methodology in the 2000 Highway Capacity Manual.

1 Level of service

2 Average seconds of delay per vehicle

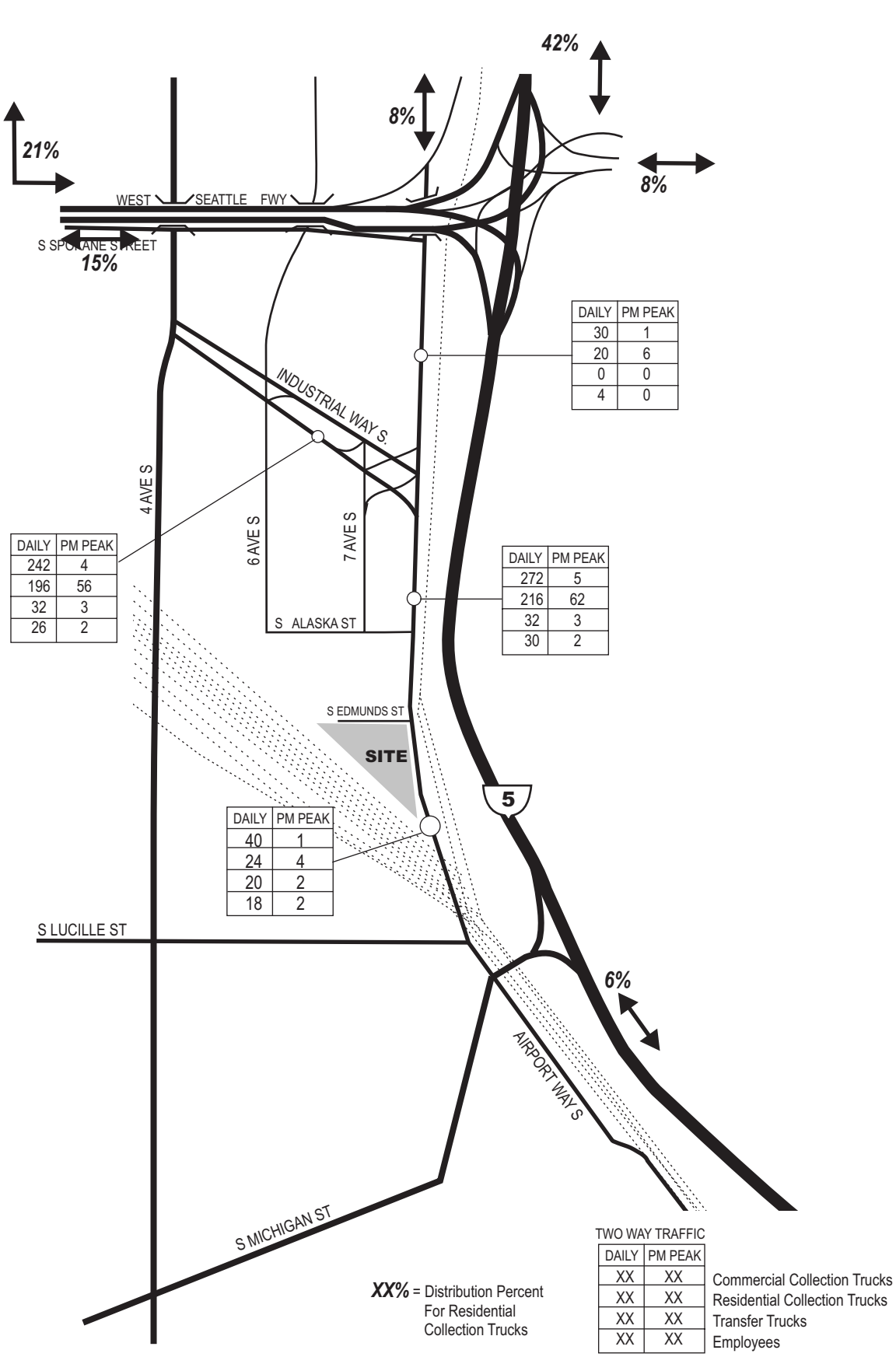
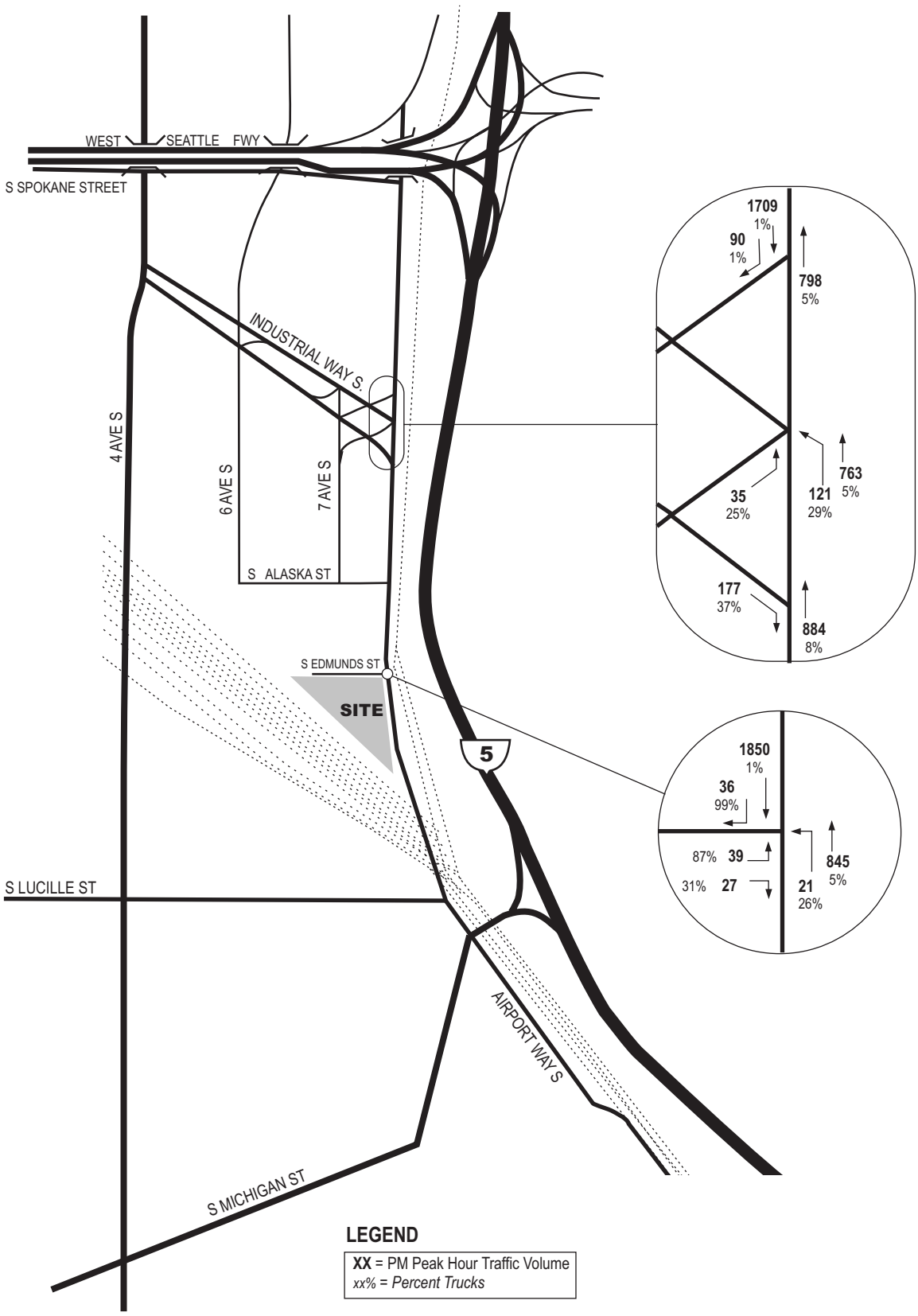


Figure 18

SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

TRIP ASSIGNMENT
FOR THE SOUTH EDMUNDS STREET SITE

heffron transportation, inc.



SEATTLE PUBLIC UTILITIES
SOLID WASTE MASTER PLAN

Figure 19

YEAR 2028 PM PEAK HOUR TRAFFIC VOLUMES
WITH SPU INTERMODAL FACILITY

heffron transportation, inc.

4.5.3. Site Access and Circulation

As previously discussed, truck drivers exiting the site would have a very difficult time turning left or right onto Airport Way South due to the speed and volume of traffic on this arterial. If this site is selected, an alternate egress route that bypasses Airport Way South should be provided. This could connect to 6th or 7th Avenue South north of the site. Connections to Industrial Way South would operate at acceptable levels of service because this street has low traffic volumes and boulevard connections between the directions of traffic.

The proposed facility's volume would be low enough that no on-site queuing is expected. Even under peak conditions, the queue is not expected to extend beyond the site.

4.5.4. Traffic Safety

Without an alternate egress from this site, poor traffic operations along Airport Way South could increase the number and severity of accidents. Turns from South Edmunds Street would compete with higher-speed traffic on Airport Way South. Because there is no center-turn lane, left turns exiting the site would require a gap in both directions of traffic. Also, left turns into the site could block following traffic in the northbound direction. This traffic safety condition could be partially mitigated by providing an alternate egress route from the site.

4.5.5. Transit and Non-Motorized Facilities

The Proposed Actions would not adversely affect transit or non-motorized facilities in the area. There are existing sidewalks along Airport Way South and along the north side of South Edmunds Street. SPU is not proposing to construct additional sidewalks in the area.

4.5.6. Parking

Employment at the intermodal facility is expected to peak at about 24 persons on site at any one time. Parking for these employees would be provided on the site, and no off-site parking impacts are expected.

4.5.7. Rail Transportation

The South Edmunds Street site intermodal facility would generate the same train volume as the Harbor Island facility, which was estimated to be three trains per week. This site would not have the potential to be shared with King County. As with the Harbor Island site, these trains would not be new to the rail system. If the City does not build an intermodal facility, waste would continue to be loaded at other intermodal facilities that would generate the same demand for train capacity on the UP and/or BNSF mainlines.

Loading and train building on this site would occur on the same tracks that now support Northwest Container's operations. A track-sharing agreement would need to be negotiated with Northwest Container that may separate activities by time of day. For example, train loading/unloading of the Northwest Container trains may occur during daytime hours, while train loading/unloading of the SPU intermodal trains may occur at night.

In addition, if this site is chosen for the intermodal facility, further design work and rail operations analysis would be performed as part of negotiations with both the UP and BNSF railroads. SPU would need to be assured that both railroads can access this site, and the railroads would need to be assured that train-building activities would not disrupt operations at the Argo Yard or at the nearby Georgetown Interlocking. Thus, any potential operational impacts associated with the facility would need to be mitigated to the satisfaction of the railroads.

5. MITIGATION

Few measures would be needed to mitigate the transportation impacts associated with the SPU's proposed intermodal facility. Potential measures for each site are described below.

Harbor Island Intermodal Facility:

1. Coordinate rail operating needs with the BNSF and UP Railroads as well as with the Port of Seattle.

Corgiat Intermodal Facility:

1. Coordinate rail operating needs with the BNSF and UP Railroads.

South Edmunds Street Intermodal Facility:

1. Coordinate rail operating needs with the BNSF and UP Railroads.

2. Provide alternate egress from site that does not directly intersect Airport Way South. In addition, mitigation may be required for the left-turn movement from Industrial Way onto Airport Way South.

REFERENCES

Heffron Transportation, Inc., *Container Terminal Access Study (CTAS) Year 2003 Update,* October 2003.

Heffron Transportation, Inc., *East Marginal Way Grade Separation Project Transportation Technical Report for Environmental Review,* February 9, 2004.

Heffron Transportation, Inc., *Traffic Impact Analysis SRDS Reuse/Recycling Center and Construction and Demolition Annex,* December 20, 1999.

Herrera Environmental Consultants, *Technical Memorandum No. 3 – Peak Flows and Waste Stream Analysis,* July 31, 2003.

Port of Seattle, *Terminal 18 Redevelopment Project Draft Environmental Impact Statement,* March 1997.

Port of Seattle, *Terminal 18 Redevelopment Project Draft Supplemental Environmental Impact Statement,* April 1999.

Seattle Department of Transportation, *Historic Accident Records* for select intersections, January 1, 2001 through August 23, 2004.

Seattle Public Utilities, *Draft Programmatic EIS* for the *Seattle Solid Waste Management Plan,* June 1998.

Seattle Public Utilities, *Final Programmatic EIS* for the *Seattle Solid Waste Management Plan,* August 1998.

Transportation Research Board, *Highway Capacity Manual,* 2000.

APPENDIX D

Noise Technical Report

Noise Technical Report
for the Seattle Public Utilities Solid Waste SEIS Intermodal Facilities Only

Environalysis, LLC
February 2005
Revised May 2005

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CHAPTER 1: SUMMARY

This document uses the results of on-site noise monitoring to characterize the existing noise environment in the vicinity of the sites where intermodal facilities are proposed.

Affected Environment

The potential noise impacts created by the project are assessed using published information from equipment noise data from other solid waste operations and standard acoustical calculations.

Project Impacts

Construction Impacts

The construction phase will generate a wide range of noise levels, depending upon the specific activities, with the demolition of the buildings being the loudest. A variance will be obtained if, after consultation with the demolition contractor, exceedances of the City's Maximum Permissible Sound Levels are expected.

Operational Impacts

The Intermodal facility's tipping building will be constructed to minimize noise impacts. The Intermodal facility will be located in one of three possible sites, all in areas zoned for industrial uses. There are no noise sensitive uses, such as residences, schools or hospitals, near any of the sites. There is a small park adjoining the Pendleton Mills property. Users of this park would experience higher noise levels than at present if the Pendleton Mills site is used for an intermodal facility.

Mitigation Measures

Construction Noise Mitigation

Some mitigation measures are applicable to all the Proposed sites:

- Maintain heavy equipment and its mufflers in good condition.
- Buffer stationary generators or compressors (if they are used) with portable plywood barriers.

Operational Noise Mitigation

- The design of the Proposal incorporates many features that will reduce noise impacts. No additional mitigation measures are needed.

Significant Unavoidable Adverse Impacts

The Proposal will have no significant unavoidable adverse impacts due to the noise it generates.

CHAPTER 2: PROJECT DESCRIPTION

The proposed project that is analyzed in this supplemental EIS is based on Option 11 in the draft SWFMP and includes:

- Building a new solid waste intermodal transfer facility on one of four alternative sites, all of which are located within the Seattle city limits, south of downtown.

The locations of the alternative sites for the intermodal transfer facility are shown in Figure 1.

Proposed Project: Intermodal Facility

Alternative Sites

Alternative sites for the intermodal facility are under consideration by the City of Seattle, including three sites for a city-only intermodal facility and one site for a combined city-county intermodal facility (Figure 1). The four alternative sites are the following:

- Alternative 2 (Harbor Island Terminal 10 site: a city-only facility)
- Alternative 3 (Combined Terminal 10/Pendleton site: a combined city-county facility)
- Alternative 4 (Corgiat site: a city-only facility)
- Alternative 5 (Northwest Container site: a city-only facility)

Both a city-only facility and a combined city-county facility would include similar features:

- Main transfer building where waste is delivered, compacted if necessary, and loaded into containers, which are sealed to make leak leak-proof.
- An exterior container storage area
- Rail siding tracks with adjacent cranes and other equipment for loading containers onto railway cars
- An employee/office building with adjoining parking
- Access driveways with entrance and exit scale facilities
- A small fueling station

The main transfer building would be approximately 40 to 45 feet above grade.

Figure 1. **Alternative Sites for the Intermodal Transfer Facility in the City of Seattle Solid Waste Facilities Master Plan.**

CHAPTER 3: AFFECTED ENVIRONMENT

Definition of Noise and How It Is Measured

Noise is defined as excessive or undesired sound. Human sensitivity to sound depends on its intensity, frequency composition and duration. Noise intensity is measured on a scale whose units are termed decibels (dB). In order to represent the wide range of sounds audible to the human ear this scale is logarithmic. With this scale an increase of 10 dB is perceived as a doubling of apparent loudness and an increase of 3 dB is noticeable under typical listening conditions. Sound levels from a number of sources combine nonlinearly, e.g. doubling the number of noise producing machines such as motor vehicles, cardboard compactors or front-end loaders will increase sound levels by 3 dB. The dB sound level reaching a specific location is called the sound pressure level.

The greater sensitivity of the human ear to certain frequencies is approximated by skewing (or weighing) the decibel scale towards those frequencies. The weighted decibel scale which best approximates the response of the human ear is known as the A- weighted scale (dBA). A metric which is widely used for analysis purposes is the energy equivalent sound level (LEQ). The energy equivalent sound level is the level of a constant sound having the same sound energy as the fluctuating levels measured over a period of time. Another metric frequently used in this report is LMAX, the maximum instantaneous root-mean squared (RMS) sound level recorded during the measurement. This is the noise metric used when comparing a project's impacts to the City of Seattle Maximum Permissible Sound Levels. LMIN is the minimum RMS sound level measured.

The magnitudes of typical noises are shown in Table 1.

Table 1. Weighted Sound Levels and Human Response

Sound Source	dBA	Human Response
Aircraft carrier operation	140	
Jet takeoff (200 ft away)	120	Painfully Loud
Riveting Machine	110	Maximum vocal effort
Shout (0.5 foot away)	100	
Heavy truck (50 ft. away)	90	
Busy street	80	Hearing damage with continuous exposure
Freeway traffic (50 ft. away)	70	Telephone use difficult
Air Conditioning unit (20 ft)	60	
Light Auto Traffic	50	Quiet
Bedroom, Library	40	
Soft whisper	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

Source: U.S. Council on Environmental Quality

Noise levels are affected by distance and physical buffers. Noise levels decrease as the distance from the source increases. As the distance from a point source (such as a bulldozer) doubles, the noise levels will decrease by 6 dBA. Noise attenuation is greater over soft or rough ground compared to hard smooth surfaces such as concrete,

asphalt or water. Dense trees can reduce noise levels if their trunks and branches completely block the view between source and receptor and/or their roots loosen the soil. A dense and deep (100 meters) buffer of evergreen vegetation can reduce noise by a maximum of 10 dBA. Massive barriers such as hills, berm or concrete walls are effective in reducing sound levels by 10-15 dBA if they block the line-of-sight between the noise source and a receiver.

Regulation of Noise

The Washington State Dept. of Ecology has developed maximum permissible noise levels (termed "Environmental Designation for Noise Abatement" or EDNA) which vary depending upon the land uses of the noise source and the receiving property. The maximum permissible noise level is the decibel level of noise generated by the project as measured at the property line of adjacent land uses; it is not the combined noise of a project and background. The City of Seattle has developed noise regulations based upon those of Washington State's Dept. of Ecology. The City's standards are shown in Table 2.

All of the proposed intermodal facility sites are located on property zoned for industrial uses. The standards applicable to this project are shown in **bold**.

Table 2. Maximum Permissible Sound Levels in dBA

	Land Use of Receiving Property		
Land Use of Source:	**Residential**	**Commercial**	**Industrial**
Residential	55	57	60
Commercial	57	60	65
Industrial	**60**	**65**	**70**

Between the hours of 10pm and 7am on weekdays and 10pm and 9am during weekends, the maximum limits for receivers within residential zones are to be reduced by 10 dBA. For noises of short duration these limits can be exceeded by a maximum of 5 dBA for 15 minutes/hour, 10 dBA for 5 minutes/hour or 15 dBA for 1.5 minutes/hour.

In the City of Seattle noise from construction activities is allowed to exceed the levels shown in Table 2 by the following amounts during daytime hours (depending upon the type of noise-causing equipment):

- 25 dBA (measured at affected property line or 50 feet, whichever is greater) for crawlers, tractors, dozers, cranes, compressors etc.
- 20 dBA for portable powered equipment such as chainsaws chippers and powered hand tools.
- 15 dBA for power tools used for lawn maintenance and landscaping
- Sounds from impact machinery such as pavement breakers, pile drivers, jackhammers may exceed the levels in Table 2 for a period of one hour from 8 AM to 5PM but cannot exceed 90 dBA LEQ continuously, 93 dBA LEQ for 30 minutes out of the hour, 96 dBA for 15 minutes or 99 dBA LEQ for 7.5 minutes.

(Seattle Municipal Code 25.08.425)

Some types of noise are fully exempt from the Maximum Permissible Noise Level standards such as noises from construction activities upon commercial /industrial zones. Safety equipment such as backup alarms for heavy equipment is also exempt for these standards.

FHWA has noise standards known as "noise abatement criteria" set forth in the Federal Register (23 CFR Part 772) and summarized in Table 3. The noise levels are expressed in A-weighted decibels hourly equivalent sound levels (L_{eqhr}). The FHWA considers a noise impact from vehicle traffic to occur if existing or predicted levels exceed or are within 1 dBA of the criteria level. The use to which land is put determines which noise levels are compatible with that use. Land use categories immediately adjacent to the this project are classified under activity category "C", however category "B" uses occur further from the intersection and could be affected by the changes in vehicle volumes caused by the various build alternatives.

Table 3. FHWA Noise Abatement Criteria

Activity Category	**L_{eqhr}**	**Description of Activity Category**
A	57 dBA (exterior)	Lands on which serenity and quiet are of extraordinary significance.
B	67 dBA (exterior)	Residences, motels, schools, churches, parks, play fields, hospitals
C	72 dBA (exterior)	Developed lands not included in A or B.
E	52dBA (interior)	Residences, motels, schools, libraries, hospitals, auditoriums

Source: FHWA Traffic Noise Abatement Criteria (23 CFR Part 772, July 1997)

The Washington State Department of Transportation (WSDOT) has the responsibility of applying federal (FHWA) regulations to state highway projects. WSDOT has developed the definitions essential to performing highway noise studies. WSDOT guidance states that noise impacts begin to occur when project noise levels reach to within 1 dBA of the FHWA standards (i.e. 66 dBA). Substantial impacts are defined as being 10 dBA over existing levels. WSDOT's policies are set forth in the 1997 document, "Noise Abatement Policy and Procedures."

Motor vehicle traffic traveling on public roads is exempt from noise regulation, but the City of Seattle and the Dept. of Ecology have motor vehicle performance standards setting forth the maximum noise level from individual vehicles (and not applicable to general traffic noise) measured under specific testing criteria. These performance standards would be applicable to vehicles operating on private roads such as within any of the station or intermodal facility sites

It is clear from Table 2 that the relevant noise standard is determined by the land use of the noise source and the where the noise is received. It is assumed for the purposes of this study that the zoning currently in place at the properties adjoining the NRDS, SRDS and intermodal sites will also be applicable in the future.

Methodology used to Assess Existing Noise Levels

Larson-Davis model 814 integrating Type 1 sound level meters were used to measure existing noise levels. Short-term (30- minute) measurements were taken at each intermodal site. The weather was suitable for accurate noise

measurements; dry with light winds during the 24-hour monitoring and short-term monitoring. The calibration of the meter was checked before and after each reading with an acoustic calibrator, itself calibrated to a known source.

Existing Noise Levels

The Intermodal Facility Sites

There are no residentially zoned areas adjacent to any of the proposed sites. Short-term noise measurements of 30-minutes duration were taken to characterize the existing noise environment at each site. Figures 2-4 show the location of the noise measurements and Table 4 summarizes the data.

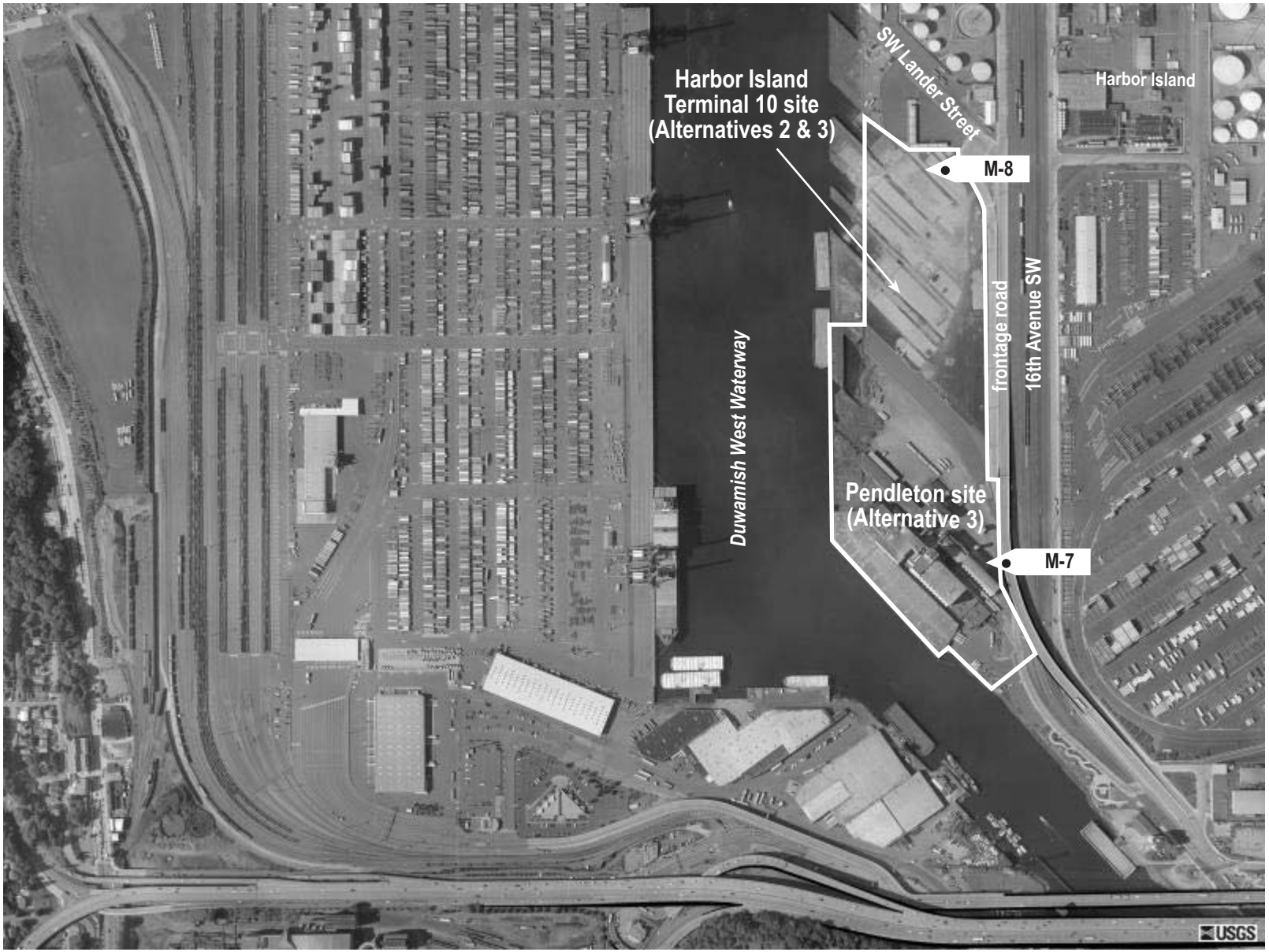

Figure 2. Noise Measurement locations for Alternatives 2 and 3 (Harbor Island sites)

N

Not to scale

Aerial source: USGS 2002, obtained from TerraServer USA at http://www.terraserver-usa.com

Figure 3. Noise Measurement locations for Alternative 4 (Corgiat site)

Figure 4. Noise Measurement locations for Alternative 5 (Edmunds Street site)

Table 4. Summary of Noise Measurements at All Intermodal Facility Sites (dBA)

Noise Measurement Site	LEQ	LMAX	LMIN
M-7 Terminal 10 (Harbor Island)	66.1	78.3	59.9
M-8 Pendleton Mills (Harbor Island)	63.6	79.5	53.8
M-9 Corgiat Site	75.4	100.4	65.7
M10 Edmunds Street Site	71.1	91.3	61.5

As shown in Table 4 all of the intermodal facility sites have noise levels typical of industrial districts.

Alternatives 2 and 3 (Harbor Island Intermodal Sites)

There are no residential areas adjacent to the two Harbor Island sites being considered for intermodal terminals, Terminal 10 or Pendleton Mills. Both sites are on the west side of Harbor Island, subject to noise from truck traffic on Klickitat Avenue and the ship and cargo handling operations of the Port of Seattle. Terminal 10 is currently being used to process dredge spoil material from the removal of sediment from the Duwamish River. The Pendleton Mill site is currently being used for grain and flour packaging, storage and shipment. Existing noise comes from truck and train traffic serving Pendleton Mills and the Port of Seattle and maritime traffic on the Duwamish waterway.

Alternative 4 (Corgiat Intermodal Site)

This property is occupied by a number of businesses and for the storage of containers.

Alternative 5 (Edmunds Street Intermodal Site)

There are no residential uses immediately adjacent to the Edmunds Street site. This property is currently used for the storage and reloading of shipping containers. Existing noise comes from on-site truck traffic and from front-end loaders handling containers. Adjoining land uses are commercial and industrial.

CHAPTER 4: ENVIRONMENTAL IMPACTS

Methodology used to Assess Future Noise Levels

The proposal will re-configure the routes by which solid waste is transported throughout city from residential and commercial sources. This report will first introduce the examination of the proposal's impacts with a qualitative discussion and then will present a more detailed quantitative analysis for each facility where there is sufficient data.

Alternative 1 is the No Build scenario. The intermodal facility sites will have higher noise future levels from train, truck and airplane traffic than at present. The Proposal will reduce noise impacts in several ways as summarized in Table 5.

Table 5. Relative Change in Noise Sources and Noise Generated as a Result of Implementing the Proposal

Noise Sources	**Effect of Proposal upon Noise Generation**		
	Alternatives 2 and 3	**Alternatives 4 and 5**	**Notes**
Trucks- city contracted refuse collection vehicles, city solid waste transfer vehicles	More noise generated (increase in truck and train traffic at these sites)	Slight increase in truck traffic compared to existing	The majority of contracted collection trucks will be routed to one of the proposed intermodal sites
Solid waste handling machinery	More noise generated (A new noise source at these sites)	More noise generated (A new noise source at these sites)	
Trucks maneuvering containers on-site	More noise generated (A new noise source at these sites)	A reduction in container movement and associated noise	Overall fewer containers to handle
Noise transmitted from tipping building	More noise generated (A new noise source at these sites)	More noise generated (A new noise source at these sites)	New tipping buildings will have solid walls and block noise more effectively

Alternate 2 and 3 (Harbor Island Intermodal Facilities)

Truck traffic on Klickitat Avenue is estimated to increase by 86 vehicles at the PM peak hour, nearly all of these vehicles will be trucks. Both the Terminal 10 and Pendleton Mills sites on Harbor Island are surrounded by land uses that will not be sensitive to the small amount of additional noise from truck traffic generated by the Proposal. The closest residential areas are approximately ½ mile away. As a result there will be no noise impacts to residential areas. A small park immediately south of the Pendleton Mills site may experience higher noise levels from all the Harbor Island intermodal sites, particularly if the Pendleton Mills site is used.

Alternative 4 (Corgiat Intermodal Facility)

Truck traffic on Corgiat Avenue is estimated to increase by 86 vehicles at the PM peak hour, nearly all of these vehicles will be trucks.

The project will generate additional traffic onto local streets leading to the I-5 onramps. Although the use of the Corgiat site for an intermodal facility will not entail the construction of new roads; the most appropriate methodology and standards by which to asses the noise impacts of the additional traffic are those developed by the Federal Highway Administration (FHWA) for Federally funded highway projects.

This noise analysis follows the federal guidelines (23 CFR 772) for Type 1 projects to analyze traffic noise impacts and to determine if alternative noise abatement measures are required to mitigate these impacts. The most noise sensitive land uses in an urban area are residential zones with outdoor areas such as patios, yards, gardens and children's play areas. Such areas are located south of Bailey Street between Flora and Carlton Streets. A field measurement, made in accordance with the procedures in FHWA publication "Measurement of Highway-Related Noise" (FHWA, 1996) was taken to help determine background sound levels. All measurements and references to sound levels are in dBA L_{eq}. A short-term measurement of 15 minutes in duration was taken with a simultaneous count of traffic in Bailey Street.

Existing sound level measurements were modeled using the FHWA Traffic Noise Model (TMN Version 2.5) under current conditions using traffic volumes counted during the sound level measurements. The locations of the noise measurement and modeled receivers is shown in Figure 5.

Measurement of existing sound levels must be within 2-dBA of the modeled condition after corrections for shielding factors have been applied based on the "Fundamentals and Abatement of Highway Traffic Noise Report" No. FHWA-HH1-HEV-73-79761 (FHWA, 1980).

The FHWA Traffic Noise Model (TNM) was used to quantify sound levels at each sound level measurement location that would be effected by project-generated traffic. This model uses data on roadway and receptor geometry, traffic volumes and speeds, the types of vehicles on the road, and topographic features as inputs to its noise prediction algorithms. It is standard practice to calibrate TNM before modeling project impacts. The calibration process involves modeling existing conditions using the traffic volumes counted during the on-site noise measurements and then comparing the results of this model to the measurements. In locations with low background noise the model is considered acceptable if the results differ by 2 dBA or less. If there are high background noise levels one must attempt to obtain a "clean" noise measurement that records only traffic noise. Bailey Street is close to King County Airfield and aircraft noise frequently overpowers traffic noise. The noise meter was frequency paused to avoid taking measurements whenever aircraft noise appeared to be as loud as traffic noise. Minor adjustments were made in estimated traffic speeds and receiver locations to calibrate the model. Table 6 summarizes the results of the calibration runs. The small discrepancy of 2 dBA is primarily due to background noise from truck traffic on the elevated ramps leading to I-5.

Table 6. Calibration Results

Measurement Site	Measured Sound Level in dBA (15-minute LEQ)	Modeled Sound Level in dBA LEQ	Modeled Results Compared to Measurements
CAL-1 1021 S. Bailey	63.3	61.3	-2.0

Another TNM model was run using the current PM peak volumes. Finally, predictions of sound levels for the design year of 2028 with and without the Build Alternative were modeled. The sampling locations represent the most sensitive noise receivers and were used as the predictor sites for future conditions in the noise modeling. The traffic engineer's data on vehicle volumes, the proportion of passenger cars and trucks and typical vehicle speeds were used in the modeling of future conditions. This information is shown in Table 7.

Table 7. Hourly Traffic Data Used in the Traffic Noise Model

Location/Parameter	**Hourly Volumes During Noise Measurement**	**Existing PM Peak**	**2028 No Build**	**2028 with Corgiat Intermodal Site**
South Bailey Street				
EASTBOUND				
Autos	412	363	514	517
Medium Trucks	56	7	8	8
Heavy Trucks	24	3	3	3
WESTBOUND				
Autos	508	350	494	508
Medium Trucks	44	16	22	22
Heavy Trucks	16	7	9	46

The modeled noise levels for each receptor were compared to the appropriate Noise Abatement Criteria level. A traffic noise impact occurs when the modeled sound levels approach or exceed the FHWA Noise Abatement Criteria or when the predicted traffic noise levels (design year) substantially exceed the existing noise levels. The results of the noise modeling analysis for Future Background (No Build) levels and the build Alternative for 2028 (project design year) are presented in Table 8.

Table 8. Existing Predicted PM Peak L_{eq} Noise Levels (in dBA)

Receiver	**Receiver Location**	**Typical of How Many Residences?**	**2004 PM Peak**	**2028 No Build**	**2028 with Project**	**Project Increase Compared to Existing dBA**
CAL-1	1021 Bailey	1	57	58	60	+3
R-2	1015 Bailey	2	62	63	65	+3
R-3	6208 Flora	1	51	52	55	+3
R-4	6217 Flora	3	50	51	54	+4

The modeled noise levels for 2028 indicate that project noise levels will exceed predicted future "No Build" levels at all four receivers. The increase in noise due to the project would be audible but not it will not "substantially exceed" (defined by WSDOT as 10dBA or more) existing noise levels.

The Corgiat site is surrounded by land uses that will not be sensitive to the small amount of additional noise from the truck traffic generated by the Proposal. Alternative 4 will result in traffic noise levels increasing by approximately 3-4 dBA is residential areas south of Bailey Street. Noise levels will be less than 60 dBA at locations not adjoining Bailey St. Two residences on Bailey Street will have noise levels of 65 dBA. These traffic noise levels and increases would not be considered a noise impact. There will be no noise impacts to other residential areas such as Beacon Hill.

Alternative 5 (Edmunds Street Intermodal Facility)

Truck traffic on Edmunds Avenue is estimated to increase by 86 vehicles at the PM peak hour, nearly all of these vehicles will be trucks. This site is surrounded by land uses that will not be sensitive to the small amount of additional noise from truck traffic generated by the Proposal. There will be no noise impacts to residential areas.

Impacts from Construction

The construction phase of the Proposal will require the use of diesel powered heavy construction equipment that generates high noise levels. Figure 9 lists the types of equipment needed for the Proposal's construction phase and shows the range of noise levels to be expected from such equipment.

Table 9. Range of Noise Levels (dBA) from Construction Equipment at 50 Feet

Equipment	60	70	80	90	100	110
Earth Moving						
Compactors						
Front-end loaders						
Backhoes						
Tractors						
Scrappers/graders						
Pavers						
Trucks						
Materials Handling						
Concrete mixers						
Concrete pumps						
Cranes (movable)						
Stationary Equipment						
Pumps						
Generators						
Compressors						
Impact Equipment						
Pneumatic wrenches						
Jack hammers						
Pile drivers (peak						

Sources: EPA 1971 and WSDOT 1991.

MITIGATION MEASURES

Construction Impacts

- Schedule construction work to avoid the hours residents are at home (i.e. 6PM-7AM on weekdays, 6PM-9AM on weekends and holidays)
- Keep all machinery well lubricated and with mufflers in good working condition.
- If stationary generators or compressors are used they can be muffled with portable plywood walls.

Operational Noise

- The project design minimizes noise impacts in areas adjacent to the intermodal facilities. No additional noise mitigation is required for any of the proposed sites to meet City of Seattle's maximum permissible sound levels.

Significant Unavoidable Adverse Impacts

Significant noise impacts are defined as levels of project-generated noise that exceed federal, state or regional standards. The Proposal is unlikely to have significant unavoidable adverse impacts at any of the intermodal facilities.

References

Environalysis, Noise Technical Report for SRDS Recycle/Reuse Center.1999).

Federal Highway Administration Report. “FHWA Highway Traffic Noise Prediction Model” FHWA-RD-77-108.

Federal Highway Administration “Fundamentals and Abatement of Highway Traffic Noise Report” No. FHWA-HH1-HEV-73-79761 (FHWA, 1980).

Federal Highway Administration Report. “Measurement of Highway-Related Noise”. (FHWA, 1996)

Heffron Transportation, Inc. “Transportation Technical Report for the SEIS- Seattle Public Utilities Solid Waste Facilities Waster Plan” November 2004

Seattle, Municipal Code, Chapter 15.08 Noise Control.

United State Code of Federal Regulations (23 CFR Part 772), July 9, 1982.

Washington State Department of Transportation “Highway Traffic Noise Analysis and Abatement” (FHWA, 1995)

Washington State Department of Transportation. “Noise Abatement Policy and Procedures”. (WSDOT, 1997)

Washington State. “Revised Code of Washington (RCW) Chapter 70.107. 1987

Washington State. “Washington Administrative Code (WAC) Chapters 173-58, 173-60, 173-60

APPENDIX E

Air Quality and Odor Technical Report

Air Quality Technical Report

for the Seattle Public Utilities Solid Waste SEIS- Intermodal Facilities Only

Environalysis, LLC
February 2005

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CHAPTER 1: SUMMARY

This report characterizes existing air quality and assesses the impacts of the Proposal upon future air quality. The scope of analysis is both regional (the area served by Seattle Public Utility Solid Waste Division) and local (the immediate vicinity of the intermodal sites).

Affected Environment

This document uses published data from monitoring stations operated by the Department of Ecology (DOE) and the Puget Sound Clean Air Agency (PSCAA) to characterize the existing air quality in the vicinity of the intermodal sites. Current air quality meets State and Federal standards for all regulated pollutants. Motor vehicles are the predominant source of pollution in the central Puget Sound region.

Project Impacts

Construction Impacts

Construction activities will generate a variety of pollutants from the use of heavy machinery, primarily during the earth-moving and demolition phases. Air quality impacts diminish with distance; thus the residential areas closer to one of proposed Intermodal Facility sites will more affected than the neighborhoods further away. Standard Best Construction Practices will greatly minimize air quality impacts and no additional mitigation measures are recommended.

Operational Impacts

The Intermodal facility's tipping building will be constructed with solid walls and a whole-building ventilation system to minimize odor and dust impacts. The Intermodal facility will be located in one of four possible sites, all in areas zoned for industrial uses. There are no sensitive uses, such as residences, schools or hospitals, near Terminal 10, Pendleton Mills, Corgiat St. or the Northwest Container sites. There is a small park adjoining the Pendleton Mills property. Users of this park may notice more odors than at present if the Pendleton Mills site is used for an intermodal solid waste transfer facility.

Mitigation Measures

Construction Phase Mitigation

- At all of the proposed locations the construction must adhere to certain standard regulations and put into place best management practices to eliminate visible airborne fugitive dust.

Operational Impacts

The design of the SWFMP recommended option will incorporate features that will minimize air quality impacts. Some features that will help to minimize emissions include an entrance and exit design that expedites truck movements.

There are also operational practices that will assist in reducing emissions:

- Keep trailer storage yard dust-free by frequent washing down and sweeping.
- Minimize the time that tractor-trailer units spend idling as they are being loaded.
- Help control odors by minimizing the number of days “clean green” materials are kept on site before being hauled to an organics processing facility;
- Maintain a detailed log of when strong odors are noticed on site by SPU staff. If odor complaints are received attempt to correlate these events with the types of organic materials that arrive at the facility. Organic matter from restaurants or small scale food and fish processing plants can cause odor problems and may require direct hauling to an organics processing facility
- Slow down the fermentation/composting of “clean green” material during warm weather by not compacting it until shortly before hauling it to an organics processing facility..

Significant Unavoidable Adverse Impacts

The Proposal will have no significant unavoidable adverse impacts to local or regional air quality.

CHAPTER 2: PROJECT DESCRIPTION

The proposed project that is analyzed in this supplemental EIS is based on Option 11 in the draft SWFMP and includes:

- Building a new solid waste intermodal transfer facility on one of four alternative sites, all of which are located within the Seattle city limits, south of downtown.

The locations of the alternative sites for the intermodal transfer facility are shown in Figure 1.

Figure 1. **Alternative Sites for the Intermodal Transfer Facility in the City of Seattle Solid Waste Facilities Master Plan.**

Proposed Project: Solid Waste Transfer Facility

Alternative Sites

Alternative sites for the intermodal facility are under consideration by the City of Seattle, including three sites for a city-only intermodal facility and one site for a combined city-county intermodal facility (Figure 1). The four alternative sites are the following:

- Alternative 2: Terminal 10 site: a city-only facility
- Alternative 3: Combined Terminal 10/Pendleton site: a combined city-county facility
- Alternative 4: Corgiat site: a city-only facility
- Alternative 5: Edmunds Street site: a city-only facility

Both a city-only facility and a combined city-county facility would include similar features:

- Main transfer building where waste is delivered, compacted if necessary, and loaded into containers, which are sealed to make leak leak-proof.
- An exterior container storage area
- Rail siding tracks with adjacent cranes and other equipment for loading containers onto railway cars
- An employee/office building with adjoining parking
- Access driveways with entrance and exit scale facilities
- A small fueling station

The main transfer building would be approximately 40 to 45 feet above grade.

CHAPTER 3: AFFECTED ENVIRONMENT

Characterizing the existing environmental conditions in the project vicinity is the first step in performing an air quality study. The data available for this technical report included information on the local meteorology, the current air quality levels as measured by state and local agencies and information on other sources of pollution in the vicinity of the project site.

Applicable Regulations

Air quality is regulated in the Puget Sound region by Federal, state and local agencies. The U.S. Environmental Protection Agency established National Ambient Air Quality Standards (NAAQS) for a limited number of pollutants with the enactment of the Clean Air Act of 1970 and subsequent amendments. These compounds are termed "priority pollutants. Revised ambient air standards were established by EPA in 1997 for PM_{10}, ozone and very fine particulate matter ($PM_{2.5}$). Table 1 summarizes the EPA standards.

Table 1. Ambient Air Quality Standards

Pollutant	National Primary	National Secondary	Washington State	Puget Sound Region
Total Suspended Particulate Matter (TSP)				
Annual Geometric Mean ($\mu g/m^3$)	NS	NS	60	NS
24-hour Average ($\mu g/m^3$)	NS	NS	150	NS
Inhalable Particulate Matter (PM_{10}) ($\mu g/m^3$)				
Annual Arithmetic Mean ($\mu g/m^3$)	50	50	50	50
24-hour Average ($\mu g/m^3$)	150	150	150	150
Particulate Matter ($PM_{2.5}$) ($\mu g/m^3$)				
Annual Arithmetic Mean ($\mu g/m^3$)	15	15	15	15
24-hour Average ($\mu g/m^3$)	65	65	65	65
Carbon Monoxide (CO)				
8-hour Average (ppm)	9	NS	9	9
1-hour Average (ppm)	35	NS	35	35
Ozone (O_3)				
1-hour average (ppm)	0.12	0.12	0.12	0.12
8-hour average (ppm)	0.08	0.08	0.08	0.08
Nitrogen Dioxide (NO_2)				
Annual Average (ppm)	0.053	0.053	0.053	0.053
Lead (Pb)				
Quarterly Average ($\mu g/m^3$)	1.5	1.5	NS	1.5

Source: Puget Sound Clean Air Agency 1999-2001 Air Quality Data Summary
NS=No standard established; ($\mu g/m^3$) = micrograms per cubic meter; ppm= parts per million

Most of the urbanized (western) portions of Snohomish, King and Pierce Counties were declared in 1991 to be in non-attainment for carbon monoxide**.** In 1997 they were re-designated as being in attainment but subject to "Maintenance Area" requirements.

The emission of odorous compounds is regulated by the Puget Sound Clean Air Agency together with any types of emissions that might be injurious to human health, plant and animal life or that interfere with one's "enjoyment of life and property." PSCAA investigates complaints about odor and will take enforcement action if odors are found to be "distinct and definite, any unpleasant characteristics recognizable". (PSCAA, Regulation 1 Section 9.11)

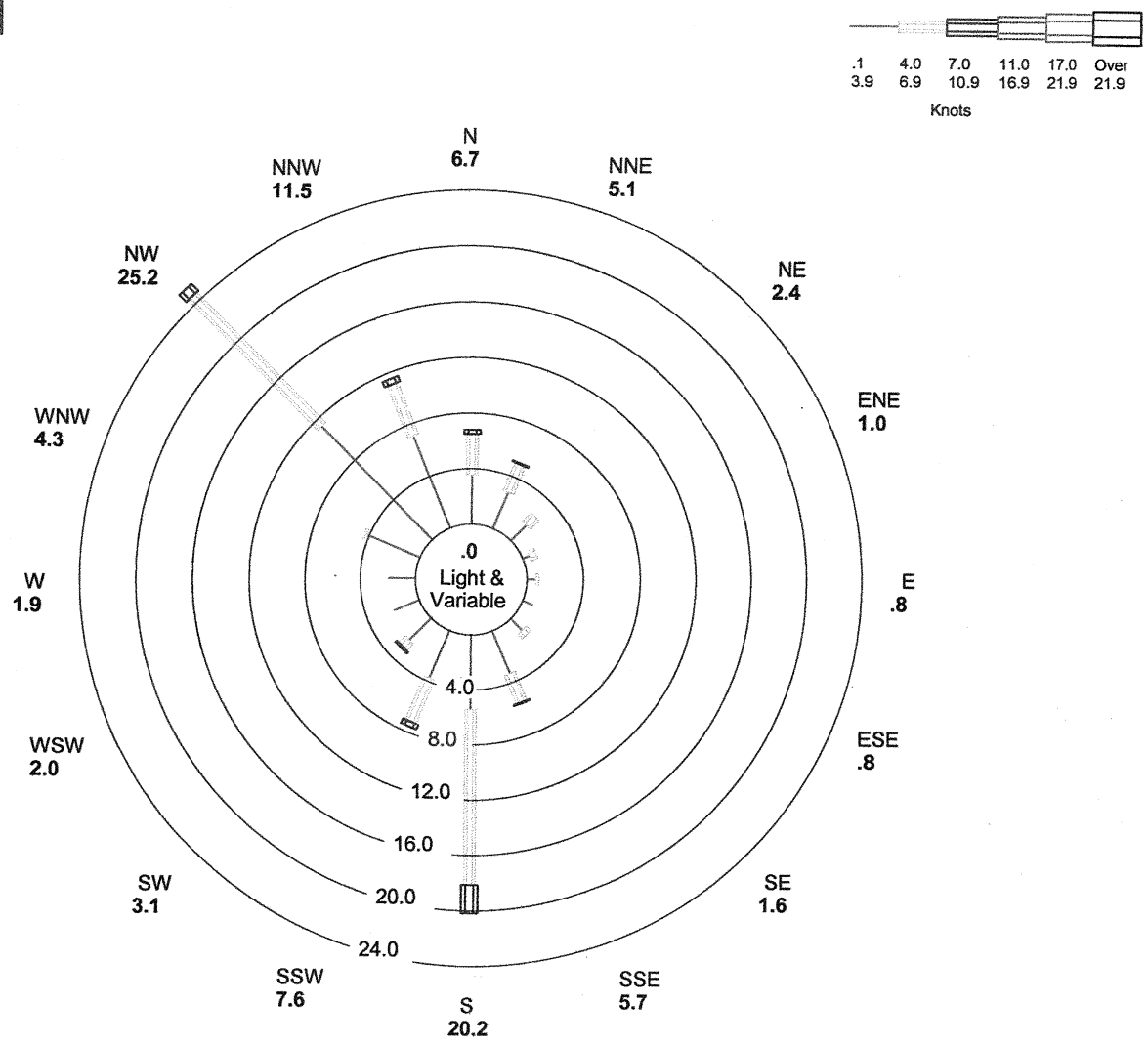
Regional Climate and Meteorology

The Project area is located in central Puget Sound and is subject to same general climatic conditions that control weather in Seattle and most of the Puget Sound Basin. The climate is characterized by moderate temperatures, wet winters, and frequent onshore flows of moist marine air. Monthly average temperatures range from the 30's and 40's in winter and range from the 50's to the mid-70's in summer. Annual precipitation, concentrated in the winter months, ranges from 35 to 40 inches with a long term average of over 61 inches. There are 150 days a year with rainfall of 0.01" or greater

Winds generally range south to southwest in the winter or during other rainy periods with southwest winds predominating. Winds during fair periods, and generally throughout the warm months, are west to northwest. Easterly winds occur frequently during periods of high pressure. Figures 2 and 3 are known as a "wind rose", showing the frequency that winds of a given speed were measured during June-September of 2002 (source: PSCAA, 2003 Air Quality Data Summary). The portion of winds from a given direction is indicated by the length of the lines. Thicker lines represent stronger winds. The South Seattle wind monitoring site (Figure 2) will be representative of conditions at any of the intermodal sites.

PUGET SOUND
Clean Air Agency

Figure 2. Summer Wind Patterns in South Seattle



Hour Average Wind Speed

Percentage Frequency Of Occurrence

STATION LOCATION:	**Duwamish, 4752 E Marginal Way S, Seattle**
SITE ELEVATION:	**14 feet**
INCLUSIVE DATES:	**June 1, 2002 to August, 31, 2002**
TOTAL OBSERVATIONS:	**2,208**

Description of Pollutants

The examination of existing air quality will focus upon those pollutants which are of concern in the Puget Sound region and which are likely to be emitted by the proposed project. The pollutants with the greatest impact upon air quality in the Puget Sound region are particulate matter, carbon monoxide and ozone (formed from chemical reactions with hydrocarbons, oxides of nitrogen and sunlight). The primary impacts to air quality generated by this type of project are due to dispersion of dust particles by the turbulence caused by trucks. These dust emissions are typically termed "fugitive dust". Other pollutants include carbon monoxide, oxides of nitrogen and sulfur dioxide emissions from the diesel engines of trucks and the complex hydrocarbon emissions from diesel engines.

Objectionable odors are another form of air pollution and are caused by a great variety of compounds. Odors are generated by some of the existing operations of the City of Seattle's solid waste system such as the diesel exhaust of trucks and decaying garage and yard waste. The following is a more detailed discussion of the pollutants likely to be emitted by this project.

Particulate Matter

Particulate matter consists of particles of wood smoke, diesel smoke, dust, pollen or other materials. It has traditionally been measured in two forms: total suspended particulate (TSP) and PM_{10}. PM_{10} (respirable or fine particulate matter) is a subset of TSP and is defined as being smaller than 10 micrometers in diameter. Due to concerns about the effect of very fine particulate matter such as that found in wood smoke and combustion engine exhaust, the EPA in 1997 established separate regulations for particulate matter smaller than 2.5 microns in diameter ($PM_{2.5}$).

Coarse particles greater than 10 micrometers settle out of the air fairly close to where they are produced. PM_{10} (and to an even greater degree $PM_{2.5}$) remains suspended in the air for long periods of time and is readily Inhalable deep into the smaller airways of human lungs. High ambient concentrations of PM_{10} and $PM_{2.5}$ contribute to impaired respiratory functioning. Fine particulate matter is primarily responsible for haze that impairs the visibility of distant objects.

Studies by the Washington State Department of Ecology have shown that the burning of wood in stoves and fireplaces have historically accounted for more than 80% of the PM_{10} concentrations in areas and periods of heavy woodstove use. This percentage is declining as less people use wood for their primary source of heat. The diesel engines of trucks, heavy equipment and ships are another significant source of particulate matter. Particulate matter from diesel engines and other sources has come under increasing scrutiny as a significant source of hazardous air pollutants in urban areas.

Ozone

Ozone is a pungent-smelling, colorless gas. It is a pulmonary irritant that affects lung tissues and respiratory functions and, at concentrations between 0.15 and 0.25 PPM, causes lung tightness, coughing and wheezing.

Ozone is produced in the atmosphere when nitrogen oxides and some hydrocarbons chemically react under the effect of strong sunlight. Unlike carbon monoxide, however, ozone and the other reaction products do not reach their peak levels closest to the source of emissions, but rather at downwind locations affected by the urban plume after the primary pollutants have had time to mix and react under sunlight.

Sulfur Dioxide

Sulfur dioxide is a colorless, corrosive gas with a bitter taste. It has been associated with respiratory diseases. Sources of sulfur dioxide include power plants, paper mills and smelters. It reacts with atmospheric moisture to form sulfuric acid.

Nitrogen Dioxide

Nitrogen dioxide is a brownish, poisonous gas which reacts with water vapor to form nitric acid. It has been associated with respiratory diseases and is one of the essential precursors in the formation of ozone. Nitrogen dioxide is formed from the high temperature combustion of fuels (such as diesel engines) and subsequent atmospheric reactions. It reacts with atmospheric moisture to form nitric acid which, together with sulfuric acid, falls as “acid rain” damaging vegetation and freshwater marine ecosystems.

Hazardous Air Pollutants

Hazardous Air Pollutants (HAPS) consist of a wide variety of pollutants emitted by gasoline and diesel powered motor vehicles and include formaldehyde, benzene and heavy metals. Health effects include potential cancer risks and pollution of ground water supplies. Useful mitigation measures have been undertaken on a regional basis, such as the phase-out of lead in gasoline, the upcoming introduction of low-sulfur diesel fuel and the installation of particulate traps on diesel buses. The particulate matter emissions from diesel engines have been shown to contain several types of HAPS.

Carbon Monoxide

Carbon monoxide is a toxic, clear and odorless gas. CO interferes with the blood's ability to absorb oxygen and impairs the heart's ability to pump blood. Carbon monoxide (CO) is the primary priority pollutant associated with motor vehicle traffic. Monitoring for CO is performed throughout the Puget Sound region by the Department of Ecology and the Puget Sound Clean Air Agency (PSCAA). The highest concentrations of CO are found immediately adjacent to large congested intersections and arterials. Concentrations rapidly decrease as one moves further away from these sources. Existing locality-wide background concentrations of CO are primarily traffic generated and can be assumed to range from 2-5 PPM as an 8-hour average compared to the 9 PPM standard.

Local Ambient Air Quality

Alternatives 2 and 3

Harbor Island Intermodal Facilities (Terminal 10 and Pendleton Mills)

Both of these sites are located on Harbor Island in the Duwamish Industrial area, historically an area of high PM_{10} levels. This area was designated as being in non-attainment until 1998 when it reached attainment of the standards. Industrial emissions and diesel truck traffic are the major source of air pollution.

There is a particulate monitoring station site close to both sites (the Duwamish site at 4762 East Marginal Way S) that measures both $PM_{2.5}$ and PM_{10}. A site on Harbor Island was discontinued in 1999. The Duwamish monitoring location is considered representative of the conditions at Harbor Island. New daily and annual standards for very fine particulate, known as $PM_{2.5}$ went into effect in 1997 and monitoring data indicates the region is in attainment of

the new standards. Table 2 summarizes the particulate matter monitoring results for 2003, the most recent year of published data.

Table 2. Particulate Monitoring Data for 2003

At 4752 E. Marginal Way S. in micrograms per cubic meter

Pollutant	Monitoring Time	PM Concentration	Number of Exceedances	NAAQS Standard
$PM_{2.5}$	24-hour	38	0	65
$PM_{2.5}$	Annual average	11.0	0	15
PM_{10}	24-hour	69	0	150
PM_{10}	Annual average	23.0	0	50

There are no carbon monoxide monitoring sites close enough to be representative of conditions on Harbor Island.

Nitrogen dioxide has been monitored at sites in Seattle and Enumclaw since 1996. The closest monitor is located in Beacon Hill, a residential neighborhood, approximately 2 miles southeast of Harbor Island. Monitored levels are far lower than the standards. Due to its location in the industrial center of Seattle with high volumes of diesel truck traffic levels of nitrogen dioxide can be assumed to be somewhat higher on Harbor Island than those in Beacon Hill.

Sulfur Dioxide is monitored at several locations in the heavily industrial areas of Everett, Seattle and Tacoma. The closest monitor is located on Beacon Hill, approximately 2 miles southeast. The Puget Sound region is in compliance with Federal and State standards with no exceedances from 1988 to 2003. Concentrations at the Project site are expected to be well below these standards.

Ozone is primarily monitored around the edges of the central Puget Sound urban metropolis, but there is a site within Seattle, at Beacon Hill, approximately 2 miles southeast of Harbor Island. No exceedances of the NAAQS standard have been recorded, in 2003 the highest reading was 0.072 PPM compared to the 0.12 PPM standard. Ozone levels can be assumed to be similar to those measured at Beacon Hill.

Odors

The Harbor Island Terminal 10 site is currently being used to process dredge spoil material from the removal of sediment from the Dumanish River. The Pendleton Mill site is currently being used for grain and flour packing, storage and shipping. The majority of existing odors in this area come from diesel truck traffic serving the Port of Seattle and cargo ship and tugboat traffic on the Duwamish waterway and locomotive activities on Harbor Island..

Alternative 4

Corgiat Site

The Corgiat site is located in Georgetown, at the eastern edge of the Duwamish Industrial area, historically an area of high PM_{10} levels. This area was designated as being in non-attainment until 1998 when it reached attainment of the standards. Industrial emissions and diesel truck traffic are the major source of air pollution.

The closest particulate ($PM_{2.5}$ only) monitoring station site is located on Beacon Hill (Charlestown + 15th Ave S). However, this monitor is in a residential neighborhood and is less representative of conditions at the Corgiat site than the Duwamish monitor. New daily and annual standards for very fine particulate, known as $PM_{2.5}$ went into effect in 1997 and monitoring data indicates the region is in attainment of the new standards. Table 3 (South Recycling & Disposal Station) summarizes the particulate matter monitoring results for 2003, the most recent year of published data.

Carbon monoxide is monitored in Beacon Hill approximately 1.6 miles north of the Corgiat Intermodal site. This monitor is located in a residential area that will have lower CO levels than the Corgiat site, which borders I-5.

Nitrogen dioxide has been monitored at sites in Seattle and Enumclaw since 1996. The closest monitor is located on Beacon Hill, approximately 1.6 miles north. Monitored levels are far lower than the standards. Due to its location close to the industrial center of Seattle with high volumes of diesel truck traffic levels of nitrogen dioxide can be assumed to be somewhat higher on Harbor Island than those in Beacon Hill.

Sulfur dioxide is monitored at several locations in the heavily industrial areas of Everett, Seattle and Tacoma. The closest monitor is located on Beacon Hill, approximately 1.6 miles north. The Puget Sound region is in compliance with Federal and State standards with no exceedances from 1988 to 2003. Concentrations at the project site are expected to be well below these standards.

Ozone is primarily monitored around the edges of the central Puget Sound urban metropolis, but there is a site within Seattle, at Beacon Hill, approximately 1.6 miles north of the Corgiat Intermodal site. No exceedances of the NAAQS standard have been recorded, in 2003 the highest reading was 0.072 PPM compared to the 0.12 PPM standard. Ozone levels at Corgiat will be similar to those at Beacon Hill.

Odors

The Corgiat site is currently used for a natural gas flow station, vehicle maintenance, freight storage and several small businesses. Existing odors come from diesel truck traffic on nearby I-5 and Michigan Avenue.

Alternative 5

Edmunds Street Site

The Edmunds Street site is located at the eastern edge of the Duwamish Industrial area, historically an area of high PM_{10} levels. This area was designated as being in non-attainment until 1998 when it reached attainment of the standards. Industrial emissions and diesel truck traffic are the major source of air pollution.

The closest particulate ($PM_{2.5}$ only) monitoring station site is located on Beacon Hill (Charlestown + 15th Ave S). However, this monitor is in a residential neighborhood and is less representative of conditions at the Corgiat site than the Duwamish monitor. New daily and annual standards for very fine particulate, known as $PM_{2.5}$ went into effect in 1997 and monitoring data indicates the region is in attainment of the new standards. Table 2 summarizes the particulate matter monitoring results for 2003 for the East Marginal Way monitoring station and is applicable to the Edmunds Street site.

Carbon monoxide is monitored in Beacon Hill approximately 1.0 miles north of the Corgiat Intermodal site. This monitor is located in a residential area that will have lower CO levels than the Northwest Container site, which

borders I-5. The arterials serving the Corgiat site currently operate at the acceptable Level of Service “C”, indicating minimal vehicle delays at the signalized intersections of S. Albro Street with Corgiat Drive S and Swift Avenue S.

Nitrogen dioxide has been monitored at sites in Seattle and Enumclaw since 1996. The closest monitor is located on Beacon Hill, approximately 1.0 miles north. Monitored levels are far lower than the standards. Due to its location in the industrial heart of Seattle with high volumes of diesel truck traffic levels of nitrogen dioxide can be assumed to be somewhat higher on Harbor Island than those in Beacon Hill.

Sulfur dioxide is monitored at several locations in the heavily industrial areas of Everett, Seattle and Tacoma. The closest monitor is located on Beacon Hill, approximately 1.0 miles north. The Puget Sound region is in compliance with Federal and State standards with no exceedances from 1988 to 2003. Concentrations at the project site are expected to be somewhat higher than those at Beacon Hill.

Ozone is primarily monitored around the edges of the central Puget Sound urban metropolis, but there is a site within Seattle, at Beacon Hill, approximately 1 miles north of the Corgiat Intermodal site. No exceedances of the NAAQS standard have been recorded, in 2003 the highest reading was 0.072 PPM compared to the 0.12 PPM standard. Ozone levels at the Northwest Container site will be similar to those at Beacon Hill.

Odors

The Edmunds Street site is currently used for as an intermodal yard for freight storage and several small businesses. The majority of existing odors come from diesel truck traffic on nearby I-5 and other arterials.

CHAPTER 4: ENVIRONMENTAL IMPACTS

The Pollutants Generated by Solid Waste Handling Systems

The handling of solid waste requires extensive use of large trucks and heavy machinery for hauling, waste handling and long-distance shipment. The gasoline and diesel engines of automobiles and trucks emit carbon monoxide (CO), fine particulate matter ($PM_{2.5}$, PM_{10}) and oxides of nitrogen (NOx) and sulfur (SOx).

Particulate matter in the form of fugitive dust is also a significant pollutant from solid waste handling operations. The movement of machinery and vehicles causes dust to rise into the air and be transported by the prevailing winds. The handling of construction and demolition debris by dumping, sorting, stockpiling and loading onto trucks also results in particulate emissions.

The primary pollutants emitted by the operation of Seattle's waste handling are shown in Table 3.

Table 3. Typical Pollutants Emitted by the operations of a Solid Waste Utility

Source of Emissions	Pollutants Emitted
Commercial Haulers	CO, PM10, PM2.5, NOx, SO, HAPS
Solid waste handling equipment (bulldozers, yard tractors, front-end loaders)	CO, PM10, PM2.5, NOx, SO, HAPS
Loading solid waste into trailers	CO, PM10, PM2.5, NOx, SO, HAPS
Trailers at stations awaiting hauling to intermodal site	odorous compounds
Transferring solid waste from trailers into containers at intermodal site, compacting solid waste	CO, PM10, PM2.5, NOx, SO, fugitive dust, odorous compounds, HAPS
Loaded containers at intermodal site awaiting train transport	odorous compounds
Long-distance shipment by train	CO, PM10, PM2.5, NOx, SO, HAPS

The relative change in emissions compared to existing and future No Build conditions are summarized in Table 4.

Table 4. Relative Changes in Emissions as a Result of Implementing the Proposal

Type of Activity	Emissions
Sources of Emissions at the Intermodal Transfer Facility	**Relative Change in Emissions from Existing Conditions**
Emissions from Commercial Haulers	Higher- a new use at this site
Emissions from waste handling machinery	Higher- a new use at this site
Odors from decaying garbage	Higher- a new use at this site
Fugitive dust	Higher- a new use at this site
Emissions at Argo Yard	Lower- city municipal waste containers will no longer go there
Sources of Emissions Generated within Seattle Service Area	**Relative Change In the Area Served by Seattle Public Utilities**
Emissions from Commercial Haulers	Emissions decrease in vicinity of station Emissions increase on routes leading to intermodal site
Odors from decaying garbage	Odors decrease in vicinity of station Odors may increase on routes leading to intermodal site
Fugitive dust	Emissions decrease in vicinity of station Emissions may increase on routes leading to intermodal site

Comparison of Emissions of Municapal Solid Waste Hauling

A major feature of the Proposal is the re-routing of the majority of refuse collection trucks directly to an intermodal solid waste transfer facility when filled to capacity or at the completion of their daily collection routes, thus bypassing the current stop at NRDS or SRDS. This change in travel patterns will alter the annual miles driven by the city contracted collection fleet, with resulting implications for emissions of pollutants. Seattle Public Utilities compared the mileage accumulated by city contracted refuse haulers with and without the Proposal. The City's data indicates that trucks will drive approximately 17% more miles with the Proposal than at present (due to trips to the intermodal facility and a greater distance between the trucks' collection area and transfer facility where they unload). Offsetting this increase is the fact that emissions per mile from the garbage haulers' fleet will decrease as the truck fleet modernizes. This will result in markedly lower total emissions in 2011 when the Proposal becomes operational. The data are presented in Table 5.

Table 5. Comparison of Emissions and Mileage from Commercial Garbage Haulers

Pollutant	2004 Kilograms per Year	2011 No Project	2011 with Project	Change on Emissions due to Project	
				Compared to 2004	Compared to 2011 No Build
Hydrocarbons (HC)	246	167	196	-20%	+17%
Carbon monoxide (CO)	1,136	608	712	-37%	+17%
Nitrogen oxide (NOx)	5,744	2,784	3,258	-43%	+17%
Total Emissions per year	**7,126 kg**	**3,559 kg**	**4,166 kg**		
Miles driven per Year	**480,550**	**480,550**	**562,300**		

Source: Mileage for 2011 from Jenny Bagby, City of Seattle Public Utilities. Emissions derived from Mobile6a emission model. The mileage shown is for trucks traveling from their collection areas to the Intermodal facility, the Recycling and Disposal Stations or the Cedar Grove composting facility. Mileage does not include travel on the collection route—which can be assumed to be essentially the same in 2004 and 2011 with or without the Proposal.

Concentrations of Carbon Monoxide at Intersections

Carbon monoxide is the pollutant emitted in the largest amounts by motor vehicles and, when present in sufficient quantities, is fatal to humans. Congested, high volume intersections are a common feature of most urban and suburban areas and are the locations where the highest CO concentrations are found. Carbon monoxide is also the only pollutant emitted by motor vehicles for which EPA has developed refined predictive computer models. For all of these reasons a project's impacts to air quality due to motor vehicle traffic routinely include the prediction of CO concentrations. Environalysis examined the traffic modeling data for both stations and the three proposed intermodal sites to determine the project's potential to impair air quality at the intersections that receive significant amounts of project-generated traffic. Table 6 summarizes the traffic data that determined whether or not "hot spot" modeling was performed.

Table 6. Intersection Data used to Determine Scope of "Hot Spot" Modeling

Intersection and Scenario	PM Peak Volumes	Intersection Level of Service	Does intersection require "Hot Spot" modeling?
Alternatives 2 and 3 (Harbor Island Intermodal Sites)			
SW Spokane St. + Klickitat Ave.			**No- Project increases peak hourly traffic by only 81 vehicles and LOS remains excellent.**
Existing Conditions	NA	B	
2028 No Project	1035	C	
2028 with Project	1116	C	
S Spokane St. + East Marginal Way.			**No- Project increases peak hourly traffic by only 68 vehicles and LOS remains excellent.**
Existing Conditions	NA	C	
2028 No Project	535	C	
2028 with Project	603	C	
Alternative 4 (Corgiat Intermodal Site)			
S. Albro St. + Corgiat Drive S.			**No- Project increases peak hourly traffic by only 35 vehicles and LOS remains excellent.**
Existing Conditions	1690	B	
2028 No Project	2425	C	
2028 with Project	2460	C	
S. Albro St. +Swift Ave. S			**No- Project slightly reduces peak hourly traffic and LOS remains unchanged from No Build condition.**
Existing Conditions	1785	C	
2028 No Project	2560	E	
2028 with Project	2549	E	
Alternative 5 (Edmunds Street Site)			
Airport Way S. + Edmunds St.			**No- Project increases peak hourly traffic by 81 vehicles. Some turning movements operate at LOS F.**
Existing Conditions	NA	unsignalized	
2028 No Project	1856	unsignalized	
2028 with Project	1937	unsignalized	

Alternatives 2 and 3 (Harbor Island Intermodal Facility)

Emissions from Queued Vehicles

The Harbor Island Intermodal Facility will be designed to minimize queuing. Under peak conditions the queue of vehicles is not expected to extend beyond the site boundaries (Heffron Transportation, Inc. *Transportation Technical Report for SEIS*, 2004). The quality of air surrounding the queued vehicles and the staff at the weight station will not be adversely impacted.

Odor Impacts

The Harbor Island facility is not likely to cause odor complaints for two basic reasons; its location and its design. There are no residential neighborhoods immediately adjacent to the proposed facility—the closest is ½ mile to the south. The history of odor impacts from the existing recycling and disposal sites indicates that unpleasant odors are only apparent within a few blocks of the facility.

The proposed design of the new tipping buildings will feature solid side walls with large openings in the end walls for vehicle access and exit. Engineered air control systems will be designed to minimize air emissions and odors. (Large roof-mounted ventilation fans will keep the interior of the building under negative air pressure compared to the outside. The dusty and odorous air inside the buildings' will be drawn to the ceiling, pass through filters to trap particulate matter and then be vented to the atmosphere at roof height. The particulate traps will reduce fugitive dust emissions but will have no effect upon odors. However, the creation of an airflow moving from the tippling floor upwards to the roof-top fan will reduce fugitive odors and enhance the dispersion and dilution of smells, resulting in less odor problems compared to current conditions.)

Alternative 4 (Corgiat Intermodal Facility)

Emissions from Queued Vehicles

The Corgiat Intermodal Facility will be designed to minimize queuing; as a result the emissions from idling vehicles will be low. Under peak conditions the queue of vehicles is not expected to extend beyond the site boundaries (Heffron Transportation, Inc. *Transportation Technical Report for SEIS*, 2004). The quality of air surrounding the queued vehicles and the staff at the weight station will not be adversely impacted.

Odor Impacts

The Corgiat Intermodal facility is not likely to cause odor complaints for a number of reasons; its location and its design. There are no residential neighborhoods immediately adjacent to the proposed facility. The history of odor impacts from the existing recycling and disposal sites indicates that unpleasant odors are only apparent within a few blocks of the facility.

The proposed design of the new tipping buildings will feature engineered air control systems will be designed to minimize air emissions and odors.

Alternative 5 (Edmunds Street Intermodal Facility)

Emissions from Queued Vehicles

The Edmunds Street Facility will be designed to minimize queuing; as a result the emissions from idling vehicles will be low. Under peak conditions the queue of vehicles is not expected to extend beyond the site boundaries (Heffron Transportation, Inc. *Transportation Technical Report for SEIS,* 2004). The quality of air surrounding the queued vehicles and the staff at the weight station will not be adversely impacted.

Odor Impacts

The proposed facility is not likely to cause odor complaints for a number of reasons; its location and its design. There are no residential neighborhoods immediately adjacent to the proposed facility. The history of odor impacts from the existing recycling and disposal sites indicates that unpleasant odors are only apparent within a few blocks of the facility.

The proposed design of the new tipping buildings will feature engineered air control systems will be designed to minimize air emissions and odors.

Impacts from Construction

The construction phase of the Proposal will include numerous tasks each generating a variety of pollutants. Table 7 summarizes these tasks and emissions. The pollutants that are emitted in the greatest most important pollutants (those with the most emissions or more potential health effects are shown in **bold**).

Table 7. Pollutants Generated by Construction Activities

Construction Task	Source of Emissions	Emissions
Demolition of Existing buildings	Backhoe, track/wheel loaders, cranes, bulldozer, haul trucks	CO, **PM10, PM2.5,** NOx, SO, **fugitive dust**, **HAPS**
Removal of concrete & paved surfaces	Track /wheel loaders, bulldozer, haul trucks	Same as above
Recycling of concrete debris	Haul trucks, primary crusher, aggregate screens	Same as above
Re-grading of sites	Track /wheel loaders, bulldozer, grader	Same as above
Trenching for new utilities	Backhoe, gravel trucks	Same as above
Construct new tipping and other buildings	Concrete trucks, vehicles of construction workers	Same as above
Pave roads & work surfaces	Concrete trucks, asphalt trucks, asphalt rollers	CO, PM10, PM2.5, NOx, SO, fugitive dust, **odorous compounds**, HAPS
Stripe roadways, paint buildings	Paint spray equipment	**odorous compounds**, **HAPS**
Landscape site, add topsoil and mulch	Mulch spray equipment	**fugitive dust**

As Table 7 indicates, the primary emissions for most tasks are particulate matter, either PM10, PM2.5 or fugitive dust. The degree to which these particulate emissions might impact adjacent land uses depends upon several factors which differ for each site, as presented in Table 8.

Table 8. Comparison of Potential Affects of Construction Emissions

Factors Determining the Impact of Emissions	Alternatives 2 and 3	Alternatives 4 and 5
Quantity of emissions per hour or day	Emissions from both sites will be the same.	Emissions from both sites will be the same.
Adjacent Land Uses	Industrial on all sides	Industrial on all sides
Residential Population	No residential population	Very small residential population
Commercial/industrial workers	Small number of local workers	More local workers (Georgetown, SODO)
Effect of prevailing winds upon emissions	Northerly winds could blow emissions towards a residential area.	At any time of year the prevailing winds would blow emissions toward industrial areas
Overall Comparison of Potential Impacts	**Very Little Impacts**	**Very Little Impacts- but slightly more than Alternatives 2 and 3.**

MITIGATION MEASURES

Construction Impacts

Measures Applicable to All Sites

At all of the proposed intermodal facility locations the construction must adhere to certain regulations and best construction practices to reduce air quality impacts. The Puget Sound Clean Air Agency has specific regulations pertaining to fugitive dust contained in Sections 9.11, 9.15 and 9.20 of their Regulation 1 which require the use of best available control technology (BACT) to control fugitive dust emissions. Some especially relevant techniques are:

- Treat construction sites with water or chemical stabilizers
- Have paved or rip-rap exit aprons for haul trucks
- Clean vehicle undercarriages and tires before they exit onto public streets
- Cover or wet down truck loads of earth to prevent wind-blown dust
- Maintain all construction machinery in good working order and operate equipment within load limits and engine RPM levels to minimize exhaust smoke
- Sweep adjacent streets whenever soil from excavation and grading is visible

- If soil contamination is found then Dept .of Ecology will impose site specific requirements for soil cleanup and disposal. Typically such requirements include

Operational Impacts

The design of the Preferred Alternate incorporates many features that will reduce air quality and odor impacts. Some additional design features will help to further reduce emissions:

- Expedite the entrance and exit process to reduce the time that vehicles spend idling in a queue before reaching the tipping building;

There are also operational practices that will assist in reducing emissions:

- Keep trailer storage yard dust-free by frequent washing down and sweeping;
- Minimize the time that tractor-trailer units spend idling as they are being loaded;
- Maintain a detailed log of when strong odors are noticed on site by SPU staff and the types of organic materials that might have caused them. Organic matter from restaurants or small-scale food and fish processing plants can cause odor problems and may require direct disposal at the Cedar Grove composing facility.

Significant Unavoidable Adverse Impacts

Significant impacts are defined as levels of pollutants, which are higher than federal, state or regional standards. The Proposal is unlikely to have significant unavoidable adverse impacts to air quality at the intermodal facilities. Significant unavoidable adverse impacts to air quality are not predicted to occur on the transportation routes serving any of these facilities.

References

Associated General Contractors of Washington and the Fugitive Dust Task Force, “Guide to Handling Fugitive Dust from Construction Projects”

Heffron Transportation, Inc. “Transportation Technical Report for the SEIS- Seattle Public Utilities Solid Waste Facilities Waster Plan” November 2004

Puget Sound Clean Air Agency. “2003 Air Quality Data Summary”. September 2004

U.S. Environmental Protection Agency, 1995. “Compilation of Air Pollution Emission Factors, Volumes I & II.” EPA Document Number AP-42, Office of air Quality Planning and Standards, Fifth Edition.

Schwartz, Norris, Larson et al. “Episodes of high Coarse Particle Concentrations are not Associated with Increased Mortality” Environmental Health Perspectives Volume 107 No. 5 May 1999

APPENDIX F

Hazardous Materials—Executive Summaries from Environmental Data Resources, Inc.

Harbor Island Terminal 10/Pendleton Site

EDR™ Environmental
Data Resources Inc

The EDR Radius Map
with GeoCheck®

Terminal 10/Pendleton
3235 16th Avenue SW
Seattle, WA 98134

Inquiry Number: 1219187.5s

June 25, 2004

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-KRA

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

3235 16TH AVENUE SW
SEATTLE, WA 98134

COORDINATES

Latitude (North):	47.577200 - 47° 34' 37.9"
Longitude (West):	122.357100 - 122° 21' 25.6"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	548349.4
UTM Y (Meters):	5269291.0
Elevation:	7 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	47122-E3 SEATTLE SOUTH, WA
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following government records. For more information on this property see page 6 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
PENDLETON FLOUR MILLS LLC SEATTLE 3235 16TH AVE SW SEATTLE, WA 98134	RCRIS-SQG FINDS WA ICR	WAD059321943
3235 16TH AVE SW, HARBOR ISLAND 3235 16TH AVE SW, HARBOR ISLAND SEATTLE, WA	SPILLS	N/A
FISHER MILLS INC 3235 16TH AVE SW SEATTLE, WA 98134	EMI	N/A
FISHER MILLS INC 3235 16TH AVE SW SEATTLE, WA 98134	EMI SPILLS	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

Proposed NPL ---------- Proposed National Priority List Sites
RCRIS-TSD ---------- Resource Conservation and Recovery Information System
ERNS ---------- Emergency Response Notification System

STATE ASTM STANDARD

HSL ---------- Hazardous Sites List
SWF/LF ---------- Solid Waste Facility Database
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
INDIAN UST ---------- Underground Storage Tanks on Indian Land

FEDERAL ASTM SUPPLEMENTAL

CONSENT ---------- Superfund (CERCLA) Consent Decrees
Delisted NPL ---------- National Priority List Deletions
HMIRS ---------- Hazardous Materials Information Reporting System
MLTS ---------- Material Licensing Tracking System
MINES ---------- Mines Master Index File
NPL Liens ---------- Federal Superfund Liens
PADS ---------- PCB Activity Database System
US BROWNFIELDS ---------- A Listing of Brownfields Sites
INDIAN RESERV ---------- Indian Reservations
FUDS ---------- Formerly Used Defense Sites
DOD ---------- Department of Defense Sites
RAATS ---------- RCRA Administrative Action Tracking System
TRIS ---------- Toxic Chemical Release Inventory System
TSCA ---------- Toxic Substances Control Act
SSTS ---------- Section 7 Tracking Systems
FTTS INSP ---------- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

CDL ---------- Clandestine Drug Lab Contaminated Site List
AST ---------- Aboveground Storage Tank Locations

EDR PROPRIETARY HISTORICAL DATABASES

Coal Gas ---------- Former Manufactured Gas (Coal Gas) Sites

BROWNFIELDS DATABASES

US BROWNFIELDS ---------- A Listing of Brownfields Sites

EXECUTIVE SUMMARY

INST CONTROL..... Institutional Control Site List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
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 04/27/2004 has revealed that there are 2 NPL sites within approximately 1.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
HARBOR ISLAND (LEAD)	***MOUTH OF DUWAMISH RIVER***	***1/8 - 1/4 NE***	***0***	***11***
PACIFIC SOUND RESOURCES	***2801 SW FLORIDA ST***	***1/2 - 1 WNW***	***72***	***115***

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 02/26/2004 has revealed that there are 4 CERCLIS sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
HARBOR ISLAND (LEAD)	***MOUTH OF DUWAMISH RIVER***	***1/8 - 1/4 NE***	***0***	***11***
LOCKHEED SHIPBUILDING CO	***2929 16TH AVE. S.W.***	***0 - 1/8 ENE***	***B6***	***16***
VALUE PLATING & METAL POLISH	***3207 11TH AVENUE SW***	***1/4 - 1/2 ESE***	***I43***	***58***
WEYERHAEUSER SEATTLE LAB-UNDEV	***3233 11TH ST SW***	***1/4 - 1/2 ESE***	***I50***	***64***

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 CERC-NFRAP list, as provided by EDR, and dated 02/26/2004 has revealed that there is 1 CERC-NFRAP site within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CROSBY & OVERTON INC	3406 13TH SW	1/4 - 1/2 SE	G29	44

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 03/15/2004 has revealed that there are 4 CORRACTS sites within approximately 1.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
VALUE PLATING & METAL POLISH	***3207 11TH AVENUE SW***	***1/4 - 1/2 ESE***	***I43***	***58***
BIRMINGHAM STEEL CORP	***2424 SW ANDOVER ST***	***1/2 - 1 SSW***	***Q71***	***111***
PACIFIC SOUND RESOURCES	***2801 SW FLORIDA ST***	***1/2 - 1 WNW***	***72***	***115***
SALMON BAY STEEL CO	***4045 DELRIDGE WY SW***	***1/2 - 1 SSW***	***74***	***134***

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-LQG list, as provided by EDR, and dated 04/13/2004 has revealed that there are 3 RCRIS-LQG sites within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
ACE TANK & EQUIPMENT CO	***2773 13TH AVE SW***	***1/4 - 1/2 ENE***	***E20***	***29***
BP WEST COAST PRODUCTS	***1652 SW LANDER***	***1/4 - 1/2 N***	***F26***	***39***
TOTAL RECLAIM INC SEATTLE	***1131 SW HANFORD ST***	***1/4 - 1/2 ESE***	***I47***	***63***

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate

less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-SQG list, as provided by EDR, and dated 04/13/2004 has revealed that there are 21 RCRIS-SQG sites within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LOCKHEED SHIPBUILDING CO	***2929 16TH AVE. S.W.***	***0 - 1/8 ENE***	***B6***	***16***
SEATTLE PORT TERM 18F	***3236 16TH AVE SW***	***1/8 - 1/4 SE***	***C9***	***21***
BLOCK 401 LECKENBY COHEN BLDG	***3436 16TH AVE SW HARBOR***	***1/8 - 1/4 SSE***	***12***	***23***
GENERAL TRANSPORT CO 13TH AVE	***2937 13TH AVE SW***	***1/8 - 1/4 ENE***	***D14***	***25***
SEAPORT PETROLEUM	***2921 13TH AVE SW***	***1/8 - 1/4 ENE***	***D16***	***25***
FRONTIER FOUNDATIONS INC	***3221 13TH AVE SW***	***1/4 - 1/2 ESE***	***19***	***28***
TESORO PETROLEUM CO	2720 13TH AVE SW TANK 4	1/4 - 1/2 NE	E23	31
KINDER MORGAN INC	***2720 13TH AVE SW***	***1/4 - 1/2 NE***	***E25***	***36***
HARBOR ISLAND BUSINESS CTR	***3400 13TH AVE SW***	***1/4 - 1/2 SE***	***G28***	***44***
ALL STATE INDUSTRIAL MARINE	***3417 13TH SW***	***1/4 - 1/2 SE***	***G31***	***45***
YOUNG CORPORATION MELTEC DIVIS	***3444 13TH AVE. S.W.***	***1/4 - 1/2 SE***	***G34***	***46***
SEATTLE PORT TERMINAL 18D	***2900 11TH AVE SW TERMIN***	***1/4 - 1/2 E***	***H35***	***46***
JACOB STERN SONS INC	***2900 11TH AVE SW***	***1/4 - 1/2 E***	***H36***	***47***
SEATTLE IRON METALS CORP	***2955 11TH AVE SW***	***1/4 - 1/2 E***	***37***	***47***
PORT OF SEATTLE TERMINAL 5	***2505 26TH AVENUE SOUTHW***	***1/4 - 1/2 W***	***38***	***52***
ECOLIGHTS NORTHWEST	***1141 SW HANFORD***	***1/4 - 1/2 ESE***	***I40***	***55***
VALUE PLATING & METAL POLISH	***3207 11TH AVENUE SW***	***1/4 - 1/2 ESE***	***I43***	***58***
AIEM INDUSTRIAL INC	***1137 SW HANFORD ST***	***1/4 - 1/2 ESE***	***I45***	***62***
AMWAY CORP	***3443 W MARGINAL WAY S A***	***1/4 - 1/2 S***	***K46***	***62***
DINOL US INC W MARGINAL WAY	***3480 W MARGINAL WAY SW***	***1/4 - 1/2 S***	***K48***	***63***
PUGET SOUND TERMINALS INC	***3480 W MARGINAL WAY SW***	***1/4 - 1/2 S***	***K49***	***64***

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 39 CSCSL sites within approximately 1.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LOCKHEED SHIPBUILDING CO	***2929 16TH AVE. S.W.***	***0 - 1/8 ENE***	***B6***	***16***
SEAFAB METAL SURFACE IMPOUNDME	2700 16TH AVE SW	1/8 - 1/4 NNE	11	22
GENERAL TRANSPORT CO 13TH AVE	2937 13TH AVE SW	1/8 - 1/4 ENE	D13	23
NON FERROUS METALS INC	2905 13TH AV SW	1/8 - 1/4 ENE	D18	26
PORT OF SEATTLE LECKENBY CO	11TH AVE SW TERMINAL 18	1/4 - 1/2 E	22	30
KINDER MORGAN LIQUIDS TERMINAL	***2720 13TH AVE SW***	***1/4 - 1/2 NE***	***E24***	***31***
KINDER MORGAN INC	***2720 13TH AVE SW***	***1/4 - 1/2 NE***	***E25***	***36***
BP WEST COAST PRODUCTS	***1652 SW LANDER***	***1/4 - 1/2 N***	***F26***	***39***

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SEATTLE IRON METALS CORP	***2955 11TH AVE SW***	***1/4 - 1/2 E***	***37***	***47***
PACIFIC MOLASSES COMPANY	***3200 11TH AVE SW***	***1/4 - 1/2 ESE***	***I39***	***52***
VALUE PLATING & METAL POLISH	***3207 11TH AVENUE SW***	***1/4 - 1/2 ESE***	***I43***	***58***
WEYERHAEUSER SEATTLE LAB-UNDEV	***3233 11TH ST SW***	***1/4 - 1/2 ESE***	***I50***	***64***
SHELL OIL PRODUCTS US 13TH AVE	2555 13TH AVE SW	1/4 - 1/2 NE	L54	72
SW HARBOR PROJECT TERMINAL 5	26TH AV SW / W MARGIN	1/4 - 1/2 SW	55	75
INDUSTRIAL OFFICE COMPLEX	3400 11TH AVE SW	1/4 - 1/2 SE	M56	76
LOCKHEED SHIPBUILDING CONST	***2330 SW FLORIDA***	***1/2 - 1 NW***	***59***	***82***
SW HARBOR PROJ BN BUCKLEY YD	***26TH AV SW / SW SPOKA***	***1/2 - 1 SW***	***N60***	***89***
ASAHIPEN AMERICA INCORPORATED	***1128 S.W. SPOKANE ST.***	***1/2 - 1 SE***	***61***	***92***
SW HARBOR PROJ SALMON BAY	26TH SW / SW SPOKANE	1/2 - 1 SW	N62	95
SW HARBOR PROJ WYCKOFF	W MARGINAL WY SW / FL	1/2 - 1 NW	O63	97
SW HARBOR PROJ SEATTLE STEEL	HARBOR AV SW / SW HAN	1/2 - 1 NW	O64	100
TODD SHIPYARDS	***1801 16TH SW***	***1/2 - 1 N***	***P68***	***107***
SEATTLE COMMERCE CENTER	DELRIDGE WAY SW / AND	1/2 - 1 SSW	Q70	110
BIRMINGHAM STEEL CORP	***2424 SW ANDOVER ST***	***1/2 - 1 SSW***	***Q71***	***111***
PACIFIC SOUND RESOURCES	***2801 SW FLORIDA ST***	***1/2 - 1 WNW***	***72***	***115***
BRYS AUTO WRECKING	4025 W MARGINAL WAY SW	1/2 - 1 SSE	73	132
Not reported	***HARBOR AVE***	***1/2 - 1 WNW***	***75***	***137***
PORT OF SEATTLE TERMINAL 106NW	3629 DUWAMISH AV S	1/2 - 1 ESE	76	139
SEAFIRST BANK CENTRAL SVCS	***4201 W MARGINAL WAY SW***	***1/2 - 1 SSE***	***77***	***141***
MC TERMINALS	40 S SPOKANE ST	1/2 - 1 ESE	R79	146
NELSON IRON WORKS	***45 S SPOKANE ST***	***1/2 - 1 ESE***	***R80***	***147***
PIER 1	2130 HARBOR AVE SW	1 - 2 WNW	81	150
MCFARLAND PROPERTY	SW EDMUNDS ST / 15TH	1 - 2 S	82	152
PORT OF SEATTLE TERM 30	2715 E MARGINAL WAY S	1 - 2 NE	S83	152
PENSKE TRUCK LEASING 1ST AVE	3443 1ST AVE S	1 - 2 ESE	T84	155
UNOCAL SS NO 5472	***3460 1ST AVE S***	***1 - 2 ESE***	***T85***	***156***
SEARS SERVICE STA	***2465 1ST AVE S***	***1 - 2 ENE***	***86***	***158***
PORT OF SEATTLE	***1733 ALASKAN WAY SOUTH***	***1 - 2 NE***	***S87***	***159***

Lower Elevation	Address	Dist / Dir	Map ID	Page
SHELL OLD TERM 18 PORT OF SEAT	TERMINAL 18	1/2 - 1 NNE	78	143

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 04/07/2004 has revealed that there are 12 LUST sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LOCKHEED SHIPBUILDING COMPANY	***2929 16TH AVE SW***	***0 - 1/8 ENE***	***B5***	***15***
KINDER MORGAN LIQUIDS TERMINAL	***2720 13TH AVE SW***	***1/4 - 1/2 NE***	***E24***	***31***
SEATTLE TERMINAL/CLOSED	***1652 SW LANDER ST***	***1/4 - 1/2 N***	***F27***	***42***
SEATTLE IRON METALS CORP	***2955 11TH AVE SW***	***1/4 - 1/2 E***	***37***	***47***
TERMINAL 5	***2805 26TH AVE SW***	***1/4 - 1/2 W***	***J42***	***56***
MARTIN AIR CONDITIONING & FUEL	2340 SW SPOKANE ST	1/4 - 1/2 S	K51	67
EQUILON SEATTLE TERMINAL	***2555 13TH AVENUE SOUTHW***	***1/4 - 1/2 NE***	***L53***	***68***
STEVEDORING SERVICES OF AMERIC	***3415 11TH AVE SW***	***1/4 - 1/2 SE***	***M57***	***79***
LOCKHEED SHIPBUILDING CONST	***2330 SW FLORIDA***	***1/2 - 1 NW***	***59***	***82***
HARBOR MARINA CORPORATE CENTER	***1001 SW KLICKITAT WAY S***	***1/2 - 1 SE***	***65***	***102***
SEATTLE FIRE STATION # 36	***3600 23RD AVE SOUTH WES***	***1/2 - 1 SSW***	***66***	***104***

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SEATTLE DIVISION	*1801 16TH AVE SW*	*1/2 - 1 N*	*P67*	*104*

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 04/07/2004 has revealed that there are 17 UST sites within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LOCKHEED SHIPBUILDING COMPANY	*2929 16TH AVE SW*	*0 - 1/8 ENE*	*B5*	*15*
PACIFIC RENDERING CO.	2926 16TH AVE SW	0 - 1/8 ENE	B7	20
WALASHEK INDUSTRIAL & MARINE	3236 16TH AVE SW	1/8 - 1/4 SE	C10	21
VACANT PROPERTY	2937 13TH AVE SW	1/8 - 1/4 ENE	D15	25
SEAPORT PETROLEUM	*2921 13TH AVE SW*	*1/8 - 1/4 ENE*	*D16*	*25*
NONFERROUS METALS INC.	2905 13TH AVE SW	1/8 - 1/4 ENE	D17	26
GLOBAL DIVING	2763 13TH AVE	1/4 - 1/2 ENE	E21	29
KINDER MORGAN LIQUIDS TERMINAL	*2720 13TH AVE SW*	*1/4 - 1/2 NE*	*E24*	*31*
KINDER MORGAN INC	*2720 13TH AVE SW*	*1/4 - 1/2 NE*	*E25*	*36*
SEATTLE TERMINAL/CLOSED	*1652 SW LANDER ST*	*1/4 - 1/2 N*	*F27*	*42*
HARBOR ISLAND SERVICE	3419 13TH AVE SW	1/4 - 1/2 SE	G32	45
MARTIN SURFACING	3420 13TH AVE SW	1/4 - 1/2 SE	G33	46
SEATTLE IRON METALS CORP	*2955 11TH AVE SW*	*1/4 - 1/2 E*	*37*	*47*
PACIFIC MOLASSES COMPANY	*3200 11TH AVE SW*	*1/4 - 1/2 ESE*	*I39*	*52*
TERMINAL 5	*2805 26TH AVE SW*	*1/4 - 1/2 W*	*J42*	*56*
COMBUSTION SYSTEMS & FABRICATI	3207 11TH AVE SW	1/4 - 1/2 ESE	I44	62
TOTAL RECLAIM INC SEATTLE	*1131 SW HANFORD ST*	*1/4 - 1/2 ESE*	*I47*	*63*

VCP: Sites that have entered either the Voluntary Cleanup Program or its predecessor Independent Remedial Action Program.

A review of the VCP list, as provided by EDR, and dated 05/18/2004 has revealed that there is 1 VCP site within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
ASAHIPEN AMERICA INCORPORATED	*1128 S.W. SPOKANE ST.*	*1/2 - 1 SE*	*61*	*92*

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 are 2 ROD sites within approximately 1.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
HARBOR ISLAND (LEAD)	*MOUTH OF DUWAMISH RIVER*	*1/8 - 1/4 NE*	*0*	*11*
PACIFIC SOUND RESOURCES	*2801 SW FLORIDA ST*	*1/2 - 1 WNW*	*72*	*115*

EXECUTIVE SUMMARY

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 04/08/2004 has revealed that there are 2 FINDS sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LOCKHEED SHIPBUILDING CO	***2929 16TH AVE. S.W.***	***0 - 1/8 ENE***	***B6***	***16***
PACIFIC RENDERING CO INC	2926 16TH AVE SW	0 - 1/8 ENE	B8	21

STATE OR LOCAL ASTM SUPPLEMENTAL

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 01/14/2004 has revealed that there are 3 CSCSL NFA sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CROSBY & OVERTON INC 13TH SW	3406 13TH SW	1/4 - 1/2 SE	G30	45
OLYMPIC PIPE LINE CO	***2444 13TH AV SW***	***1/4 - 1/2 NNE***	***58***	***81***
ROWE PROPERTY	3848 22ND AV SW	1/2 - 1 SSW	69	109

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 9 WA ICR sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
LOCKHEED SHIPBUILDING CO	***2929 16TH AVE. S.W.***	***0 - 1/8 ENE***	***B6***	***16***
BP WEST COAST PRODUCTS	***1652 SW LANDER***	***1/4 - 1/2 N***	***F26***	***39***
SEATTLE IRON METALS CORP	***2955 11TH AVE SW***	***1/4 - 1/2 E***	***37***	***47***
PORT OF SEATTLE TERMINAL 5	2805 26TH AVE. SW	1/4 - 1/2 W	J41	55
RUTLEDGE & MARTIN	2340 SW SPOKANE ST.	1/4 - 1/2 S	K52	67
EQUILON SEATTLE TERMINAL	***2555 13TH AVENUE SOUTHW***	***1/4 - 1/2 NE***	***L53***	***68***
LOCKHEED SHIPBUILDING CONST	***2330 SW FLORIDA***	***1/2 - 1 NW***	***59***	***82***
HARBOR MARINA CORPORATE CENTER	***1001 SW KLICKITAT WAY S***	***1/2 - 1 SE***	***65***	***102***
TODD SHIPYARDS	***1801 16TH SW***	***1/2 - 1 N***	***P68***	***107***

EXECUTIVE SUMMARY

BROWNFIELDS DATABASES

VCP: Sites that have entered either the Voluntary Cleanup Program or its predecessor Independent Remedial Action Program.

A review of the VCP list, as provided by EDR, and dated 05/18/2004 has revealed that there is 1 VCP site within approximately 0.625 miles of the target property.

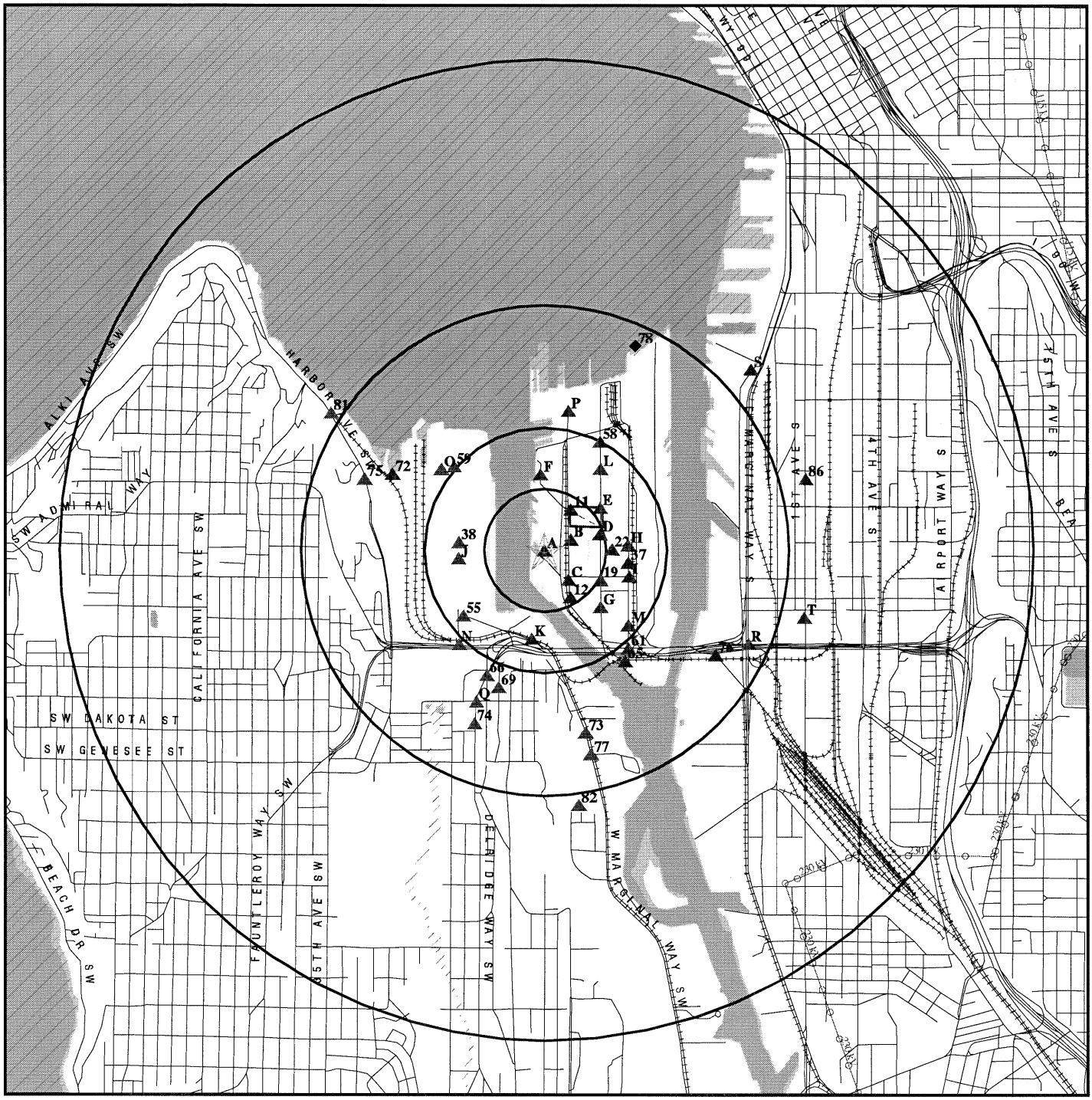
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
ASAHIPEN AMERICA INCORPORATED	*1128 S.W. SPOKANE ST.*	*1/2 - 1 SE*	*61*	*92*

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
INTERBAY	SWF/LF
GENESEE LANDFILL	SWF/LF
MONTLAKE DISPOSAL SITE	SWF/LF
NORTH AURORA DISPOSAL SITE	SWF/LF
WEST SEATTLE - HARBOR AVENUE	SWF/LF
SOUTH PARK	SWF/LF
JUDKINS STREET DISPOSAL SITE	SWF/LF
RAINIER LANDFILL	SWF/LF
SICKS STADIUM SITE	SWF/LF
GREEN LAKE LANDFILL SITE	SWF/LF
WASHINGTON PARK LANDFILL SITE	SWF/LF
HORTON ST. MAINTENANCE SHOP	WA ICR, SPILLS
FOREIGN TRADE ZONE 5 - BLDG 85	UST
MANNING ST WASTE	RCRIS-SQG, FINDS
SEATTLE PUBLIC UTILITIES 13TH AVE	RCRIS-SQG, FINDS
ALOHA CARGO TRANSPORT INC	PADS, RCRIS-SQG, FINDS
JORE MARINE SERVICES INC TRANSFER	RCRIS-SQG, FINDS
AMERICA CARGO TRANSPORT INC	RCRIS-SQG, FINDS
CALIFORNIA AVE. LAW APTS. PROP.	WA ICR
US POSTAL SERVICE STATION (TWO REP	WA ICR
TERMINAL 30	WA ICR
TERMINAL 18	WA ICR
TERMINAL 106	WA ICR

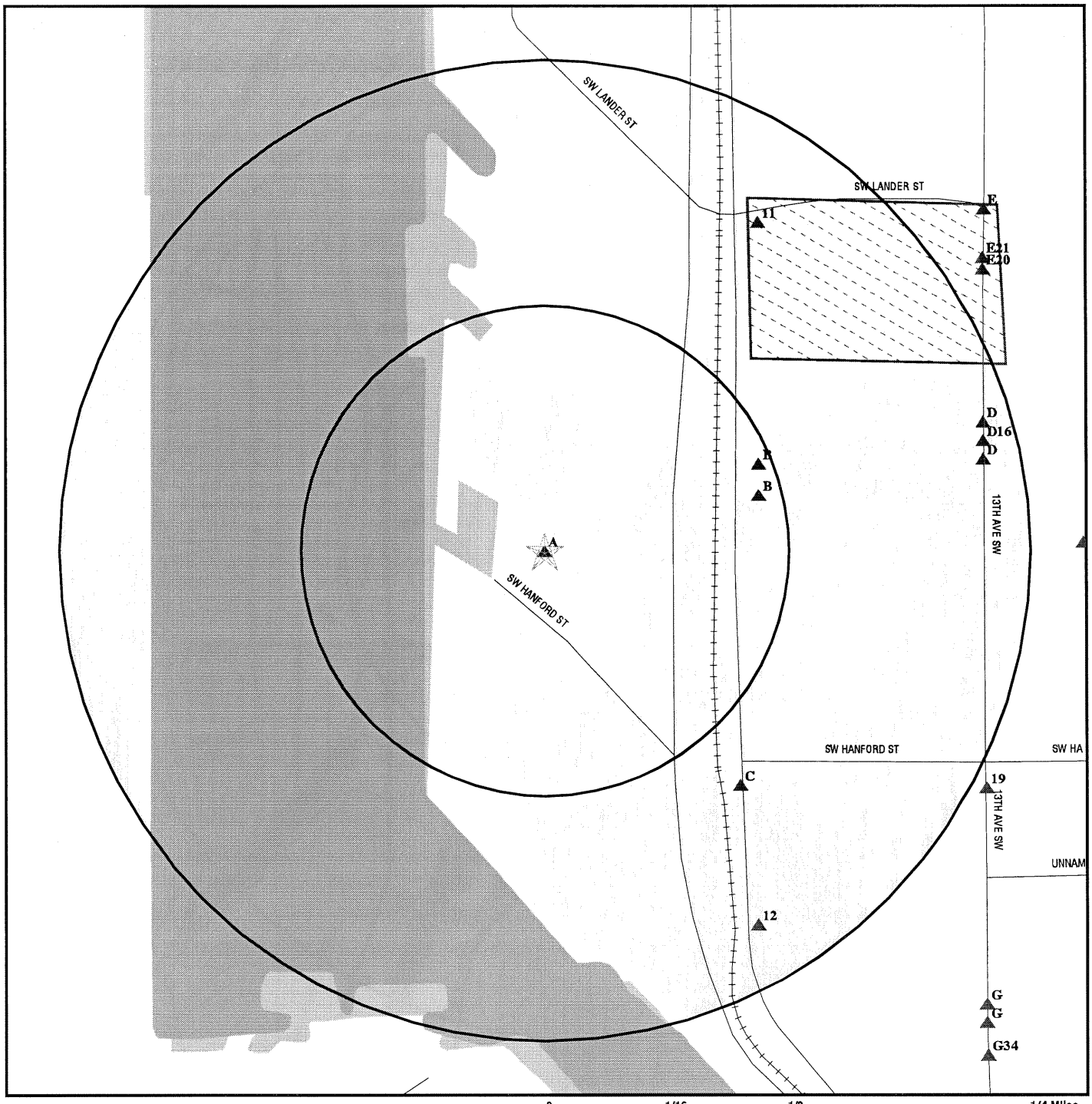
OVERVIEW MAP - 1219187.5s - Herrera Environmental



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands

TARGET PROPERTY:	Terminal 10/Pendleton	CUSTOMER:	Herrera Environmental
ADDRESS:	3235 16th Avenue SW	CONTACT:	Bruce Carpenter
CITY/STATE/ZIP:	Seattle WA 98134	INQUIRY #:	1219187.5s
LAT/LONG:	47.5772 / 122.3571	DATE:	June 25, 2004 8:05 am

DETAIL MAP - 1219187.5s - Herrera Environmental



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands

TARGET PROPERTY:	Terminal 10/Pendleton	CUSTOMER:	Herrera Environmental
ADDRESS:	3235 16th Avenue SW	CONTACT:	Bruce Carpenter
CITY/STATE/ZIP:	Seattle WA 98134	INQUIRY #:	1219187.5s
LAT/LONG:	47.5772 / 122.3571	DATE:	June 25, 2004 8:05 am

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.125	0	1	0	1	0	2
Proposed NPL		1.125	0	0	0	0	0	0
CERCLIS		0.625	1	1	2	0	NR	4
CERC-NFRAP		0.375	0	0	1	NR	NR	1
CORRACTS		1.125	0	0	1	3	0	4
RCRIS-TSD		0.625	0	0	0	0	NR	0
RCRIS Lg. Quan. Gen.		0.375	0	0	3	NR	NR	3
RCRIS Sm. Quan. Gen.	X	0.375	1	4	16	NR	NR	21
ERNS		0.125	0	NR	NR	NR	NR	0
STATE ASTM STANDARD								
CSCSL		1.125	1	3	11	17	7	39
HSL		1.125	0	0	0	0	0	0
State Landfill		0.625	0	0	0	0	NR	0
LUST		0.625	1	0	7	4	NR	12
UST		0.375	2	4	11	NR	NR	17
VCP		0.625	0	0	0	1	NR	1
INDIAN LUST		0.625	0	0	0	0	NR	0
INDIAN UST		0.375	0	0	0	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.125	0	0	0	0	0	0
ROD		1.125	0	1	0	1	0	2
Delisted NPL		1.125	0	0	0	0	0	0
FINDS	X	0.125	2	NR	NR	NR	NR	2
HMIRS		0.125	0	NR	NR	NR	NR	0
MLTS		0.125	0	NR	NR	NR	NR	0
MINES		0.375	0	0	0	NR	NR	0
NPL Liens		0.125	0	NR	NR	NR	NR	0
PADS		0.125	0	NR	NR	NR	NR	0
US BROWNFIELDS		0.625	0	0	0	0	NR	0
INDIAN RESERV		1.125	0	0	0	0	0	0
FUDS		1.125	0	0	0	0	0	0
DOD		1.125	0	0	0	0	0	0
RAATS		0.125	0	NR	NR	NR	NR	0
TRIS		0.125	0	NR	NR	NR	NR	0
TSCA		0.125	0	NR	NR	NR	NR	0
SSTS		0.125	0	NR	NR	NR	NR	0
FTTS		0.125	0	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
CSCSL NFA		0.625	0	0	2	1	NR	3
WA ICR	X	0.625	1	0	5	3	NR	9

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SPILLS	X	0.125	0	NR	NR	NR	NR	0
CDL		0.125	0	NR	NR	NR	NR	0
AST		0.125	0	NR	NR	NR	NR	0
WA Emissions	X	0.125	0	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.125	0	0	0	0	0	0
BROWNFIELDS DATABASES								
US BROWNFIELDS		0.625	0	0	0	0	NR	0
VCP		0.625	0	0	0	1	NR	1
INST CONTROL		0.375	0	0	0	NR	NR	0

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Corgiat Drive Site

EDR™ Environmental
Data Resources Inc

The EDR Radius Map
with GeoCheck®

SE of ARGO Yard
18th Avenue S/Corgiat Drive S
Seattle, WA 98108

Inquiry Number: 01219237.1r

June 24, 2004

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-KRA

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

18TH AVENUE S/CORGIAT DRIVE S
SEATTLE, WA 98108

COORDINATES

Latitude (North):	47.545200 - 47° 32' 42.7"
Longitude (West):	122.309100 - 122° 18' 32.8"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	551990.9
UTM Y (Meters):	5265765.5
Elevation:	37 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	47122-E3 SEATTLE SOUTH, WA
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
RCRIS-TSD ---------- Resource Conservation and Recovery Information System

STATE ASTM STANDARD

HSL ---------- Hazardous Sites List
SWF/LF ---------- Solid Waste Facility Database

EXECUTIVE SUMMARY

INDIAN LUST Leaking Underground Storage Tanks on Indian Land
INDIAN UST Underground Storage Tanks on Indian Land

FEDERAL ASTM SUPPLEMENTAL

CONSENT Superfund (CERCLA) Consent Decrees
ROD Records Of Decision
Delisted NPL National Priority List Deletions
HMIRS Hazardous Materials Information Reporting System
MLTS Material Licensing Tracking System
MINES Mines Master Index File
NPL Liens Federal Superfund Liens
PADS PCB Activity Database System
US BROWNFIELDS A Listing of Brownfields Sites
INDIAN RESERV Indian Reservations
FUDS Formerly Used Defense Sites
DOD Department of Defense Sites
RAATS RCRA Administrative Action Tracking System
TRIS Toxic Chemical Release Inventory System
TSCA Toxic Substances Control Act
SSTS Section 7 Tracking Systems

STATE OR LOCAL ASTM SUPPLEMENTAL

CDL Clandestine Drug Lab Contaminated Site List
AST Aboveground Storage Tank Locations
EMI Washington Emissions Data System

BROWNFIELDS DATABASES

US BROWNFIELDS A Listing of Brownfields Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
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

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 CERC-NFRAP list, as provided by EDR, and dated 02/26/2004 has revealed that there are 4 CERC-NFRAP sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
NORTH COAST CHEMICAL CO. INC.	6300 17TH AVE. S.	1/8 - 1/4 NW	C16	13

Lower Elevation	Address	Dist / Dir	Map ID	Page
USAF ANG SEATTLE STATION	*6736 ELLIS AVENUE S*	*1/2 - 1 WSW*	*Q80*	*50*
ARROW TRANSPORTATION	*6737 CORSON AVE S*	*1/2 - 1 WSW*	*AA137*	*89*
AIRCO WELDING PRODUCTS	*7700 14TH AV S*	*1/2 - 1 SSW*	*AJ185*	*140*

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 03/15/2004 has revealed that there are 3 CORRACTS sites within approximately 1.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
GREAT WESTERN CHEMICAL CO SEAT	*6900 FOX AVE S*	*1/2 - 1 WSW*	*221*	*190*
BOEING D&SG MFC SITE	*1008 E MARGINAL WAY S*	*1 - 2 S*	*231*	*218*
GENERAL ELECTRIC AVIATION DIV	*220 S DAWSON ST*	*1 - 2 NW*	*239*	*237*

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-LQG list, as provided by EDR, and dated 04/13/2004 has revealed that there are 4 RCRIS-LQG sites within approximately 0.75 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
HAMILTON BUILDING	*6007 12TH AVE S*	*1/4 - 1/2 WNW*	*M68*	*44*
LAUCKS TESTING LABORATORIES	*940 S HARNEY ST*	*1/2 - 1 WNW*	*S84*	*54*
BOEING S&CS ELECTRONIC MANUFAC	*7355 PERIMETER RD S*	*1/2 - 1 SSE*	*R88*	*56*
BOEING NORTH BOEING FIELD	*7500 E MARGINAL WAY*	*1/2 - 1 SSW*	*AI184*	*138*

EXECUTIVE SUMMARY

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-SQG list, as provided by EDR, and dated 04/13/2004 has revealed that there are 62 RCRIS-SQG sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PSE GEORGETOWN BASE	*6500 URSULA PL S*	*0 - 1/8 NW*	*A1*	*6*
MARINE VACUUM SERVICE INC	*1516 S GRAHAM ST*	*1/8 - 1/4 NW*	*C17*	*13*
LARRYS VOLVO REPAIR SVC INC	*6301 BEACON AVE S*	*1/4 - 1/2 ENE*	*38*	*29*
SEATTLE SCHOOL DIST 1 CLEVELAN	*5511 15TH AVE S*	*1/2 - 1 NNW*	*117*	*74*
PAVLINOVIC SENKA	*5260 & 5254 15TH AVE*	*1/2 - 1 NNW*	*180*	*127*

Lower Elevation	Address	Dist / Dir	Map ID	Page
LESTER CORP DBA UNIVERSAL PRIN	*6600 URSULA PL S*	*1/8 - 1/4 SE*	*B10*	*9*
WA DOT STATE FERRIES AIRPORT	*6301 AIRPORT WAY S*	*1/8 - 1/4 WNW*	*D20*	*18*
COLLINS AVIATION	*6660 PERIMETER RD S BOE*	*1/8 - 1/4 SSE*	*22*	*19*
UNITED BLDG SVCS	*6259 AIRPORT WY S*	*1/4 - 1/2 WNW*	*F25*	*22*
6249 AIRPORT WAY S	*6249 AIRPORT WAY S*	*1/4 - 1/2 NW*	*F26*	*22*
GALVIN FLYING SERVICE	*6987 PERIMETER RD S*	*1/4 - 1/2 SSE*	*H31*	*26*
NORTHWEST BOTTLING CO	*1136 ALBRO PL S*	*1/4 - 1/2 W*	*I32*	*26*
GLORIA MILLER ESTATE OF	*1226 S BAILEY ST*	*1/4 - 1/2 WNW*	*J39*	*29*
GRIFFIN FUEL CO	*1210 S BAILEY ST*	*1/4 - 1/2 WNW*	*J43*	*31*
HAMMER AUTO REBUILD & SALES IN	*1209 S BAILEY ST*	*1/4 - 1/2 WNW*	*J54*	*36*
KING COUNTY AIRPORT MAINTENANC	*6518 ELLIS AVENUE SOUTH*	*1/4 - 1/2 W*	*L57*	*37*
RAINIER ICE & COLD STORAGE INC	*6004 AIRPORT WAY S*	*1/4 - 1/2 NW*	*M64*	*42*
WA GA SEATTLE MOTOR POOL	*6650 ELLIS AVE S*	*1/4 - 1/2 WSW*	*N66*	*42*
GALVIN FLYING SERVICE INC	*7149 PERIMETER RD S*	*1/4 - 1/2 SSE*	*O69*	*44*
FAMCO TRANSPORT INC	*6640 ELLIS AVE S*	*1/4 - 1/2 WSW*	*N70*	*44*
OSTEX INTL INC 5955 AIRPORT WA	*5955 AIRPORT WAY S*	*1/4 - 1/2 NW*	*M71*	*45*
BENZ FRIENDZ THE	*6249 FLORA AVE S*	*1/4 - 1/2 WNW*	*P72*	*46*
GALVIN FLYING SVC	*7205 PERIMETER RD S*	*1/4 - 1/2 SSE*	*O74*	*47*
USAF ANG SEATTLE STATION	*6736 ELLIS AVENUE S*	*1/2 - 1 WSW*	*Q80*	*50*
AIR NATIONAL	*7277 PERIMETER RD S 215*	*1/2 - 1 SSE*	*R81*	*51*
WA DNR CORSON AVE SITE HAT BOO	*6800 E MARGINAL WAY & C*	*1/2 - 1 WSW*	*83*	*54*
GIDDENS INDUSTRIES INC GEORGET	*6401 CARLETON AVE S*	*1/2 - 1 W*	*85*	*55*
FOSTERS SVC CORP	*934 S HARNEY ST*	*1/2 - 1 WNW*	*S87*	*56*
AJL INC DBA LUMBER TRUCKING	*943 S NEBRASKA AVE*	*1/2 - 1 WNW*	*T91*	*62*
LAUCKS TESTING LABORATORIES HA	*921 S HARNEY ST*	*1/2 - 1 WNW*	*S92*	*62*
AC PROPELLER SERVICE INC	*925 S NEBRASKA*	*1/2 - 1 WNW*	*T93*	*63*
FEDEX BFI VM	*7440 PERIMETER RD S*	*1/2 - 1 SSE*	*94*	*64*
TEXACO 632320377	*6200 CORSON AVENUE SOUT*	*1/2 - 1 WNW*	*V106*	*70*
MAC MACHINERY	*4239 CORSON AVE S*	*1/2 - 1 W*	*V116*	*74*
SCOUGAL RUBBER CORP	*6239 CORSON AVE S*	*1/2 - 1 WNW*	*V118*	*74*
B & G MACHINE INC	*6400 CORSON AVE S*	*1/2 - 1 W*	*W119*	*79*
QUICK START NORTHWEST INC	*913 S DORIS*	*1/2 - 1 WNW*	*U121*	*81*
ALKI AUTO BODY INC	*5958 CORSON AVE S*	*1/2 - 1 WNW*	*U122*	*81*
GEORGETOWN GULL 1228	*5959 CORSON AVE S*	*1/2 - 1 WNW*	*U123*	*82*

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
CONTOUR LAMINATES	*5910 CORSON AVENUE S*	*1/2 - 1 WNW*	*U125*	*83*
UPS BOEING FIELD	*7575 PERIMETER RD S*	*1/2 - 1 SSE*	*X126*	*84*
INDUSTRIAL MAGIC HOMER	*927 S HOMER ST*	*1/2 - 1 NW*	*Y127*	*84*
AMERIFLIGHT INC HANGER 5	*7585 PERIMETER RD S*	*1/2 - 1 SSE*	*X128*	*85*
BENS TRUCK PARTS INC SEATTLE	*6655 CORSON AVE S*	*1/2 - 1 W*	*Z130*	*86*
UNITED COURIERS INCORPORATED	*7595 PERIMETER ROAD*	*1/2 - 1 SSE*	*X132*	*86*
CONTRACT APPLICATIONS INC SEAT	*7600 PERIMETER RD*	*1/2 - 1 SSE*	*X133*	*87*
FEDERAL EXPRESS PERIMETER RD S	*7607 PERIMETER RD S*	*1/2 - 1 SSE*	*X134*	*87*
ARROW TRANSPORTATION	*6737 CORSON AVE S*	*1/2 - 1 WSW*	*AA137*	*89*
SEATTLE COMMERCIAL FINISHING	*5700 CORSON AV S*	*1/2 - 1 NW*	*Y140*	*92*
US DOT FAA SEATTLE HUB AFS	*7675 PERIMETER ROAD SOU*	*1/2 - 1 SSE*	*X143*	*99*
US WEST COMMUNICATIONS W00D04	*7679 PERIMETER RD S*	*1/2 - 1 SSE*	*X144*	*100*
BREESE JONES REFINISHERS	*5626 AIRPORT WAY S*	*1/2 - 1 NW*	*145*	*100*
CROWN DELTA ENVIRONMENTAL	*792 S MICHIGAN ST*	*1/2 - 1 W*	*AB147*	*102*
ARCO 5218 PSI 0685	*7200 E MARGINAL WAY S*	*1/2 - 1 SW*	*AC151*	*108*
KOHL & MADDEN	*1017 S MYRTLE ST*	*1/2 - 1 SW*	*AF167*	*119*
EMERALD SERVICES	*7343 E MARGINAL WAY S*	*1/2 - 1 SSW*	*AD169*	*121*
LE TRACON ENVIROMENTAL INCORPO	*7343 EAST MARGINAL WAY*	*1/2 - 1 SSW*	*AD170*	*121*
MCCAW FLIGHT OPERATIONS	*7777 PERIMETER RD S*	*1/2 - 1 SSE*	*AG172*	*122*
MACHINISTS INC PLANT 1	*751 S MICHIGAN ST*	*1/2 - 1 W*	*AB174*	*123*
FOSS ENVIRONMENTAL SERVICES CO	*7440 W MARGINAL WAY S*	*1/2 - 1 SSW*	*AI179*	*126*
GRAPHIC ARTS CTR THE ALLIED PR	*832 S FIDALGO ST*	*1/2 - 1 WNW*	*AH181*	*127*
AIRCO WELDING PRODUCTS	*7700 14TH AV S*	*1/2 - 1 SSW*	*AJ185*	*140*

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 12/31/2003 has revealed that there is 1 ERNS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
6300 17TH AVE SOUTH	6300 17TH AVE SOUTH	1/8 - 1/4 NW	C15	12

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 50 CSCSL sites within approximately 1.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
NORTH COAST CHEMICAL PLANT	*6300 17TH AVENUE SOUTH*	*1/8 - 1/4 NW*	*C14*	*10*
MARINE VACUUM SERVICE INC	*1516 S GRAHAM ST*	*1/8 - 1/4 NW*	*C17*	*13*
BP SERVICE STATION 03167	*6056 MARTIN LUTHER KING*	*1 - 2 E*	*227*	*209*
CLAYTON VW REPAIR	4709 MARTIN LUTHER KING	1 - 2 NE	238	235
HOLLY PARK	7301 MARTIN LUTHER KING	1 - 2 ESE	AW247	256
Not reported	*7313 MARTIN LUTHER KING*	*1 - 2 ESE*	*AW248*	*257*

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
JIMS MARKET & GAS	*7500 M L KING JR WAY S*	*1 - 2 ESE*	*251*	*262*

Lower Elevation	Address	Dist / Dir	Map ID	Page
WA AIR NATIONAL GUARD BOEING N	6736 ELLIS AVE S	1/2 - 1 WSW	Q76	47
AIR NATIONAL	*7277 PERIMETER RD S 215*	*1/2 - 1 SSE*	*R81*	*51*
BOEING ELECTRONIC MFG	*7300 PERIMETER RD S*	*1/2 - 1 SSE*	*R82*	*53*
BOEING S&CS ELECTRONIC MANUFAC	*7355 PERIMETER RD S*	*1/2 - 1 SSE*	*R88*	*56*
GEORGETOWN CENTER	*NW CORNER OF CORSON AVE*	*1/2 - 1 WNW*	*S90*	*59*
SCOUGAL RUBBER CORP	*6239 CORSON AVE S*	*1/2 - 1 WNW*	*V118*	*74*
HANGAR HOLDINGS INC.	*7675 PERIMETER RD S*	*1/2 - 1 SSE*	*X142*	*93*
BOEING NORTH FIELD JP4 TANKS	ELLIS AVE / E MARGINA	1/2 - 1 SW	AE159	112
STERNOFF METALS	7201 E MARGINAL WY S	1/2 - 1 SW	AC165	115
BOEING NORTH FIELD	7370 E MARGINAL WAY S	1/2 - 1 SSW	166	117
Not reported	*7700 14TH AVE S*	*1/2 - 1 SSW*	*AJ187*	*141*
DUWAMISH CO 070952	*7000 E MARGINAL WAY*	*1/2 - 1 WSW*	*192*	*148*
PIONEER ENAMEL MANUFACTURE	*5531 AIRPORT WAY S*	*1/2 - 1 NW*	*193*	*150*
EMERALD TOOL INC	*6332 6TH S*	*1/2 - 1 W*	*AM197*	*154*
KELLY MOORE PRESERVATIVE PAINT	*6101 AIRPORT WAY SOUTH*	*1/2 - 1 NW*	*AP205*	*165*
EVERCLEAN INC DBA GAS N WASH	*551 S MICHIGAN ST*	*1/2 - 1 W*	*AR212*	*176*
BURLINGTON ENVIRONMENTAL INC G	734 S LUCILE ST	1/2 - 1 NW	215	180
MYRTLE STREET PROPERTY	*606 S MYRTLE ST*	*1/2 - 1 WSW*	*216*	*181*
DUWAMISH RIVER SLIP 4	*SLIP 4 DUWAMISH RIVER*	*1/2 - 1 SW*	*217*	*182*
GREAT WESTERN CHEMICAL CO SEAT	*6900 FOX AVE S*	*1/2 - 1 WSW*	*221*	*190*
SAHLBERG EQUIPMENT	*5950 4TH AVE S*	*1 - 2 WNW*	*223*	*199*
BIG JOHNS TRUCK REPAIR INC	*6533 3RD AVE S*	*1 - 2 W*	*224*	*202*
CONSOLIDATED FREIGHTWAYS SEATT	*6050 E MARGINAL WAY S*	*1 - 2 W*	*225*	*204*
LOWER DUWAMISH WATERWAY	LOWER DUWAMISH WATERWAY	1 - 2 S	226	208
FRANKS USED CARS	6305 E MARGINAL WAY S	1 - 2 W	228	210
INTERSTATE COATINGS	*754 S CHICAGO*	*1 - 2 SW*	*229*	*213*
Not reported	*6365 1ST AVE S*	*1 - 2 W*	*230*	*217*
NORTHWEST ENVIROSERVICE 2W	1ST AV SW / MARGINAL	1 - 2 WNW	232	220
INDUSTRIAL CONTAINER SERVICES	*7152 1ST AVE S*	*1 - 2 WSW*	*233*	*222*
SPENCER INDUSTRIES INC	*8410 DALLAS AVE S*	*1 - 2 SSW*	*234*	*226*
JAMES HARDIE GYPSUM	*5931 E MARGINAL WY S*	*1 - 2 WNW*	*AT235*	*227*
AIR TEC COMPANY	*5701 1ST AVE SOUTH*	*1 - 2 WNW*	*236*	*230*
LONGVIEW FIBRE CO	*5901 E MARGINAL WY S*	*1 - 2 WNW*	*AT237*	*232*
GENERAL ELECTRIC AVIATION DIV	*220 S DAWSON ST*	*1 - 2 NW*	*239*	*237*
SEATTLE PORT DALLAS AVE	*8700 DALLAS AVE S*	*1 - 2 S*	*240*	*242*
FEDERAL EXPRESS CORP BFIA	*651 S ALASKA ST*	*1 - 2 NW*	*AU241*	*246*
SAMIS LAND CO SITE	647 S ALASKA ST	1 - 2 NW	AU242	247
SEATTLE BARREL & COOPERAGE	7TH AV S / S SNOQUALM	1 - 2 NNW	243	249
ALASKA STREET PROPERTY	*615 S ALASKA ST*	*1 - 2 NW*	*AV244*	*252*
ALASKA STREET PROPERTY 2	*601 ALASKA ST*	*1 - 2 NW*	*AV245*	*254*
SEATTLE S TRANSFER STA	8100 2ND AVE S	1 - 2 SW	246	254
MANITOWAK WESTERN	*8250 5TH AVE S*	*1 - 2 SW*	*249*	*258*
FIRST STUDENT, INC.	*130 S KENYON ST*	*1 - 2 SW*	*250*	*260*

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 04/07/2004 has revealed that there are 32

EXECUTIVE SUMMARY

LUST sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PUGET SOUND ENERGY	*6349 18TH AVE SOUTH*	*0 - 1/8 NNW*	*A3*	*6*
NORTH COAST CHEMICAL PLANT	*6300 17TH AVENUE SOUTH*	*1/8 - 1/4 NW*	*C14*	*10*
VICTOR OISHI DBA, VIC'S UNION	*7100 BEACON AVE SO*	*1/2 - 1 SE*	*AK190*	*145*

Lower Elevation	Address	Dist / Dir	Map ID	Page
ZELLERBACH PAPER COMPANY	*6301 AIRPORT WAY SOUTH*	*1/8 - 1/4 WNW*	*D19*	*17*
MIKES MOBIL SERVICE	*6235 AIRPORT WY SO*	*1/4 - 1/2 NW*	*F28*	*23*
GALVIN FLYING CENTER	7001 PERIMETER RD	1/4 - 1/2 SSE	H34	27
GEORGETOWN STEAMPLANT (NOW A M	*1131 SOUTH ELIZABETH*	*1/4 - 1/2 W*	*L49*	*33*
JULIUS ROSSO WHOLESALE NURSERY	*6404 ELLIS AVE S*	*1/4 - 1/2 W*	*I52*	*35*
KING COUNTY AIRPORT	*6518 ELLIS AVE*	*1/4 - 1/2 W*	*L58*	*38*
A & T PUMP	6525 ELLIS AVE S	1/4 - 1/2 W	L60	41
MOTOR POOL	*6650 ELLIS AVE SOUTH*	*1/4 - 1/2 WSW*	*N67*	*43*
TEXACO STATION #63-232-0400	*6200 CORSON AVE S*	*1/2 - 1 WNW*	*V101*	*66*
SCOUGAL RUBBER CORP	*6239 CORSON AVE S*	*1/2 - 1 WNW*	*V118*	*74*
DISTRICT HEADQUARTERS SITE	*6431 CORSON AVE S*	*1/2 - 1 W*	*W120*	*79*
GEORGETOWN GULL #1228	*5959 CORSON AVENUE SOUT*	*1/2 - 1 WNW*	*U124*	*82*
BFI FEDERAL EXPRESS STATION	*7607 PERIMETER RD*	*1/2 - 1 SSE*	*X135*	*88*
HANGAR HOLDINGS INC.	*7675 PERIMETER RD S*	*1/2 - 1 SSE*	*X142*	*93*
BAXTER RUTHERFORD	*911 SOUTH HOSMER ST*	*1/2 - 1 WNW*	*148*	*102*
MARGINAL WAY ARCO	*7200 E MARGINAL WAY S*	*1/2 - 1 SW*	*AC150*	*106*
VIC MARKOV TIRE CO.	*7300 E MARGINAL WY SO*	*1/2 - 1 SW*	*AD153*	*109*
SEATTLE FIRE STATION 27	*1000 S MYRTLE ST*	*1/2 - 1 SW*	*AF178*	*126*
NORTH BOEING FIELD	*7500 E MARGINAL WAY S*	*1/2 - 1 SSW*	*AI182*	*128*
PTL PARTNERSHIP	*6314 7TH S*	*1/2 - 1 W*	*191*	*146*
TEXACO STATION #63-232-0400	*600 S MICHIGAN*	*1/2 - 1 W*	*AM199*	*159*
PNB BUILDING	707 S ORCAS ST	1/2 - 1 WNW	AN201	162
PUGET SOUND TRUCK LINES INC	*7303 8TH AVENUE SOUTH*	*1/2 - 1 SW*	*AO203*	*163*
PLANT II	*7755 E MARGINAL WAY S*	*1/2 - 1 S*	*AQ207*	*169*
KELLY MOORE PAINT CO	5410 AIRPORT WAY S	1/2 - 1 NW	AP210	174
MICHIGAN STREET 76	*551 S MICHIGAN ST*	*1/2 - 1 W*	*AR213*	*178*
AIR DATA EXPRESS, INC.	*525 S FRONT ST*	*1/2 - 1 WNW*	*AS219*	*186*
GREAT WESTERN CHEMICAL CO SEAT	*6900 FOX AVE S*	*1/2 - 1 WSW*	*221*	*190*
SEATTLE AIR CORP	*8535 PERIMETER RD S*	*1/2 - 1 SSE*	*222*	*199*

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 04/07/2004 has revealed that there are 44 UST sites within approximately 0.75 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PUGET SOUND ENERGY	*6349 18TH AVE SOUTH*	*0 - 1/8 NNW*	*A3*	*6*
GIBSON CO	1900 S CORGIAT DR	1/8 - 1/4 SE	B7	8
FERGUSON PROPERTY	1915 S CORGIAT DRIVE	1/8 - 1/4 SE	B8	8
NORTH COAST CHEMICAL	6300 17TH AVE S	1/8 - 1/4 NW	C12	9
SONS OF ITALY CHEVRON 9-3189	*5337 15TH AVE S*	*1/2 - 1 NNW*	*146*	*100*
VICTOR OISHI DBA, VIC'S UNION	*7100 BEACON AVE SO*	*1/2 - 1 SE*	*AK190*	*145*

Lower Elevation	Address	Dist / Dir	Map ID	Page
CDT OIL CO INC	6600 URSULA PL SO	1/8 - 1/4 SE	B11	9

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
ZELLERBACH PAPER COMPANY	***6301 AIRPORT WAY SOUTH***	***1/8 - 1/4 WNW***	***D19***	***17***
AVIATION FUEL STORAGE	1495 S HARDY ST	1/8 - 1/4 WNW	E23	19
MIKES MOBIL SERVICE	***6235 AIRPORT WY SO***	***1/4 - 1/2 NW***	***F28***	***23***
TEXACO INC	7000 AIRPORT ROAD SOUTH	1/4 - 1/2 SSE	G30	25
NORTHWEST BOTTLING CO	***1136 ALBRO PL S***	***1/4 - 1/2 W***	***I32***	***26***
GALVIN FLYING CENTER	7001 PERIMETER RD	1/4 - 1/2 SSE	H36	28
GRIFFIN FUEL COMPANY	1210 SO BAILEY	1/4 - 1/2 WNW	J42	31
GEORGETOWN STEAMPLANT (NOW A M	***1131 SOUTH ELIZABETH***	***1/4 - 1/2 W***	***L49***	***33***
JULIUS ROSSO WHOLESALE NURSERY	***6404 ELLIS AVE S***	***1/4 - 1/2 W***	***I52***	***35***
KING COUNTY AIRPORT	***6518 ELLIS AVE***	***1/4 - 1/2 W***	***L58***	***38***
A & T PUMP	6525 ELLIS AVE S	1/4 - 1/2 W	L59	40
SEA A AFSS	6526 ELLIS AVE S	1/4 - 1/2 W	L63	41
RAINIER ICE & COLD STORAGE	6004 AIRPORT WAY SOUTH	1/4 - 1/2 NW	M65	42
MOTOR POOL	***6650 ELLIS AVE SOUTH***	***1/4 - 1/2 WSW***	***N67***	***43***
WASHINGTON ANG 143 CCSQ	6736 ELLIS AVE S	1/2 - 1 WSW	Q77	48
FOSTER SERVICE CORP	934 SO HARNEY ST	1/2 - 1 WNW	S86	56
BOEING S&CS ELECTRONIC MANUFAC	***7355 PERIMETER RD S***	***1/2 - 1 SSE***	***R88***	***56***
MAIL DISPATCH INC	917 S NEBRASKA	1/2 - 1 WNW	U95	64
TEXACO STATION #63-232-0400	***6200 CORSON AVE S***	***1/2 - 1 WNW***	***V101***	***66***
SCOUGAL RUBBER CORP	***6239 CORSON AVE S***	***1/2 - 1 WNW***	***V118***	***74***
DISTRICT HEADQUARTERS SITE	***6431 CORSON AVE S***	***1/2 - 1 W***	***W120***	***79***
GEORGETOWN GULL #1228	***5959 CORSON AVENUE SOUT***	***1/2 - 1 WNW***	***U124***	***82***
BEN'S TRUCK PARTS	6655 CORSON AVENUE SOUT	1/2 - 1 W	Z129	85
BFI FEDERAL EXPRESS STATION	***7607 PERIMETER RD***	***1/2 - 1 SSE***	***X135***	***88***
NORTHWEST SERVICE INC	6715 CORSON AVENUE SOUT	1/2 - 1 WSW	Z136	89
ARROW TRANSPORTATION COMPANY	6737 CORSON AVENUE SOUT	1/2 - 1 WSW	AA138	91
HANGAR HOLDINGS INC.	***7675 PERIMETER RD S***	***1/2 - 1 SSE***	***X142***	***93***
BAXTER RUTHERFORD	***911 SOUTH HOSMER ST***	***1/2 - 1 WNW***	***148***	***102***
MARGINAL WAY ARCO	***7200 E MARGINAL WAY S***	***1/2 - 1 SW***	***AC150***	***106***
VIC MARKOV TIRE CO.	***7300 E MARGINAL WY SO***	***1/2 - 1 SW***	***AD153***	***109***
EVERGREEN MARINE LEASING	***7343 E MARGINAL WAY***	***1/2 - 1 SSW***	***AD168***	***119***
BUDGET PROPERTIES	7115 E MARGINAL WAY	1/2 - 1 SW	AE175	124
WESTERN UNION TEL CO	808 SO FILDAGO ST	1/2 - 1 WNW	AH176	125
SEATTLE FIRE STATION 27	***1000 S MYRTLE ST***	***1/2 - 1 SW***	***AF178***	***126***
NORTH BOEING FIELD	***7500 E MARGINAL WAY S***	***1/2 - 1 SSW***	***AI182***	***128***
BOC GASES, DIV OF BOC GROUP, I	7700 14TH S	1/2 - 1 SSW	AJ186	141
RICHARD DONDERO	7047 E MARGINAL WAY S	1/2 - 1 WSW	188	144

VCP: Sites that have entered either the Voluntary Cleanup Program or its predecessor Independent Remedial Action Program.

A review of the VCP list, as provided by EDR, and dated 05/18/2004 has revealed that there are 11 VCP sites within approximately 1 mile of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
AMERICAN AVIONICS KING CNTY AI	***7023 PERIMETER RD S***	***1/4 - 1/2 SSE***	***H41***	***30***
BOEING ELECTRONIC MFG	***7300 PERIMETER RD S***	***1/2 - 1 SSE***	***R82***	***53***
GEORGETOWN CENTER	***NW CORNER OF CORSON AVE***	***1/2 - 1 WNW***	***S90***	***59***
SCOUGAL RUBBER CORP	***6239 CORSON AVE S***	***1/2 - 1 WNW***	***V118***	***74***
HANGAR HOLDINGS INC.	***7675 PERIMETER RD S***	***1/2 - 1 SSE***	***X142***	***93***
Not reported	***7700 14TH AVE S***	***1/2 - 1 SSW***	***AJ187***	***141***
VIOX CORPORATION	***6701 6TH AVE. S.***	***1/2 - 1 W***	***AL196***	***153***
EVERCLEAN INC DBA GAS N WASH	***551 S MICHIGAN ST***	***1/2 - 1 W***	***AR212***	***176***
VIOX MCDOWELL SITE	***551 S RIVER ST***	***1/2 - 1 W***	***214***	***179***

Lower Elevation	Address	Dist / Dir	Map ID	Page
MYRTLE STREET PROPERTY	***606 S MYRTLE ST***	***1/2 - 1 WSW***	***216***	***181***
WESTERN PARCEL EXPRESS SEATTLE	***525 S FRONT ST***	***1/2 - 1 WNW***	***AS220***	***188***

FEDERAL ASTM SUPPLEMENTAL

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 04/08/2004 has revealed that there are 38 FINDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PSE GEORGETOWN BASE	***6500 URSULA PL S***	***0 - 1/8 NW***	***A1***	***6***
PUGET SOUND ENERGY UST 9864	6349 18TH AVE S	0 - 1/8 NNW	A4	7
GIBSON CO	1900 S CORGIAT DR	1/8 - 1/4 SE	B6	7
FERGUSON PROPERTY	1915 S CORGIAT DR	1/8 - 1/4 SE	B9	8
NORTH COAST CHEMICAL CO INCORP	6300 17TH AVE. S.	1/8 - 1/4 NW	C13	10
MARINE VACUUM SERVICE INC	***1516 S GRAHAM ST***	***1/8 - 1/4 NW***	***C17***	***13***
LARRYS VOLVO REPAIR SVC INC	***6301 BEACON AVE S***	***1/4 - 1/2 ENE***	***38***	***29***
RESIDENCE BEACON AVENUE SOUTH	6412 BEACON AVENUE SOUT	1/4 - 1/2 E	K47	33

Lower Elevation	Address	Dist / Dir	Map ID	Page
LESTER CORP DBA UNIVERSAL PRIN	***6600 URSULA PL S***	***1/8 - 1/4 SE***	***B10***	***9***
WA DOT STATE FERRIES AIRPORT	***6301 AIRPORT WAY S***	***1/8 - 1/4 WNW***	***D20***	***18***
ZELLERBACH PAPER COMPANY	6301 AIRPORT WAY S	1/8 - 1/4 WNW	D21	19
COLLINS AVIATION	***6660 PERIMETER RD S BOE***	***1/8 - 1/4 SSE***	***22***	***19***
AVIATION FUEL STORAGE	1495 S HARDY ST	1/8 - 1/4 WNW	E24	22
UNITED BLDG SVCS	***6259 AIRPORT WY S***	***1/4 - 1/2 WNW***	***F25***	***22***
6249 AIRPORT WAY S	***6249 AIRPORT WAY S***	***1/4 - 1/2 NW***	***F26***	***22***
TEXACO INC	7000 AIRPORT RD S	1/4 - 1/2 SSE	G29	24
GALVIN FLYING SERVICE	***6987 PERIMETER RD S***	***1/4 - 1/2 SSE***	***H31***	***26***
NORTHWEST BOTTLING CO	***1136 ALBRO PL S***	***1/4 - 1/2 W***	***I32***	***26***
GALVIN FLYING CENTER UST 50716	7001 PERIMETER RD	1/4 - 1/2 SSE	H37	28
GLORIA MILLER ESTATE OF	***1226 S BAILEY ST***	***1/4 - 1/2 WNW***	***J39***	***29***
AMERICAN AVIONICS KING CNTY AI	***7023 PERIMETER RD S***	***1/4 - 1/2 SSE***	***H41***	***30***
GRIFFIN FUEL CO	***1210 S BAILEY ST***	***1/4 - 1/2 WNW***	***J43***	***31***
GEORGETOWN STEAMPLANT	1131 S ELIZABETH	1/4 - 1/2 W	L48	33
JULIUS ROSSO WHOLESALE NURSERY	6404 ELLIS AVE S	1/4 - 1/2 W	I51	35
HAMMER AUTO REBUILD & SALES IN	***1209 S BAILEY ST***	***1/4 - 1/2 WNW***	***J54***	***36***
JOHN E MAURER	***6014 12TH AVE S***	***1/4 - 1/2 WNW***	***M56***	***36***
KING COUNTY AIRPORT MAINTENANC	***6518 ELLIS AVENUE SOUTH***	***1/4 - 1/2 W***	***L57***	***37***
A& T PUMP	6525 ELLIS AVE S	1/4 - 1/2 W	L61	41
SEA A AFSS	6526 ELLIS AVE S	1/4 - 1/2 W	L62	41
RAINIER ICE & COLD STORAGE INC	***6004 AIRPORT WAY S***	***1/4 - 1/2 NW***	***M64***	***42***
WA GA SEATTLE MOTOR POOL	***6650 ELLIS AVE S***	***1/4 - 1/2 WSW***	***N66***	***42***

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
HAMILTON BUILDING	***6007 12TH AVE S***	***1/4 - 1/2 WNW***	***M68***	***44***
GALVIN FLYING SERVICE INC	***7149 PERIMETER RD S***	***1/4 - 1/2 SSE***	***O69***	***44***
FAMCO TRANSPORT INC	***6640 ELLIS AVE S***	***1/4 - 1/2 WSW***	***N70***	***44***
OSTEX INTL INC 5955 AIRPORT WA	***5955 AIRPORT WAY S***	***1/4 - 1/2 NW***	***M71***	***45***
BENZ FRIENDZ THE	***6249 FLORA AVE S***	***1/4 - 1/2 WNW***	***P72***	***46***
GALVIN FLYING SVC	***7205 PERIMETER RD S***	***1/4 - 1/2 SSE***	***O74***	***47***
KING CO INTL AIRPORT	7211 PERIMETER RD	1/4 - 1/2 SSE	O75	47

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 INSP list, as provided by EDR, and dated 04/13/2004 has revealed that there are 2 FTTS INSP sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
KELLY MOORE PAINT	6101 AIRPORT WAY S	1/4 - 1/2 NW	M55	36
JOHN E MAURER	***6014 12TH AVE S***	***1/4 - 1/2 WNW***	***M56***	***36***

STATE OR LOCAL ASTM SUPPLEMENTAL

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 01/14/2004 has revealed that there are 11 CSCSL NFA sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SONS OF ITALY CHEVRON 9-3189	***5337 15TH AVE S***	***1/2 - 1 NNW***	***146***	***100***

Lower Elevation	Address	Dist / Dir	Map ID	Page
AMERICAN AVIONICS KING CNTY AI	7023 PERIMETER RD S	1/4 - 1/2 SSE	H40	29
KING COUNTY AIRPORT MAINTENANC	***6518 ELLIS AVENUE SOUTH***	***1/4 - 1/2 W***	***L57***	***37***
BENS TRUCK PARTS INC SEATTLE	***6655 CORSON AVE S***	***1/2 - 1 W***	***Z130***	***86***
INLAND TRANSPORTATION CO	6737 CORSON S	1/2 - 1 WSW	AA139	91
SEATTLE COMMERCIAL FINISHING	***5700 CORSON AV S***	***1/2 - 1 NW***	***Y140***	***92***
EVERGREEN MARINE LEASING	***7343 E MARGINAL WAY***	***1/2 - 1 SSW***	***AD168***	***119***
VIOX CORPORATION	***6701 6TH AVE. S.***	***1/2 - 1 W***	***AL196***	***153***
VIOX MCDOWELL SITE	***551 S RIVER ST***	***1/2 - 1 W***	***214***	***179***
FLIGHTCRAFT INC SEATTLE	***8285 PERIMETER RD S***	***1/2 - 1 SSE***	***218***	***183***
WESTERN PARCEL EXPRESS SEATTLE	***525 S FRONT ST***	***1/2 - 1 WNW***	***AS220***	***188***

EXECUTIVE SUMMARY

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 74 WA ICR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
PUGET SOUND ENERGY	6500 URSULA AVE. S.	0 - 1/8 NW	A2	6
PUGET SOUND ENERGY	***6349 18TH AVE SOUTH***	***0 - 1/8 NNW***	***A3***	***6***
NORTH COAST CHEMICAL PLANT	***6300 17TH AVENUE SOUTH***	***1/8 - 1/4 NW***	***C14***	***10***
RESIDENCE	6412 BEACON AVE. S.	1/4 - 1/2 E	K45	32
SONS OF ITALY CHEVRON 9-3189	***5337 15TH AVE S***	***1/2 - 1 NNW***	***146***	***100***
UNOCAL	7100 BEACON AVE. S.	1/2 - 1 SE	AK189	145

Lower Elevation	Address	Dist / Dir	Map ID	Page
ZELLERBACK PAPER COMPANY	6301 AIRPORT WAY S.	1/8 - 1/4 WNW	D18	17
TEXACO	6235 AIRPORT WAY S.	1/4 - 1/2 NW	F27	23
GALVIN'S FLYING SERVICE	7001 PERIMETER ROAD	1/4 - 1/2 SSE	H35	28
AMERICAN AVIONICS	7031 PERIMETER ROAD S.	1/4 - 1/2 SSE	H44	32
RUSSO NURSERY	6404 ELLIS AVE. S.	1/4 - 1/2 W	I50	34
KING COUNTY AIRPORT	***6518 ELLIS AVE***	***1/4 - 1/2 W***	***L58***	***38***
SEATTLE AIR NATIONAL GUARD	6736 ELLIS AVE. S.	1/2 - 1 WSW	Q78	50
AIR NATIONAL GUARD - NORTH BOE	6736 ELLIS AVE. E.	1/2 - 1 WSW	Q79	50
BOEING ELECTRONIC MANUFACTURIN	7355 PERIMETER ROAD S.	1/2 - 1 SSE	R89	59
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V96	65
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V97	65
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V98	65
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V99	66
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V100	66
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V102	69
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V103	69
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V104	70
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V105	70
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V107	71
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V108	71
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V109	71
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V110	72
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V111	72
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V112	72
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V113	73
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V114	73
SHELL/TEXACO #121450	6200 CORSON AVE. S.	1/2 - 1 WNW	V115	73
SCOUGAL RUBBER CORP	***6239 CORSON AVE S***	***1/2 - 1 WNW***	***V118***	***74***
GEORGETOWN GULL #1228	***5959 CORSON AVENUE SOUT***	***1/2 - 1 WNW***	***U124***	***82***
ARROW TRANSPORTATION	6655 CORSON AVE. S.	1/2 - 1 W	Z131	86
FEDERAL EXPRESS PERIMETER RD S	***7607 PERIMETER RD S***	***1/2 - 1 SSE***	***X134***	***87***
ARROW TRANSPORTATION	***6737 CORSON AVE S***	***1/2 - 1 WSW***	***AA137***	***89***
HANGAR HOLDINGS, INC.	7675 PERIMETER ROAD S.	1/2 - 1 SSE	X141	92
ARCO #5218	7200 E. MARGINAL WAY S.	1/2 - 1 SW	AC149	103
KING COUNTY AIRPORT (OLD GAS S	7300 E. MARGINAL WAY S.	1/2 - 1 SW	AD152	108
BOEING - NORTH BOEING FIELD BL	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE154	110
BOEING - NORTH FIELD	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE155	110
BOEING NORTH FIELD-BLDGS 3-800	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE156	111
BOEING - NORTH FIELD BUILDING	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE157	111
BOEING - NORTH FIELD BUILDING	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE158	111
BOEING - NORTH FIELD BUILDING	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE160	113
NORTH BOEING FIELD, BLAST FENC	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE161	113

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
BOEING NORTH FIELD	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE162	114
BOEING - NORTH BOEING FIELD, P	ELLIS AVE. S. / E. MA	1/2 - 1 SW	AE163	114
STERNOFF METALS (FORMER) (TWO	7201 E. MARGINAL WAY S.	1/2 - 1 SW	AC164	114
EVERGREEN MARINE LEASING	***7343 E MARGINAL WAY***	***1/2 - 1 SSW***	***AD168***	***119***
SEATTLE CITY LIGHT	1012 S. MYRTLE ST.	1/2 - 1 SW	AF171	122
GALVIN FLYING SERVICES INC	7777 PERIMETER ROAD S.	1/2 - 1 SSE	AG173	123
SEATTLE FIRE STATION #27	1000 S. MYRTLE ST.	1/2 - 1 SW	AF177	125
BOEING/NORTH BOEING FIELD BUIL	7500 E. MARGINAL WAY S.	1/2 - 1 SSW	AI183	137
BOEING NORTH BOEING FIELD	***7500 E MARGINAL WAY***	***1/2 - 1 SSW***	***AI184***	***138***
AIRCO WELDING PRODUCTS	***7700 14TH AV S***	***1/2 - 1 SSW***	***AJ185***	***140***
PTL PARTNERSHIP	***6314 7TH S***	***1/2 - 1 W***	***191***	***146***
DNR	6715,6737 CORSON AVE. S	1/2 - 1 WSW	194	153
VIOX CORPORATION	6701 6TH AVE. S.	1/2 - 1 W	AL195	153
TEXACO 632321455	***600 S MICHIGAN***	***1/2 - 1 W***	***AM198***	***156***
NORTHWEST CONTAINER SERVICES	E. MARGINAL WAY S. /	1/2 - 1 WSW	200	162
PACIFIC NW GROUP A	***707 ORCAS ST***	***1/2 - 1 WNW***	***AN202***	***163***
PUGET SOUND TRUCK SEATTLE	7303 8TH AVE. S.	1/2 - 1 SW	AO204	165
KELLY MOORE PRESERVATIVE PAINT	***6101 AIRPORT WAY SOUTH***	***1/2 - 1 NW***	***AP205***	***165***
SEATTLE CITY LIGHT	7TH / FIDALGO	1/2 - 1 WNW	206	168
BOEING CO. PLANT 2 - BLDG. 2-6	7755 E. MARGINAL WAY S.	1/2 - 1 S	AQ208	173
EVERGREEN MARINE LEASING (THRE	7310 - 7350 8TH AVE. S.	1/2 - 1 SW	AO209	173
GAS N WASH	551 S. MICHIGAN ST.	1/2 - 1 W	AR211	174
FLIGHTCRAFT INC SEATTLE	***8285 PERIMETER RD S***	***1/2 - 1 SSE***	***218***	***183***
WESTERN PARCEL EXPRESS SEATTLE	***525 S FRONT ST***	***1/2 - 1 WNW***	***AS220***	***188***
GREAT WESTERN CHEMICAL CO SEAT	***6900 FOX AVE S***	***1/2 - 1 WSW***	***221***	***190***
SEATTLE AIR CORP	***8535 PERIMETER RD S***	***1/2 - 1 SSE***	***222***	***199***

SPILLS: Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

A review of the SPILLS list, as provided by EDR, and dated 04/06/2004 has revealed that there are 4 SPILLS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
Not reported	6412 BEACON AVE S, RESI	1/4 - 1/2 E	K46	32

Lower Elevation	Address	Dist / Dir	Map ID	Page
Not reported	7001 PERIMETER RD S	1/4 - 1/2 SSE	H33	27
Not reported	6111 12TH AVE S	1/4 - 1/2 WNW	J53	35
Not reported	6249 FLORA AVE SO	1/4 - 1/2 WNW	P73	46

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 is 1 Coal Gas site within

approximately 1.5 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SEATTLE LIGHTING CO. (GAS HOLD	6300 BLOCK SWIFT AVE.	0 - 1/8 N	5	7

BROWNFIELDS DATABASES

VCP: Sites that have entered either the Voluntary Cleanup Program or its predecessor Independent Remedial Action Program.

A review of the VCP list, as provided by EDR, and dated 05/18/2004 has revealed that there are 11 VCP sites within approximately 1 mile of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
AMERICAN AVIONICS KING CNTY AI	*7023 PERIMETER RD S*	*1/4 - 1/2 SSE*	*H41*	*30*
BOEING ELECTRONIC MFG	*7300 PERIMETER RD S*	*1/2 - 1 SSE*	*R82*	*53*
GEORGETOWN CENTER	*NW CORNER OF CORSON AVE*	*1/2 - 1 WNW*	*S90*	*59*
SCOUGAL RUBBER CORP	*6239 CORSON AVE S*	*1/2 - 1 WNW*	*V118*	*74*
HANGAR HOLDINGS INC.	*7675 PERIMETER RD S*	*1/2 - 1 SSE*	*X142*	*93*
Not reported	*7700 14TH AVE S*	*1/2 - 1 SSW*	*AJ187*	*141*
VIOX CORPORATION	*6701 6TH AVE. S.*	*1/2 - 1 W*	*AL196*	*153*
EVERCLEAN INC DBA GAS N WASH	*551 S MICHIGAN ST*	*1/2 - 1 W*	*AR212*	*176*
VIOX MCDOWELL SITE	*551 S RIVER ST*	*1/2 - 1 W*	*214*	*179*
MYRTLE STREET PROPERTY	*606 S MYRTLE ST*	*1/2 - 1 WSW*	*216*	*181*
WESTERN PARCEL EXPRESS SEATTLE	*525 S FRONT ST*	*1/2 - 1 WNW*	*AS220*	*188*

INST CONTROL: Sites that have institutional controls.

A review of the INST CONTROL list, as provided by EDR, and dated 03/11/2004 has revealed that there are 2 INST CONTROL sites within approximately 0.75 miles of the target property.

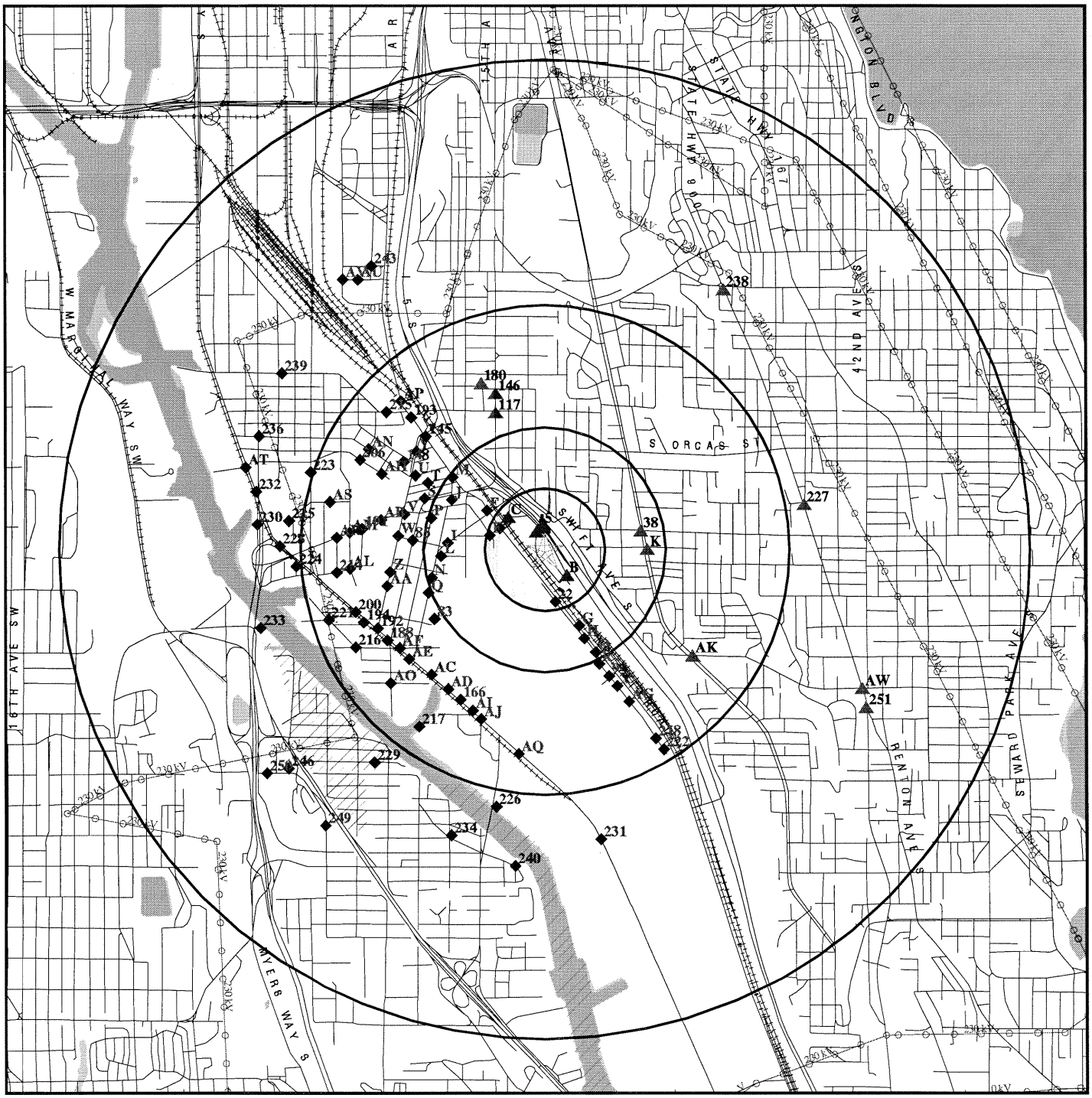
Lower Elevation	Address	Dist / Dir	Map ID	Page
AMERICAN AVIONICS KING CNTY AI	*7023 PERIMETER RD S*	*1/4 - 1/2 SSE*	*H41*	*30*
GEORGETOWN CENTER	*NW CORNER OF CORSON AVE*	*1/2 - 1 WNW*	*S90*	*59*

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
PRESERVATIVE PAINT CO	FINDS, FTTS INSP
EMERALD PETROLEUM SERVICES	FTTS INSP
NORTH COAST CHEMICAL CO INC	FTTS INSP
OASIS WATER GARDENS	FTTS INSP
PHILIP ENVIRONMENTAL SEATTLE	FTTS INSP
GRAND EAGLE SYSTEMS	FTTS INSP
SEATTLE CITY LIGHT SANISLO SCHOOL	FINDS, FTTS INSP
SEATTLE CITY LIGHT STEAMPLANT GEOR	CSCSL
SEATTLE MONORAIL PROJECT	CSCSL, VCP
GLACIER NORTHWEST SEATTLE TERMINAL	CSCSL
9725 E MARGINAL WAY	CSCSL, SPILLS, VCP
DIMENSIONAL ENGINEERING	CERC-NFRAP
SEATTLE, CY OF, 1ST AV BRG LDFL	CERC-NFRAP
INTERBAY	SWF/LF
SIXTH SOUTH AND SOUTH OF SPOKANE	SWF/LF
WASHINGTON PARK LANDFILL SITE	SWF/LF
WA DOT BRG 099530E	RCRIS-SQG
WA DOT BRG 099530E	RCRIS-SQG
SEATTLE CITY ENG DEPT AIRPORT WAY	RCRIS-SQG, FINDS
WA DOT SPOKANE ST STORAGE 1017XG01	RCRIS-SQG
WA DOT SPOKANE ST STORAGE 1017XG01	RCRIS-SQG
FORMER NORTH COAST CHEMICAL CO	RCRIS-SQG
1ST AVE BRG BBC2	RCRIS-SQG, FINDS
BOEING KING CNTY AIRPORT OFFICE CE	RCRIS-SQG, FINDS
CLYDE WEST INC	RCRIS-SQG, FINDS
DUWAMISH MARINE CENTER INCORPORATE	RCRIS-SQG, FINDS
CALIFORNIA AVE. LAW APTS. PROP.	WA ICR
SR 99 & FIRST AVE. BRIDGE SPILL/WS	WA ICR
UNION PACIFIC RAILROAD	WA ICR
NORTHWEST ENVIRO SERVICE	WA ICR
FEDERAL AVIATION ADM	WA ICR
CITY OF SEATTLE/UNION PACIFIC RR R	WA ICR
V.A. MEDICAL CENTER	WA ICR
CHEVRON #9 7032	WA ICR
BAXTER RUTHERFORD	WA ICR
BOEING - NORTH FIELD - FIRE TRAINI	WA ICR
BOEING - NORTH BOEING FIELD	WA ICR
KING COUNTY AIRPORT - HANGAR	WA ICR
MUSEUM OF FLIGHT PROPERTY	WA ICR

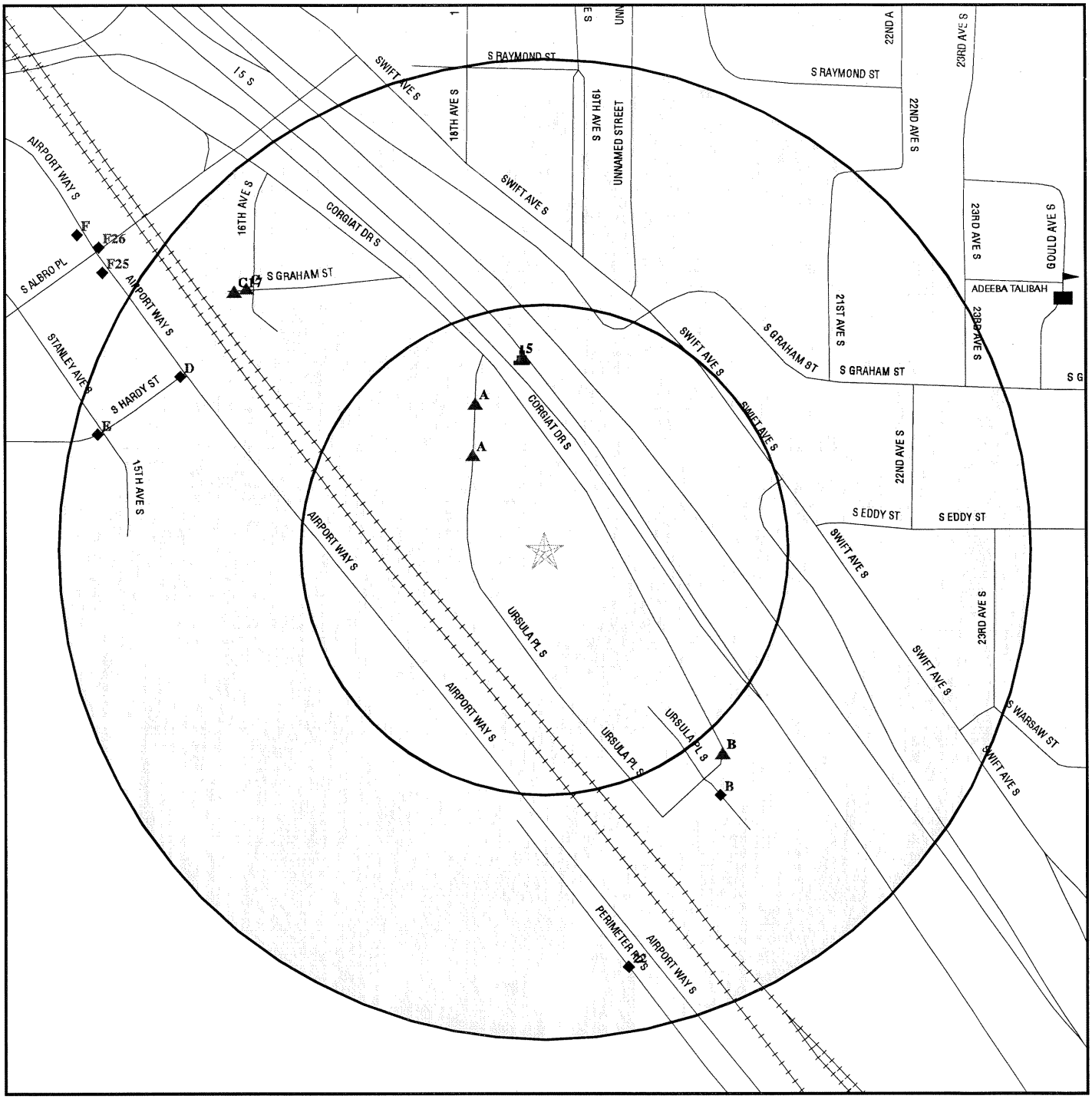
OVERVIEW MAP - 01219237.1r - Herrera Environmental



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands

TARGET PROPERTY:	SE of ARGO Yard	CUSTOMER:	Herrera Environmental
ADDRESS:	18th Avenue S/Corgiat Drive S	CONTACT:	Bruce Carpenter
CITY/STATE/ZIP:	Seattle WA 98108	INQUIRY #:	01219237.1r
LAT/LONG:	47.5452 / 122.3091	DATE:	June 24, 2004 6:55 pm

DETAIL MAP - 01219237.1r - Herrera Environmental



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY:	SE of ARGO Yard	CUSTOMER:	Herrera Environmental
ADDRESS:	18th Avenue S/Corgiat Drive S	CONTACT:	Bruce Carpenter
CITY/STATE/ZIP:	Seattle WA 98108	INQUIRY #:	01219237.1r
LAT/LONG:	47.5452 / 122.3091	DATE:	June 24, 2004 6:57 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.500	0	0	0	0	0	0
Proposed NPL		1.500	0	0	0	0	0	0
CERCLIS		1.000	0	0	0	0	NR	0
CERC-NFRAP		0.750	0	1	0	3	NR	4
CORRACTS		1.500	0	0	0	1	2	3
RCRIS-TSD		1.000	0	0	0	0	NR	0
RCRIS Lg. Quan. Gen.		0.750	0	0	1	3	NR	4
RCRIS Sm. Quan. Gen.		0.750	1	4	16	41	NR	62
ERNS		0.500	0	1	0	NR	NR	1
STATE ASTM STANDARD								
CSCSL		1.500	0	2	0	20	28	50
HSL		1.500	0	0	0	0	0	0
State Landfill		1.000	0	0	0	0	NR	0
LUST		1.000	1	2	7	22	NR	32
UST		0.750	1	6	12	25	NR	44
VCP		1.000	0	0	1	10	NR	11
INDIAN LUST		1.000	0	0	0	0	NR	0
INDIAN UST		0.750	0	0	0	0	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.500	0	0	0	0	0	0
ROD		1.500	0	0	0	0	0	0
Delisted NPL		1.500	0	0	0	0	0	0
FINDS		0.500	2	9	27	NR	NR	38
HMIRS		0.500	0	0	0	NR	NR	0
MLTS		0.500	0	0	0	NR	NR	0
MINES		0.750	0	0	0	0	NR	0
NPL Liens		0.500	0	0	0	NR	NR	0
PADS		0.500	0	0	0	NR	NR	0
US BROWNFIELDS		1.000	0	0	0	0	NR	0
INDIAN RESERV		1.500	0	0	0	0	0	0
FUDS		1.000	0	0	0	0	NR	0
DOD		1.500	0	0	0	0	0	0
RAATS		0.500	0	0	0	NR	NR	0
TRIS		0.500	0	0	0	NR	NR	0
TSCA		0.500	0	0	0	NR	NR	0
SSTS		0.500	0	0	0	NR	NR	0
FTTS		0.500	0	0	2	NR	NR	2
STATE OR LOCAL ASTM SUPPLEMENTAL								
CSCSL NFA		1.000	0	0	2	9	NR	11
WA ICR		1.000	2	2	6	64	NR	74

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SPILLS		0.500	0	0	4	NR	NR	4
CDL		0.500	0	0	0	NR	NR	0
AST		0.500	0	0	0	NR	NR	0
WA Emissions		0.500	0	0	0	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.500	1	0	0	0	0	1
BROWNFIELDS DATABASES								
US BROWNFIELDS		1.000	0	0	0	0	NR	0
VCP		1.000	0	0	1	10	NR	11
INST CONTROL		0.750	0	0	1	1	NR	2

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Edmunds Street Site

EDR™ Environmental
Data Resources Inc

The EDR Radius Map
with GeoCheck®

NW Container
4811 Airport Way South
Seattle, WA 98108

Inquiry Number: 1262227.2s

September 02, 2004

The Standard in Environmental Risk Management Information

440 Wheelers Farms Road
Milford, Connecticut 06460

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

FORM-KRA

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-00. Search distances are per ASTM standard or custom distances requested by the user.

TARGET PROPERTY INFORMATION

ADDRESS

4811 AIRPORT WAY SOUTH
SEATTLE, WA 98108

COORDINATES

Latitude (North):	47.558900 - 47° 33' 32.0"
Longitude (West):	122.324300 - 122° 19' 27.5"
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	550833.8
UTM Y (Meters):	5267278.0
Elevation:	19 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property:	47122-E3 SEATTLE SOUTH, WA
Source:	USGS 7.5 min quad index

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the ASTM E 1527-00 search radius around the target property for the following databases:

FEDERAL ASTM STANDARD

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
ERNS ---------- Emergency Response Notification System

STATE ASTM STANDARD

HSL ---------- Hazardous Sites List
SWF/LF ---------- Solid Waste Facility Database

EXECUTIVE SUMMARY

INDIAN LUST Leaking Underground Storage Tanks on Indian Land
INDIAN UST Underground Storage Tanks on Indian Land

FEDERAL ASTM SUPPLEMENTAL

CONSENT Superfund (CERCLA) Consent Decrees
ROD Records Of Decision
Delisted NPL National Priority List Deletions
MLTS Material Licensing Tracking System
MINES Mines Master Index File
NPL Liens Federal Superfund Liens
PADS PCB Activity Database System
US BROWNFIELDS A Listing of Brownfields Sites
INDIAN RESERV Indian Reservations
FUDS Formerly Used Defense Sites
UMTRA Uranium Mill Tailings Sites
DOD Department of Defense Sites
RAATS RCRA Administrative Action Tracking System
TRIS Toxic Chemical Release Inventory System
TSCA Toxic Substances Control Act
SSTS Section 7 Tracking Systems
FTTS INSP FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

STATE OR LOCAL ASTM SUPPLEMENTAL

SPILLS Reported Spills
CDL Clandestine Drug Lab Contaminated Site List
DRYCLEANERS Drycleaner List
AST Aboveground Storage Tank Locations
EMI Washington Emissions Data System

BROWNFIELDS DATABASES

US BROWNFIELDS A Listing of Brownfields Sites

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
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.

EXECUTIVE SUMMARY

FEDERAL ASTM STANDARD

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 CERC-NFRAP list, as provided by EDR, and dated 05/17/2004 has revealed that there is 1 CERC-NFRAP site within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
KELLY MOORE PRESERVATIVE PAINT	*6101 AIRPORT WAY SOUTH*	*1/4 - 1/2 SSE*	*N53*	*47*

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 06/15/2004 has revealed that there are 2 CORRACTS sites within approximately 1.125 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
BURLINGTON ENVIRONMENTAL INC G	*734 S LUCILE ST*	*1/4 - 1/2 S*	*O57*	*54*
GENERAL ELECTRIC AVIATION DIV	*220 S DAWSON ST*	*1/4 - 1/2 WSW*	*60*	*69*

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-TSD list, as provided by EDR, and dated 06/15/2004 has revealed that there is 1 RCRIS-TSD site within approximately 0.625 miles of the target property.

Lower Elevation	Address	Dist / Dir	Map ID	Page
BURLINGTON ENVIRONMENTAL INC G	*734 S LUCILE ST*	*1/4 - 1/2 S*	*O57*	*54*

EXECUTIVE SUMMARY

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-LQG list, as provided by EDR, and dated 06/15/2004 has revealed that there are 3 RCRIS-LQG sites within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
OLYMPIC FOUNDRY INC	*5200 AIRPORT WAY S*	*1/8 - 1/4 SSE*	*23*	*22*
UPS SEATTLE HUB	*4455 7TH AVE S THE HUB*	*1/4 - 1/2 N*	*H48*	*37*
KELLY MOORE PRESERVATIVE PAINT	*6101 AIRPORT WAY SOUTH*	*1/4 - 1/2 SSE*	*N53*	*47*

RCRIS: Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs): generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs): generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs): generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRIS-SQG list, as provided by EDR, and dated 06/15/2004 has revealed that there are 29 RCRIS-SQG sites within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
ALLTRANS EXPRESS DIVISION TNT	*655 SOUTH EDMUNDS STREE*	*0 - 1/8 NNW*	*A3*	*6*
SEATTLE BARREL CO	*4716 AIRPORT WAY*	*1/8 - 1/4 NNE*	*B8*	*8*
AIRGAS NORPAC	*4701 AIRPORT WAY S*	*1/8 - 1/4 NNE*	*B13*	*13*
HUNTLEY MACHINE TOOL INC	*4623 7TH AVE S*	*1/8 - 1/4 N*	*E20*	*19*
PAINTERS INC	*4501 AIRPORT WAY S*	*1/4 - 1/2 NNE*	*G27*	*25*
NORTHWEST FORKLIFT INC	*4429 AIRPORT WAY S*	*1/4 - 1/2 N*	*G41*	*33*
FIORITO PAUL	*4429 AIRPORT WAY S W EN*	*1/4 - 1/2 N*	*G43*	*35*
OLYMPIC MEDICAL CORP 7TH AVE	*4400 7TH AVE S*	*1/4 - 1/2 N*	*54*	*52*

Lower Elevation	Address	Dist / Dir	Map ID	Page
SAMIS FOUNDATION	*636 S EDMUNDS ST*	*0 - 1/8 NW*	*A6*	*7*
FEDEX EXPRESS - BFIA	*651 S ALASKA ST*	*1/8 - 1/4 NNW*	*C9*	*9*
SAMIS LAND CO SITE	*647 S ALASKA ST*	*1/8 - 1/4 NNW*	*C10*	*10*
GOLDEN GRAIN CO SEATTLE	*4715 6TH AVE S*	*1/8 - 1/4 NW*	*D14*	*14*
YYK ENTERPRISES INC	*610 S ALASKA ST*	*1/8 - 1/4 NNW*	*D18*	*17*
COLUMBIA SPECIALTY	*633 S SNOQUALMIE*	*1/8 - 1/4 NNW*	*22*	*22*
NORTHWEST PUMP EQUIPMENT	*601 S SNOQUALMIE ST*	*1/8 - 1/4 NNW*	*24*	*24*
CHARLES H LILLY CO	*5200 DENVER AVE S*	*1/4 - 1/2 SSW*	*F25*	*24*
GE LIGHTING SEATTLE DISTRIBUTI	*549 S DAWSON ST*	*1/4 - 1/2 SW*	*F26*	*25*

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
DRAPER MACHINE WORKS INC	*5055 4TH AVE S*	*1/4 - 1/2 SW*	*I29*	*26*
ANR FREIGHT SYSTEM INC SEATTLE	*4501 6TH AVE S*	*1/4 - 1/2 NNW*	*J31*	*28*
DOW CHEMICAL USA MICHIGAN DIV	*UNION PACIFIC RR 4TH &*	*1/4 - 1/2 SW*	*I33*	*29*
MCKINSTRY CO STE B	*4975 3RD AVE S STE B*	*1/4 - 1/2 WSW*	*K34*	*29*
MCKINSTRY CO	*4975 A 3RD AVE S*	*1/4 - 1/2 WSW*	*K35*	*30*
MCKINSTRY CO 5005	*5005 3RD AVE S*	*1/4 - 1/2 WSW*	*K38*	*31*
AMALGAMATED SUGAR CO SEATTLE	*5400 DENVER AVE S*	*1/4 - 1/2 S*	*M40*	*33*
UNION PACIFIC RAILROAD CO DAWS	*402 S DAWSON ST*	*1/4 - 1/2 SW*	*L44*	*35*
NAPA AUTO PARTS SEATTLE	*5201 4TH AVE*	*1/4 - 1/2 SW*	*L46*	*36*
LEONE VANVALKENBURG TRUST	*5200 4TH AVE S*	*1/4 - 1/2 SW*	*L47*	*36*
MILWAUKEE ELECTRIC TOOL CORP S	*5419 MAYNARD AVE S*	*1/4 - 1/2 S*	*M50*	*40*
NORTHWEST SIGN SUPPLY	*5300 4TH AVE S*	*1/4 - 1/2 SW*	*55*	*52*

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 41 CSCSL sites within approximately 1.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SEATTLE BARREL & COOPERAGE	7TH AV S / S SNOQUALM	1/8 - 1/4 N	E21	19
KELLY MOORE PRESERVATIVE PAINT	*6101 AIRPORT WAY SOUTH*	*1/4 - 1/2 SSE*	*N53*	*47*
PIONEER ENAMEL MANUFACTURE	*5531 AIRPORT WAY S*	*1/4 - 1/2 SSE*	*61*	*75*
WASHINGTON TRUCKING ASSOC	*4101 4TH AVE S*	*1/2 - 1 NNW*	*X87*	*96*
NORTHWEST PLATING CO	*825 S. DAKOTA ST.*	*1/2 - 1 N*	*Y91*	*99*
SPEAR TRUSTS WHSE	4001 6TH AVE S	1/2 - 1 N	104	116
SEATTLE CITY LIGHT MRWF	*3613 4TH AV S*	*1/2 - 1 NNW*	*116*	*145*
PUGET SOUND ELECTRIC SUPPLY, I	*640 SO. SPOKANE ST.*	*1/2 - 1 N*	*117*	*149*
PACIFIC TRUCKING SEATTLE	*300 S SPOKANE ST*	*1/2 - 1 NNW*	*AD121*	*158*
SEATTLE CITY ROW 2ND & SPOKANE	2ND AVE S / S SPOKANE	1/2 - 1 NNW	AD122	160
Not reported	*6365 1ST AVE S*	*1/2 - 1 SSW*	*123*	*161*
MARINE VACUUM SERVICE INC	*1516 S GRAHAM ST*	*1/2 - 1 SE*	*AE124*	*162*
NORTH COAST CHEMICAL PLANT	*6300 17TH AVENUE SOUTH*	*1/2 - 1 SE*	*AE125*	*168*
ACME INTERCITY FREIGHT	*3414 2ND AVE S*	*1 - 2 NNW*	*128*	*175*
SEATTLE CITY LIGHT 4TH AVE S	3814 4TH AVE S	1 - 2 NNW	130	179

Lower Elevation	Address	Dist / Dir	Map ID	Page
FEDEX EXPRESS - BFIA	*651 S ALASKA ST*	*1/8 - 1/4 NNW*	*C9*	*9*
SAMIS LAND CO SITE	647 S ALASKA ST	1/8 - 1/4 NNW	C11	11
ALASKA STREET PROPERTY	*615 S ALASKA ST*	*1/8 - 1/4 NNW*	*D17*	*16*
ALASKA STREET PROPERTY 2	*601 ALASKA ST*	*1/8 - 1/4 NW*	*D19*	*18*
BURLINGTON ENVIRONMENTAL INC G	734 S LUCILE ST	1/4 - 1/2 S	O56	53
GENERAL ELECTRIC AVIATION DIV	*220 S DAWSON ST*	*1/4 - 1/2 WSW*	*60*	*69*
UPRR DIAGONAL AVE S SPUR	60 DIAGONAL AVE S	1/2 - 1 WNW	AB103	114
AIR TEC COMPANY	*5701 1ST AVE SOUTH*	*1/2 - 1 SW*	*105*	*118*
SAHLBERG EQUIPMENT	*5950 4TH AVE S*	*1/2 - 1 SSW*	*106*	*121*
CHEVRON SEATTLE TERMINAL 4097	4525 DIAGONAL AVE S	1/2 - 1 WNW	107	124

EXECUTIVE SUMMARY

Lower Elevation	Address	Dist / Dir	Map ID	Page
US DOI BIA FEDERAL CENTER S	*4735 E MARGINAL WAY S B*	*1/2 - 1 W*	*108*	*126*
FORMER PENTHOUSE DRAPERY	*4115 1ST AVE S*	*1/2 - 1 NW*	*109*	*128*
GEORGETOWN CENTER	*NW CORNER OF CORSON AVE*	*1/2 - 1 SSE*	*110*	*129*
LONGVIEW FIBRE CO	*5901 E MARGINAL WY S*	*1/2 - 1 SW*	*AC111*	*132*
UNIVAR USA INC	*4000 1ST AVE S*	*1/2 - 1 NW*	*112*	*135*
JAMES HARDIE GYPSUM	*5931 E MARGINAL WY S*	*1/2 - 1 SW*	*AC113*	*137*
SCOUGAL RUBBER CORP	*6239 CORSON AVE S*	*1/2 - 1 S*	*114*	*139*
NORTHWEST ENVIROSERVICE 2W	1ST AV SW / MARGINAL	1/2 - 1 SSW	115	143
EMERALD TOOL INC	*6332 6TH S*	*1/2 - 1 S*	*118*	*151*
CONSOLIDATED FREIGHTWAYS SEATT	*6050 E MARGINAL WAY S*	*1/2 - 1 SSW*	*119*	*152*
EVERCLEAN INC DBA GAS N WASH	*551 S MICHIGAN ST*	*1/2 - 1 S*	*120*	*156*
FRANKS USED CARS	6305 E MARGINAL WAY S	1 - 2 SSW	126	170
BIG JOHNS TRUCK REPAIR INC	*6533 3RD AVE S*	*1 - 2 SSW*	*127*	*174*
UNOCAL SS NO 5472	*3460 1ST AVE S*	*1 - 2 NNW*	*AF129*	*177*
PENSKE TRUCK LEASING 1ST AVE	3443 1ST AVE S	1 - 2 NNW	AF131	180
NELSON IRON WORKS	*45 S SPOKANE ST*	*1 - 2 NW*	*133*	*181*

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 04/07/2004 has revealed that there are 20 LUST sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
UPS SEATTLE HUB	*4455 7TH AVE S THE HUB*	*1/4 - 1/2 N*	*H48*	*37*
KELLY MOORE PAINT CO	5410 AIRPORT WAY S	1/4 - 1/2 SSE	N52	47
THE BURKE COMPANY	*4201 AIRPORT WAY S/ PO*	*1/2 - 1 N*	*S71*	*82*
SEATTLE SCHOOL FACILITIES	4141 4TH AVE S	1/2 - 1 NNW	X81	91
GOLDEN GRAIN SEATTLE DISTRIBUT	*4100 4TH AVE S*	*1/2 - 1 NNW*	*X83*	*92*
4TH SOUTH GULL #219	*4115 4TH AVE S*	*1/2 - 1 NNW*	*X86*	*95*

Lower Elevation	Address	Dist / Dir	Map ID	Page
DRAPER MACHINE WORKS INC	*5055 4TH AVE S*	*1/4 - 1/2 SW*	*I29*	*26*
A N R FREIGHT SYSTEM	*4501 6TH AVE SO*	*1/4 - 1/2 NNW*	*J30*	*28*
UNION PACIFIC MOTOR	*420 S DAWSON*	*1/4 - 1/2 SW*	*L37*	*30*
U S BANK OF WASHINGTON	*1137 S W HANFORD ST*	*1/4 - 1/2 SSW*	*59*	*68*
PRO EXPRESS GROUP INC (FRMRLY	*4800 DENVER AVE S*	*1/4 - 1/2 WNW*	*R68*	*81*
80 S HUDSON ST SITE	80 S HUDSON ST	1/2 - 1 WSW	T72	83
PNB BUILDING	707 S ORCAS ST	1/2 - 1 S	U75	86
BOBS TEXACO SERVICE	*5304 1ST AVE SO*	*1/2 - 1 WSW*	*V77*	*87*
LEO FIX TRANSFER & STORAGE CO	*4700 DENVER AVE SOUTH*	*1/2 - 1 WNW*	*W79*	*89*
NATIONAL TRANSFER INC	*5265 UTAH AVE S*	*1/2 - 1 WSW*	*89*	*98*
DAWSON STREET LAND COMPANY	*54 S DAWSON*	*1/2 - 1 WSW*	*Z96*	*104*
M BLOCH & CO INC	*4580 COLORADO AVE S PO*	*1/2 - 1 WNW*	*AA98*	*110*
BAXTER RUTHERFORD	*911 SOUTH HOSMER ST*	*1/2 - 1 SSE*	*101*	*112*
SEATTLE YARD	*60 DIAGONAL SOUTH*	*1/2 - 1 WNW*	*AB102*	*113*

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 04/07/2004 has revealed that there are 13 UST sites within approximately 0.375 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CONSOLIDATED FREIGHTWAYS	655 S EDMUNDS	0 - 1/8 NNW	A2	6
UNION CARBIDE CORPORATION	4701 AIRPORT WAY S	1/8 - 1/4 NNE	B12	13
OLYMPIC FOUNDRY INC	***5200 AIRPORT WAY S***	***1/8 - 1/4 SSE***	***23***	***22***
PLYMOUTH POULTRY COMPANY	4500 7TH AVE S	1/4 - 1/2 N	H28	26
NORTHWEST FORKLIFT INC	4429 AIRPORT WAY S	1/4 - 1/2 N	G42	33
UPS SEATTLE HUB	***4455 7TH AVE S THE HUB***	***1/4 - 1/2 N***	***H48***	***37***
PAUL D FIORITO	4413 AIRPORT WAY SOUTH	1/4 - 1/2 N	49	40
KELLY MOORE PAINT CO	5410 AIRPORT WAY S	1/4 - 1/2 SSE	N51	41

Lower Elevation	Address	Dist / Dir	Map ID	Page
DRAPER MACHINE WORKS INC	***5055 4TH AVE S***	***1/4 - 1/2 SW***	***I29***	***26***
A N R FREIGHT SYSTEM	***4501 6TH AVE SO***	***1/4 - 1/2 NNW***	***J30***	***28***
ARGO TOFC	4TH AVENUE SOUTH & DAWS	1/4 - 1/2 SW	I32	28
UNION PACIFIC MOTOR	***420 S DAWSON***	***1/4 - 1/2 SW***	***L37***	***30***
THE AMALGAMATED SUGAR CO.	5400 DENVER AVE SO.	1/4 - 1/2 S	M39	32

VCP: Sites that have entered either the Voluntary Cleanup Program or its predecessor Independent Remedial Action Program.

A review of the VCP list, as provided by EDR, and dated 05/18/2004 has revealed that there are 6 VCP sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WASHINGTON TRUCKING ASSOC	***4101 4TH AVE S***	***1/2 - 1 NNW***	***X87***	***96***

Lower Elevation	Address	Dist / Dir	Map ID	Page
FEDEX EXPRESS - BFIA	***651 S ALASKA ST***	***1/8 - 1/4 NNW***	***C9***	***9***
ALASKA STREET PROPERTY	***615 S ALASKA ST***	***1/8 - 1/4 NNW***	***D17***	***16***
ALASKA STREET PROPERTY 2	***601 ALASKA ST***	***1/8 - 1/4 NW***	***D19***	***18***
FRED HUTCHINSON CANCER RESEARC	***4755 1ST AVE S***	***1/4 - 1/2 W***	***Q66***	***80***
BLOCH STEEL INDUSTRIES	***4580 COLORADO AVE S***	***1/2 - 1 WNW***	***AA99***	***111***

FEDERAL ASTM SUPPLEMENTAL

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 04/08/2004 has revealed that there are 3 FINDS sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
ALLTRANS EXPRESS DIVISION TNT	***655 SOUTH EDMUNDS STREE***	***0 - 1/8 NNW***	***A3***	***6***
Lower Elevation	**Address**	**Dist / Dir**	**Map ID**	**Page**
SAMIS FOUNDATION	***636 S EDMUNDS ST***	***0 - 1/8 NW***	***A6***	***7***
CONSOLIDATED FREIGHTWAYS S EDM	655 SOUTH EDMUNDS STREE	0 - 1/8 NW	A7	8

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 02/17/2004 has revealed that there is 1 HMIRS site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
Not reported	4865 AIRPORT WAY	0 - 1/8 ENE	1	6

STATE OR LOCAL ASTM SUPPLEMENTAL

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 01/14/2004 has revealed that there are 9 CSCSL NFA sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CONSOLIDATED FREIGHTWAYS S EDM	655 S EDMUNDS ST	0 - 1/8 NNW	A4	6
SONS OF ITALY CHEVRON 9-3189	***5337 15TH AVE S***	***1/2 - 1 ESE***	***94***	***102***
Lower Elevation	**Address**	**Dist / Dir**	**Map ID**	**Page**
ACE RADIATOR	***311 S BRANDON ST***	***1/4 - 1/2 SW***	***62***	***78***
CRAIG TAYLOR EQUIPMENT	5030 1ST AVE S	1/4 - 1/2 WSW	P64	79
FRED HUTCHINSON CANCER RESEARC	***4755 1ST AVE S***	***1/4 - 1/2 W***	***Q66***	***80***
DRIVE LINE SERVICES OF SEATTLE	108 S BRANDON ST	1/2 - 1 SW	84	94
SEATTLE COMMERCIAL FINISHING	***5700 CORSON AV S***	***1/2 - 1 SSE***	***88***	***98***
LIQUID CARBONIC CARBON DIOXIDE	***5021 COLORADO AVE S***	***1/2 - 1 WSW***	***97***	***106***
BLOCH STEEL INDUSTRIES	***4580 COLORADO AVE S***	***1/2 - 1 WNW***	***AA99***	***111***

EXECUTIVE SUMMARY

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 30 WA ICR sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
CONSOLIDATED FREIGHTWAYS	655 S. EDMUNDS	0 - 1/8 NNW	A5	7
UPS SEATTLE HUB	***4455 7TH AVE S THE HUB***	***1/4 - 1/2 N***	***H48***	***37***
KELLY MOORE PRESERVATIVE PAINT	***6101 AIRPORT WAY SOUTH***	***1/4 - 1/2 SSE***	***N53***	***47***
RICCHIAZZI INDUSTRIAL BUILDING	4424/4500 4TH AVE. S.	1/4 - 1/2 NW	58	68
SUNNY JIM FOODS (FORMER) (TWO	4200 AIRPORT WAY S.	1/2 - 1 N	S70	82
GARFIELD HIGH SCHOOL/SEATTLE S	4141 4TH AVE. S.	1/2 - 1 NNW	X82	92
GOLDEN GRAIN SEATTLE DISTRIBUT	***4100 4TH AVE S***	***1/2 - 1 NNW***	***X83***	***92***
GULL #0219	4115 1/2 4TH AVE. S.	1/2 - 1 NNW	X85	94
WASHINGTON TRUCKING ASSOC	***4101 4TH AVE S***	***1/2 - 1 NNW***	***X87***	***96***
WASHINGTON INDUSTRIES/NORTHWES	825 S. DAKOTA	1/2 - 1 N	Y90	99
WESTERN FLEET SUPPLY	620 S. DAKOTA ST.	1/2 - 1 N	92	101
SONS OF ITALY CHEVRON 9-3189	***5337 15TH AVE S***	***1/2 - 1 ESE***	***94***	***102***

Lower Elevation	Address	Dist / Dir	Map ID	Page
STEAM SUPPLY AND RUBBER	615 S. ALASKA ST.	1/8 - 1/4 NNW	D16	16
DRAPER MACHINE WORKS INC	***5055 4TH AVE S***	***1/4 - 1/2 SW***	***I29***	***26***
UNION PACIFIC RAILROAD	420 S. DAWSON	1/4 - 1/2 SW	L36	30
UNION PACIFIC RAILROAD DIESEL	402 S. DAWSON ST.	1/4 - 1/2 SW	L45	35
GENERAL ELECTRIC AVIATION DIV	***220 S DAWSON ST***	***1/4 - 1/2 WSW***	***60***	***69***
CRAIG TAYLOR EQUIPMENT	5030 1ST AVE. S.	1/4 - 1/2 WSW	P63	78
METAL GOOD SERVICE CENTER	4755 1ST AVE. S.	1/4 - 1/2 W	Q65	79
METAL GOOD SERVICE CENTER (TWO	4755 1ST AVE. S.	1/4 - 1/2 W	Q67	80
UNION PACIFIC RAILROAD	4800 DENVER AVE. S.	1/4 - 1/2 WNW	R69	81
S.E.S. INC.	80 S. HUDSON ST.	1/2 - 1 WSW	T73	84
PACIFIC NW GROUP A	***707 ORCAS ST***	***1/2 - 1 S***	***U74***	***85***
TEXACO (TWO REPORTS)	5303 1ST AVE. S.	1/2 - 1 WSW	V76	87
MCWILLIAMS PROPERTY/TEXACO	5304 1ST AVE. S.	1/2 - 1 WSW	V78	88
UNION PACIFIC RAILROAD ARGO YA	***4700 BLK DENVER AVE S***	***1/2 - 1 WNW***	***W80***	***90***
SEATTLE CITY LIGHT	7TH / FIDALGO	1/2 - 1 S	93	101
DAWSON STREET LAND CO	***56 S DAWSON ST***	***1/2 - 1 WSW***	***Z95***	***103***
LIQUID CARBONIC CARBON DIOXIDE	***5021 COLORADO AVE S***	***1/2 - 1 WSW***	***97***	***106***
BLOCH STEEL	4580 COLORADO S.	1/2 - 1 WNW	AA100	112

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 is 1 Coal Gas site within approximately 1.125 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SEATTLE LIGHTING CO. (GAS HOLD	6300 BLOCK SWIFT AVE.	1 - 2 SE	132	181

EXECUTIVE SUMMARY

BROWNFIELDS DATABASES

VCP: Sites that have entered either the Voluntary Cleanup Program or its predecessor Independent Remedial Action Program.

A review of the VCP list, as provided by EDR, and dated 05/18/2004 has revealed that there are 6 VCP sites within approximately 0.625 miles of the target property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
WASHINGTON TRUCKING ASSOC	*4101 4TH AVE S*	*1/2 - 1 NNW*	*X87*	*96*

Lower Elevation	Address	Dist / Dir	Map ID	Page
FEDEX EXPRESS - BFIA	*651 S ALASKA ST*	*1/8 - 1/4 NNW*	*C9*	*9*
ALASKA STREET PROPERTY	*615 S ALASKA ST*	*1/8 - 1/4 NNW*	*D17*	*16*
ALASKA STREET PROPERTY 2	*601 ALASKA ST*	*1/8 - 1/4 NW*	*D19*	*18*
FRED HUTCHINSON CANCER RESEARC	*4755 1ST AVE S*	*1/4 - 1/2 W*	*Q66*	*80*
BLOCH STEEL INDUSTRIES	*4580 COLORADO AVE S*	*1/2 - 1 WNW*	*AA99*	*111*

INST CONTROL: Sites that have institutional controls.

A review of the INST CONTROL list, as provided by EDR, and dated 06/08/2004 has revealed that there are 2 INST CONTROL sites within approximately 0.625 miles of the target property.

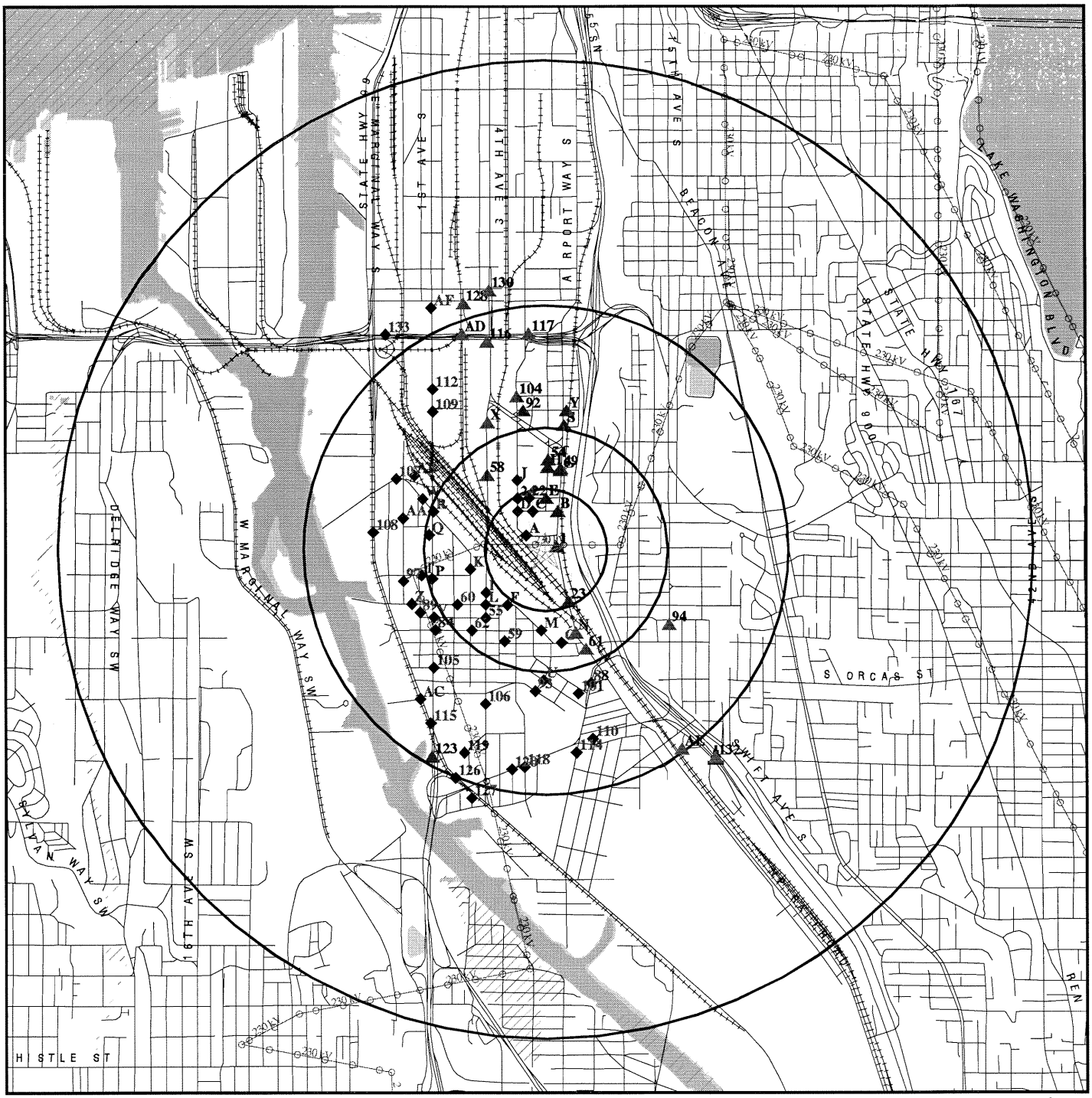
Lower Elevation	Address	Dist / Dir	Map ID	Page
ALASKA STREET PROPERTY	*615 S ALASKA ST*	*1/8 - 1/4 NNW*	*D15*	*14*
LIQUID CARBONIC CARBON DIOXIDE	*5021 COLORADO AVE S*	*1/2 - 1 WSW*	*97*	*106*

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
PRESERVATIVE PAINT CO	FINDS, FTTS INSP
SEATTLE CITY LIGHT STEAMPLANT GEOR	CSCSL
SEATTLE MONORAIL PROJECT	CSCSL, VCP
ALLIED DOMECQ	CSCSL, FINDS
9725 E MARGINAL WAY	CSCSL, SPILLS, VCP
INTERBAY	SWF/LF
RAINIER LANDFILL	SWF/LF
SICKS STADIUM SITE	SWF/LF
GREEN LAKE LANDFILL SITE	SWF/LF
WASHINGTON PARK LANDFILL SITE	SWF/LF
MANNING ST WASTE	RCRIS-SQG, FINDS
SEATTLE CITY ENG DEPT 12TH AVE S	RCRIS-SQG, FINDS
WA DOT BRG 099530E	RCRIS-SQG
SEATTLE CITY AIRPORT WAY PAINT SHO	RCRIS-SQG, FINDS
SEATTLE CITY ENG DEPT AIRPORT WAY	RCRIS-SQG, FINDS
WA DOT SPOKANE ST STORAGE 1017XG01	RCRIS-SQG
EMERALD CITY DISPOSAL DAWSON ST	RCRIS-SQG, FINDS
BURLINGTON ENV PHILIP SERVICES COR	RCRIS-SQG, FINDS
PACIFIC EXPRESS	FINDS, VCP
FISHER PLAZA KOMO TV	FINDS, VCP
CALIFORNIA AVE. LAW APTS. PROP.	WA ICR
US POSTAL SERVICE STATION (TWO REP	WA ICR
80TH S. HUDSON ST.	WA ICR
SR 99 & FIRST AVE. BRIDGE SPILL/WS	WA ICR
UNION PACIFIC RAILROAD	WA ICR
WSDOT - SIGNALS	WA ICR
REI WOODWORKING (FORMER)	WA ICR
NORTHWEST ENVIRO SERVICE	WA ICR
FEDERAL AVIATION ADM	WA ICR
CITY OF SEATTLE/UNION PACIFIC RR R	WA ICR
BNRR (FORMER GLACIER PARK PROPERTY	WA ICR
CHEVRON #9 7032	WA ICR
RASMUSSEN EQUIPMENT	WA ICR
ARGO YARD/BURLINGTON RAILROAD	WA ICR
UNION PACIFIC RAILROAD	WA ICR
UNION PACIFIC ARGO YARD	WA ICR
SEATTLE CITY LIGHT/N. BOEING FIELD	WA ICR
MUSEUM OF FLIGHT PROPERTY	WA ICR
SEATAC AIRPORT - PAN AM HANGER	WA ICR

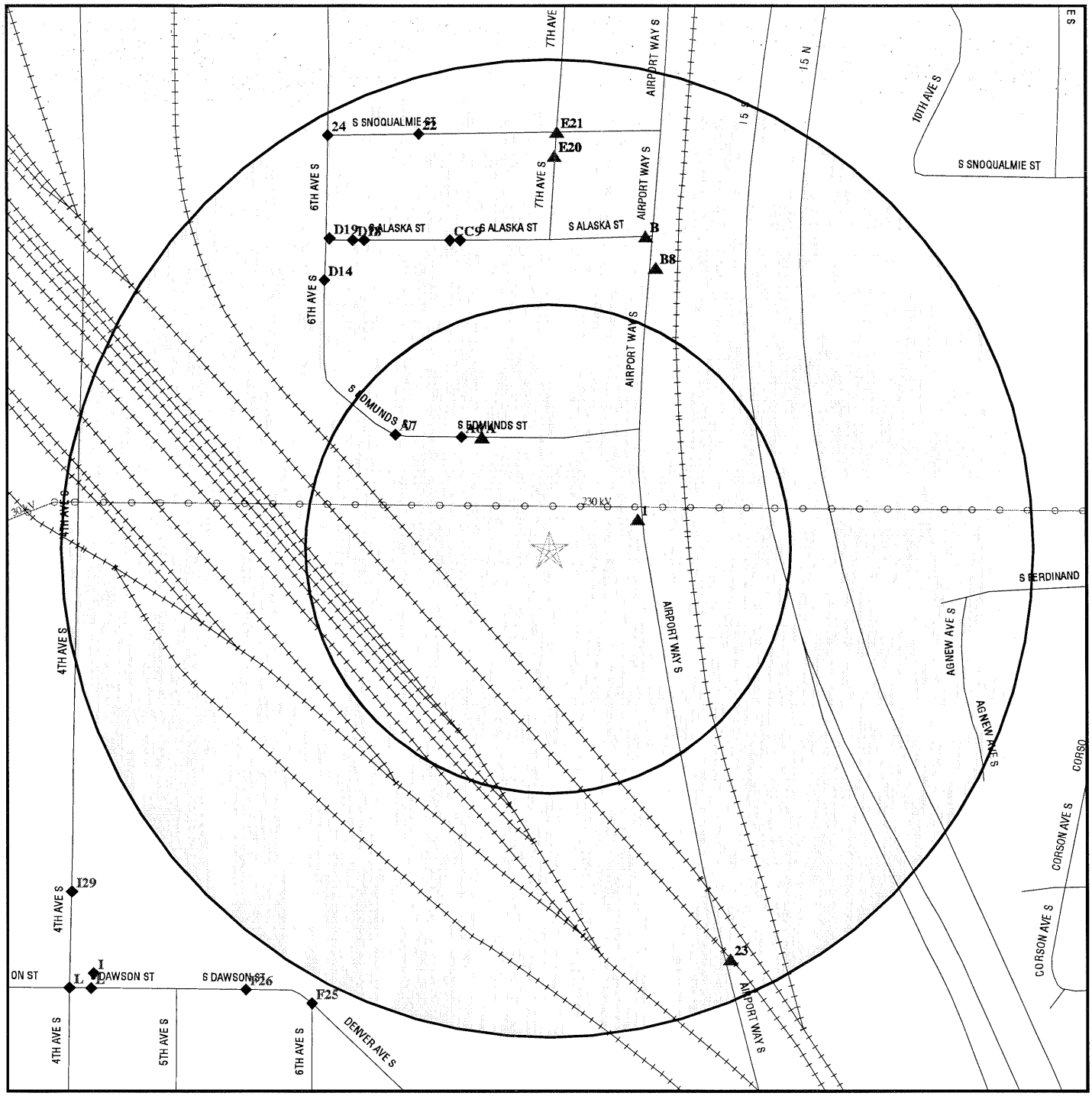
OVERVIEW MAP - 1262227.2s - Herrera Environmental



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Federal Wetlands

TARGET PROPERTY:	NW Container	CUSTOMER:	Herrera Environmental
ADDRESS:	4811 Airport Way South	CONTACT:	Bruce Carpenter
CITY/STATE/ZIP:	Seattle WA 98108	INQUIRY #:	1262227.2s
LAT/LONG:	47.5589 / 122.3243	DATE:	September 02, 2004 12:50 pm

DETAIL MAP - 1262227.2s - Herrera Environmental



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY:	NW Container	CUSTOMER:	Herrera Environmental
ADDRESS:	4811 Airport Way South	CONTACT:	Bruce Carpenter
CITY/STATE/ZIP:	Seattle WA 98108	INQUIRY #:	1262227.2s
LAT/LONG:	47.5589 / 122.3243	DATE:	September 02, 2004 12:51 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FEDERAL ASTM STANDARD								
NPL		1.125	0	0	0	0	0	0
Proposed NPL		1.125	0	0	0	0	0	0
CERCLIS		0.625	0	0	0	0	NR	0
CERC-NFRAP		0.375	0	0	1	NR	NR	1
CORRACTS		1.125	0	0	2	0	0	2
RCRIS-TSD		0.625	0	0	1	0	NR	1
RCRIS Lg. Quan. Gen.		0.375	0	1	2	NR	NR	3
RCRIS Sm. Quan. Gen.		0.375	2	9	18	NR	NR	29
ERNS		0.125	0	NR	NR	NR	NR	0
STATE ASTM STANDARD								
CSCSL		1.125	0	5	4	25	7	41
HSL		1.125	0	0	0	0	0	0
State Landfill		0.625	0	0	0	0	NR	0
LUST		0.625	0	0	7	13	NR	20
UST		0.375	1	2	10	NR	NR	13
VCP		0.625	0	3	1	2	NR	6
INDIAN LUST		0.625	0	0	0	0	NR	0
INDIAN UST		0.375	0	0	0	NR	NR	0
FEDERAL ASTM SUPPLEMENTAL								
CONSENT		1.125	0	0	0	0	0	0
ROD		1.125	0	0	0	0	0	0
Delisted NPL		1.125	0	0	0	0	0	0
FINDS		0.125	3	NR	NR	NR	NR	3
HMIRS		0.125	1	NR	NR	NR	NR	1
MLTS		0.125	0	NR	NR	NR	NR	0
MINES		0.375	0	0	0	NR	NR	0
NPL Liens		0.125	0	NR	NR	NR	NR	0
PADS		0.125	0	NR	NR	NR	NR	0
US BROWNFIELDS		0.625	0	0	0	0	NR	0
INDIAN RESERV		1.125	0	0	0	0	0	0
FUDS		1.125	0	0	0	0	0	0
UMTRA		0.625	0	0	0	0	NR	0
DOD		1.125	0	0	0	0	0	0
RAATS		0.125	0	NR	NR	NR	NR	0
TRIS		0.125	0	NR	NR	NR	NR	0
TSCA		0.125	0	NR	NR	NR	NR	0
SSTS		0.125	0	NR	NR	NR	NR	0
FTTS		0.125	0	NR	NR	NR	NR	0
STATE OR LOCAL ASTM SUPPLEMENTAL								
CSCSL NFA		0.625	1	0	3	5	NR	9

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
WA ICR		0.625	1	1	11	17	NR	30
SPILLS		0.125	0	NR	NR	NR	NR	0
CDL		0.125	0	NR	NR	NR	NR	0
DRYCLEANERS		0.375	0	0	0	NR	NR	0
AST		0.125	0	NR	NR	NR	NR	0
WA Emissions		0.125	0	NR	NR	NR	NR	0
EDR PROPRIETARY HISTORICAL DATABASES								
Coal Gas		1.125	0	0	0	0	1	1
BROWNFIELDS DATABASES								
US BROWNFIELDS		0.625	0	0	0	0	NR	0
VCP		0.625	0	3	1	2	NR	6
INST CONTROL		0.625	0	1	0	1	NR	2

NOTES:

AQUIFLOW - see EDR Physical Setting Source Addendum

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

APPENDIX G

Hazardous Materials—Documented and Potential Release Sites

Table G-1. Harbor Island Terminal 10 and Pendleton intermodal sites—sites with known or suspected environmental conditions based on regulatory record search.

Site ID	Site Name	Address	Regulatory Database Listing	Location	Impact on Construction
Documented Release Sites					
B5, B6	Lockheed Shipbuilding Company	2929 16th Avenue SW	UST, LUST, RCRA-SQG, ICR, CSCSL	Harbor Island Terminal 10 (subject property)	Release of petroleum hydrocarbons and lead to soil and ground water. Considered part of U.S. EPA Operable Unit 1 for Harbor Island NPL site. Five USTs (three heating fuel oil tanks, one leaded gasoline tank, and one unleaded gasoline tank) were removed in 1991. Hot spot remediation included excavation of soil with TPH concentrations exceeding 10,000 mg/kg. Elevated concentrations of volatile organic compounds (TCE and PCE) and metals (copper, lead, and zinc) were detected in ground water. Potential impact on construction activities.
	Harbor Island	Mouth of Duwamish River	NPL, ROD		Harbor Island Superfund site. The ROD established the cleanup criterion for petroleum hydrocarbons in soil as a concentration of 10,000 mg/kg. Potential impact on construction activities.
A1, A2, A3, A4	Pendleton Flour Mills, LLC Seattle/ Fisher Mills Inc	3235 16th Avenue SW	RCRA-SQG, ICR, spills,	Pendleton (subject property)	Release of petroleum hydrocarbons to soil and ground water. Two diesel USTs removed. Approximately 150 tons of petroleum-contaminated soil was reported excavated and removed to an offsite location. Ground water encountered at 9.5 feet bgs during excavation of contaminated soil. Sheen reported on water table. No soil samples collected from bottom of excavation and ground water not sampled in accordance with ROD for Harbor Island. Potential impact on construction activities.
11	Seafab Metal Surface Impoundment	2700 16th Avenue SW	CSCSL	Southwest corner of intersection of Lander Street and 16th Avenue SW, east and upgradient	Lead smelter operated onsite from 1937 to 1984. Wastewater treatment settling ponds closed in 1989 (contained battery chips from recycling automotive batteries). Copper, cadmium, nickel, and zinc concentrations exceeded MTCA cleanup criteria in downgradient wells in 1996 causing the Department of Ecology to allow a conditional clean closure. Upper aquifer (9.5 to 18 feet) flows to southeast, and lower aquifer (30 to 35 feet) flows to west. Potential impact on construction activities.
F26, F27	BP West Coast Products/Seattle Terminal/Former ARCO Tank Farm	1652 SW Lander Street	RCRA-LQG, ICR, CSCSL, UST, LUST	Adjacent to north, upgradient	The BP West Coast Products site includes the former ARCO tank farm located north of Lander Street, now operated by BP, and a tank farm (USTs) located south of Lander Street, operated by Pacific Pride. A pump-and-treat system is currently in operation on former ARCO tank farm. Gasoline-range petroleum hydrocarbons remain in soil and ground water. Ground water reportedly flows in a southwesterly direction toward the former Lockheed property. Sheet piling was installed along the south end of Lander Street to prevent contaminated ground water from entering the former Lockheed property. Potential impact on construction activities.

Table G-1 (continued). Harbor Island Terminal 10 and Pendleton intermodal sites—sites with known or suspected environmental conditions based on regulatory record search.

Site ID	Site Name	Address	Regulatory Database Listing	Location	Impact on Construction
Potential Release Sites					
B7, B8	Pacific Rendering Co.	2926 16th Avenue SW	UST	Adjacent, east of 16th Avenue SW and upgradient	No documented releases. USTs, one reportedly closed in place. No impacts on construction activities expected.
C9, C10	Seattle Port Terminal 18/ Walashek Industrial & Marine	3236 16th Avenue SW	RCRA-SQG, UST	Adjacent, east of 16th Avenue SW and upgradient	No documented releases. RCRA small-quantity generator and one heating oil tank. No impacts on construction activities expected.

Source: EDR database report, Terminal 10/Pendleton, June 25, 2004 (see Appendix F-1).
bgs = below ground surface
CERC-NFRAP = Comprehensive Environmental Response, Compensation, and Liability Information System-no further remedial action planned
CSCSL = Confirmed or Suspected Contaminated Sites List
ICR = independent cleanup report
LQG = large-quantity generator
LUST = leaking underground storage tank
mg/kg = milligrams per kilogram
MTCA = Model Toxics Control Act
NFA = no further action
NPL = National Priorities List
PCE = tetrachloroethylene
RCRA = Resource Conservation and Recovery Act
ROD = Record of Decision
SWF/LF = Solid Waste Facility/Landfill
SQG = small-quantity generator
TCE = trichloroethylene
TPH = total petroleum hydrocarbons
UST = underground storage tank
VCP = Voluntary Cleanup Program

Table G-2. Corgiat Drive intermodal site—sites with known or suspected environmental conditions based on regulatory record search.

Site ID	Site Name	Address	Regulatory Database Listing	Location	Impact on Construction
Documented Release Sites					
A1, A2, A3	Puget Sound Energy/PSE Georgetown Base	6500 Ursula Avenue S/6349 18th Avenue S	ICR, LUST, UST, RCRA SQG	Subject property	Release of petroleum hydrocarbons to soil and ground water. One 12,00-gallon gasoline UST removed in November 1997. Ground water with free product was encountered in the excavation at 10 to 12 feet bgs. Ground water flows toward the northwest based on monitoring well installation. Ground water sampling indicated concentrations less than MTCA method A cleanup criteria (note in Department of Ecology file indicated possible inappropriate well placement). RCRA small-quantity generator. No additional information available in Department of Ecology file. Potential impact on construction activities.
5	Seattle Lighting Co. (Gas Holder)	6300 Block Swift Avenue	Coal gas	Exact location unknown (may be subject property)	No file information available. Potential impact on construction activities.
C12, C13, C14, C15, C16	North Coast Chemical Co.	6300 17th Avenue S	UST, CSCSL, LUST, ICR, CERC-NFRAP	Subject property	Release of organic chemicals to soil and ground water. Site granted CERCLIS-NFRAP status, meaning that it has been removed from consideration as an NPL site. Four USTs were removed in 1986; three contained solvent base chemicals and one contained diesel. PCE, vinyl chloride, and TCE remain in ground water at concentrations exceeding MTCA method B cleanup criteria. Potential impact on construction activities.
C17	Marine Vacuum Service Inc.	1516 S Graham Street	CSCSL, RCRA-SQG	Subject property	Release of metals and petroleum hydrocarbons to soil and ground water. RCRA small-quantity generator. No information available in file regarding site cleanup. Potential impact on construction activities.
Potential Release Sites					
B6, B7	Gibson Co.	1900 S Corgiat Drive	UST	Subject property	No documented releases. One unleaded gasoline UST reportedly removed. Potential impact on construction activities.
B8, B9	Ferguson Property	1915 S Corgiat Drive	UST	Subject property	No documented releases. Reportedly one UST. Potential impact on construction activities.
B10	Lester Corp DBA Universal Printing	6600 Ursula Place S	RCRA-SQG	Subject property	No documented releases. RCRA small-quantity generator. No impacts on construction activities expected.
B11	CDT Oil Co Inc.	6600 Ursula Place S	UST	Subject property	No documented releases. Two USTs reportedly closed in place. Potential impact on construction activities.

Source: EDR database report, SE of Argo Yard, June 24, 2004 (see Appendix F-1).
bgs = below ground surface
CERC-NFRAP =Comprehensive Environmental Response, Compensation, and Liability Information System-no further remedial action planned
CSCSL = Confirmed or Suspected Contaminated Sites List
ICR = independent cleanup report
LQG = large-quantity generator
LUST = leaking underground storage tank
MTCA = Model Toxics Control Act
NFA = no further action
NPL = National Priorities List
PCE = tetrachloroethylene
RCRA = Resource Conservation and Recovery Act
ROD = Record of Decision
SWF/LF = Solid Waste Facility/Landfill
SQG = small-quantity generator
TCE = trichloroethylene
TPH = total petroleum hydrocarbons
UST = underground storage tank
VCP = Voluntary Cleanup Program

Table G-3. Edmunds Street intermodal site—sites with known or suspected environmental conditions based on regulatory record searches.

Site ID	Site Name	Address	Regulatory Database Listing	Location	Impact on Construction
Documented Release Sites					
A2, A4, A5	Consolidated Freightways/Alltrans Express Division TNT Canada	655 S Edmunds	UST, CSCSL NFA, ICR	Subject property	Release of petroleum hydrocarbons to soil and ground water from former Bunker C UST. Tank and petroleum-contaminated soil excavated and removed from site. Ground water was encountered at 9 feet bgs during excavation and more than 5,000 gallons of water was pumped from excavation and treated offsite. A second source of contamination was suspected but not identified during a geophysical investigation. The Department of Ecology issued an NFA determination for soil in 1997. Potential impact on construction activities.
B8, E21	Seattle Barrel and Cooperage	4716 Airport Way S, 4520 7th Avenue S	RCRA-SQG, CSCSL	Adjacent to east across Airport Way	Two properties listed; one adjacent to subject property and the other 825 feet to the north. The company refurbishes 55-gallon drums and has a permit to discharge to the sanitary sewer. The company is a RCRA small-quantity generator and has a reported discharge violation. No impacts on construction activities expected.
C9	Federal Express -- BFIA	651 S Alaska St	RCRA-SQG, CSCSL, VCP	Adjacent to north across Edmunds St	Release of solvents and petroleum hydrocarbons to soil and ground water. Soil reportedly cleaned up and an NFA determination issued by the Department of Ecology. Solvent concentrations exceeding MTCA method A cleanup criteria remain in ground water. Possible upgradient source. Ground water reportedly flows to the north-northeast. No impacts on construction activities expected, but upgradient source may be the Edmunds Street site (Alternative 5).
C10, C11	SAMIS Land Co. Site	619, 625, 647 S Alaska St	RCRA-SQG, CSCSL	Adjacent to north across Edmunds St	Release of solvents, polynuclear aromatic hydrocarbons (PAHs), and metals to soil and ground water at concentrations exceeding MTCA method A cleanup criteria. Ground water was encountered at 5 to 10 feet bgs and reportedly flows to the north. No additional site file information. No impacts on construction activities expected, but upgradient source may be the Edmunds Street site (Alternative 5).
D15, D16, D17, D19	Alaska Street Property/Steam Supply and Rubber	601, 615 S Alaska St	Institutional controls, RCRA-SQG, CSCSL, VCP, ICR	Adjacent to north across Edmunds St	Release of petroleum hydrocarbons and solvents to soil and ground water at concentrations exceeding MTCA method A cleanup criteria. Petroleum-contaminated soil removed from site. Restrictive covenant for soil. Solvent concentrations (TCE) detected in ground water indicate potential upgradient site. Ground water reportedly flows to the north. No impacts on construction activities expected, but upgradient source may be the Edmunds Street site (Alternative 5).
Potential Release Sites					
A6	SAMIS Foundation	636 S Edmunds St	RCRA-SQG	Adjacent to north across Edmunds St	No documented releases. RCRA small-quantity generator. No file information available, but site may be included in SAMIS Land Company properties with documented releases. No impacts on construction activities expected.
23	Olympic Foundry	5200 Airport Way South	RCRA-SQG, UST	Adjacent to south	No documented releases. UST and RCRA small-quantity generator. No impacts on construction activities expected.

Source: EDR database report, NW Container, September 2, 2004 (see Appendix F-1).
bgs = below ground surface
CERC-NFRAP =Comprehensive Environmental Response, Compensation, and Liability Information System-no further remedial action planned
CSCSL = Confirmed or Suspected Contaminated Sites List
ICR = independent cleanup report
LQG = large-quantity generator
LUST = leaking underground storage tank
MTCA = Model Toxics Control Act
NFA = no further action
NPL = National Priorities List
PCE = tetrachloroethylene
RCRA = Resource Conservation and Recovery Act
ROD = Record of Decision
SWF/LF = Solid Waste Facility/Landfill
SQG = small-quantity generator
TCE = trichloroethylene
TPH = total petroleum hydrocarbons
UST = underground storage tank
VCP = Voluntary Cleanup Program