



## **PERIODIC REVIEW**

**Union Station  
Facility Site ID#: 2060**

**411 South Jackson Street  
Seattle, Washington**

**Northwest Regional Office**

**TOXICS CLEANUP PROGRAM**

**April 2021**

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## 1.0 INTRODUCTION

This document is a review by the Washington State Department of Ecology (Ecology) of post-cleanup site conditions and monitoring data to ensure that human health and the environment are being protected at the Union Station property (Site). Cleanup at this Site was implemented under the Model Toxics Control Act (MTCA) regulations, Chapter 173-340 Washington Administrative Code (WAC). Cleanup activities at this Site were completed under a Prospective Purchaser Consent Decree 97-2-18936-5SEA, King County Superior Court. The cleanup actions resulted in concentrations of carcinogenic polycyclic aromatic hydrocarbons and metals in soil, and polycyclic aromatic hydrocarbons, petroleum hydrocarbons, benzene, and arsenic in groundwater remaining at the Site which exceed MTCA cleanup levels. The MTCA cleanup levels for soil are established under WAC 173-340-740. The MTCA cleanup levels for groundwater are established under WAC 173-340-720. WAC 173-340-420 (2) requires that Ecology conduct a periodic review of a site every five years under the following conditions:

- (a) Whenever the department conducts a cleanup action
- (b) Whenever the department approves a cleanup action under an order, agreed order or consent decree
- (c) Or, as resources permit, whenever the department issues a no further action opinion;
- (d) And one of the following conditions exists:
  - 1. Institutional controls or financial assurance are required as part of the cleanup
  - 2. Where the cleanup level is based on a practical quantitation limit
  - 3. Where, in the department's judgment, modifications to the default equations or assumptions using site-specific information would significantly increase the concentration of hazardous substances remaining at the site after cleanup or the uncertainty in the ecological evaluation or the reliability of the cleanup action is such that additional review is necessary to assure long-term protection of human health and the environment.

When evaluating whether human health and the environment are being protected, the factors the department shall consider include [WAC 173-340-420(4)]:

- (a) The effectiveness of ongoing or completed cleanup actions, including the effectiveness of engineered controls and institutional controls in limiting exposure to hazardous substances remaining at the Site;
- (b) New scientific information for individual hazardous substances or mixtures present at the Site;
- (c) New applicable state and federal laws for hazardous substances present at the Site;
- (d) Current and projected Site and resource uses;
- (e) The availability and practicability of more permanent remedies; and
- (f) The availability of improved analytical techniques to evaluate compliance with cleanup levels.

The Department shall publish a notice of all periodic reviews in the Site Register and provide an opportunity for public comment.

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## **2.0 SUMMARY OF SITE CONDITIONS**

### **2.1 Site Description and History**

The Union Station property consists of three parcels located in Seattle, King County, Washington (King County tax parcel numbers 8809700000, 5247801292, and 7669800004). The property spans six city blocks and includes portions of the grade level, beneath elevated viaduct portions of South Jackson Street, South Airport Way, and 4th Avenue S. The property was originally part of the South Seattle industrial neighborhood.

The Seattle Gaslight Company constructed a coal gasification plant at the property in 1874 on pilings over the mudflats of Duwamish Bay. The area surrounding the pile-supported facility was filled prior to about 1912. Around the turn of the century, Vulcan Iron Works manufactured iron, brass, and steel on the southern portion of the property.

The Union Station passenger railroad station was constructed at the property in 1911. Union Station served passengers until 1971, when Union Pacific discontinued passenger operations at the property. The property was essentially dormant from 1971 until the purchase of the property by Union Station Associates in 1997. The southernmost terminus of the downtown Seattle transit project bus tunnel was completed at the property along 5th Avenue S. in 1990.

### **2.2 Site Investigations and Sample Results**

The property was placed on the Washington Hazardous Sites List in 1991. Subsequently, a remedial investigation/feasibility study (RI/FS; Landau Associates and Hart Crowser, 1996) was conducted. The RI included review of the property's industrial history to confirm that the investigation included the areas likely to have contamination, evaluation of existing soil and groundwater sampling information, and analysis of new soil and groundwater samples.

The RI compared chemical testing results for soil and groundwater to screening levels and identified constituents of concern that required additional evaluation. The RI identified carcinogenic polycyclic aromatic hydrocarbons (cPAHs) from the coal gasification process, and metals from the coal gasification process and from the foundry within fill soil that was placed on the former tideflat surface during operation of the historical industries.

Concentrations of cPAHs and some metals in some soil samples exceeded cleanup levels. Groundwater analytical results from tests during the RI and from supplemental monitoring performed after the RI and before the Consent Decree showed that groundwater screening levels for cPAHs, petroleum hydrocarbons, benzene, and arsenic were exceeded in samples from some wells at the property. Arsenic was found in an upgradient well at concentrations exceeding those found in property wells. No pesticides, polychlorinated biphenyls (PCBs), herbicides, or evidence of dense non-aqueous phase liquids (DNAPL) were detected.

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## 2.3 Cleanup Actions

The RI findings were used to develop alternatives to remediate the property. The evaluations of these alternatives were included in the FS. The FS defined cleanup standards, developed and evaluated four cleanup action alternatives, and identified a preferred cleanup action alternative that would adequately protect human health and the environment. Soil cleanup levels were conservatively based on residential use conditions, although the property was zoned International District Mixed and planned property use was commercial with limited potential for direct contact.

The cleanup action selected included paving, construction soil excavation, groundwater monitoring, contingent groundwater remediation, and institutional controls. Groundwater remediation was never conducted.

Groundwater monitoring requirements for the property are described in the Cleanup Action Plan (CAP) and are summarized in Table 3 of the CAP. Monitoring wells originally included in the monitoring program were HC-101, HC-102, HC-103, MW-104, MW-105, MW-106, MW-107, and “upgradient” wells B-4 and B-6. As described in a report (Landau Associates 2000), between 1997 and 1999 wells HC-101, HC-102, MW-106, MW-107, MW-108, and B-6 were abandoned and replaced with monitoring wells in similar locations. Ecology approved suspension of water quality monitoring in 2000 in well HC-103. Just prior to the August 2009 monitoring event, it was discovered that well B-4 had been paved over during City of Seattle street repairs and was no longer accessible. As a result, a replacement well was installed approximately 20 feet east of well B-4. Monitoring wells included in the groundwater quality and groundwater level monitoring program are property wells MW-101R, MW-102R, MW-104, MW-105, MW-107R, MW-108R, and “upgradient” wells B-4R and B-6R.

Quarterly groundwater monitoring was required for 8 quarters beginning within 3 months of the effective date of the Consent Decree. The CAP also requires that quarterly sampling be performed for 8 quarters beginning the first quarter after all foundations are completed. The CAP establishes that groundwater monitoring frequency be reduced to annual if the upper 95 percent confidence limit (UCL) on the mean for results from compliance monitoring wells is less than or equal to cleanup levels. Annual monitoring was then required until 3 years after foundation loading (building construction) was complete. Groundwater monitoring frequency was then to be reduced to every 5 years if the UCL for results from compliance monitoring wells was less than or equal to cleanup levels.

The CAP also specifies procedures to be implemented if any sample exceeds cleanup levels during monitoring. A report documenting groundwater monitoring for 8 quarters after foundation loading was submitted to Ecology in August 2000 (Landau Associates, 2000). Ecology required an additional year of quarterly monitoring after review of the report. The results for the additional year of groundwater monitoring were submitted in March 2002 in a report to Ecology with recommendations to reduce groundwater monitoring frequency to annual (Landau Associates, 2002). Ecology approved reducing groundwater monitoring frequency to annual in November 2002. Annual groundwater monitoring was conducted in 2002, 2003, and 2004.

Construction at the main parcel was completed in 2001. Construction at the south parcel was completed in 1999. Therefore, 3 years of groundwater monitoring after foundation loading was complete after the June 2004 monitoring event.

Ecology issued a Certificate of Completion for the property in 2005, but did not remove the property from the Hazard Ranking List due to the presence of petroleum hydrocarbons in groundwater. Ecology approved reducing the groundwater monitoring frequency to every 5 years.

## **2.4 Cleanup Levels**

The point of compliance for soil is throughout the Site. Groundwater cleanup levels were based on protection of marine surface water. The point of compliance for groundwater is the property boundary and extends from the uppermost level of the saturated zone vertically to the lowest depth that could potentially be affected by the Site.

Ecology and Union Station Associates entered into a Prospective Purchaser Consent Decree for the property in 1997. Since that time, Union Station Associates has implemented the selected remedial action for the property. Paving and construction soil excavation were completed as part of property redevelopment. A restrictive covenant implementing the required institutional controls was recorded on the property deed. Groundwater monitoring began in October 1997. Construction at the property is complete. A parking garage was completed on the south parcel in 1999. Construction at the main parcel, including renovation of the Union Station building and construction of a parking garage and four new buildings, was completed in 2001. A new building at the north parcel was completed in 2002. Groundwater remediation was never conducted.

A statistical evaluation is performed to determine compliance with the cleanup levels at each well. Groundwater data from the past eight sampling events are used for the statistical evaluation. Procedures to be used to evaluate exceedances of cleanup levels are described in the CAP. The CAP specifies that basic statistical parameters such as mean and median be developed and that the UCL be calculated for compliance well data to evaluate exceedances of cleanup levels. The methodology used for demonstrating statistical compliance, in accordance with the CAP, followed statistical methods from the Ecology Toxics Cleanup Program guidance document, Statistical Guidance for Ecology Site Managers (Ecology 1992), the Supplement to Statistical Guidance for Ecology Site Managers (Ecology 1993), and MTCASat97 compliance module. In general, compliance was determined by calculating the UCL for each detected compound at each property well and comparing it to the cleanup level listed in Table 1 of the CAP.

## **2.5 Recent Groundwater Monitoring Data and Compliance Analysis**

Per the CAP, UCLs are calculated for each well for detected constituents and compared to cleanup levels identified in the CAP. According to Landau's 2019 Groundwater Monitoring Compliance Report, exceedances of CAP cleanup levels include acenaphthene (well MW-101R), benzene (MW-101R and MW-105), arsenic (MW-101R, MW-102R, MW-104, MW-105, MW-

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107R, and MW-108R), benzo(a)anthracene (MW-105), and chrysene (MW-105). Landau's report indicates that the exceedances are from off-site sources, but does not identify any specific sources.

"Background based screening levels" were calculated by Landau for petroleum hydrocarbons, benzene, acenaphthene, benzo(a)anthracene, and chrysene using historical data from well B-4/B-4R and for arsenic using data from B-6/B-6R. Based on these calculations, Landau concluded that the exceedances of the CAP cleanup levels should not trigger groundwater treatment or an increase in the frequency of groundwater monitoring.

However, Landau's "background based screening levels" cannot be used to evaluate compliance with the cleanup standards. Table 1 of the CAP provides the cleanup levels for the Site, which must be met at the conditional point of compliance (the western property boundary). The cleanup standards were developed to be protective of marine surface water (Elliott Bay). Landau's "background based screening levels" are not protective.

Area background (which are the concentrations of hazardous substances that are consistently present in the environment in the vicinity of a site and are the result of human activities unrelated to releases from the site) is not allowed to be used for compliance purposes. Wells at the conditional point of compliance need to meet the highest beneficial use (marine surface water) regardless of area background concentrations. While natural background concentrations (which are the concentrations of hazardous substances consistently present in the environment that have not been influenced by localized human activity) can be used to upward adjust protective values into cleanup levels, area background data may not be used for this purpose.

To be considered in compliance, wells at the conditional point of compliance are required to meet CAP cleanup levels. The cleanup levels cannot be elevated to area background even if there is migration towards the point of compliance. Additionally, given the Site history, it is likely that releases at the Site are contributing to the contaminants that are migrating past the conditional point of the compliance towards Elliott Bay.

It should also be noted that the original "upgradient" wells B-4 and B-6 were screened approximately 10 feet deeper than their replacements (wells B-4R and B-6R), and the original wells B-4 and B-6 had higher contaminant concentrations before they were replaced (with the exception of arsenic in well B-4R). Heavy coal tar contamination is reportedly at the base of the fill at the Site, so may now be farther below the screened interval of the replacement wells as compared to the original wells (if they are impacted by the heavy coal tar contamination). There also may be other factors impacting the contaminant concentrations in the replacement wells, given the difference in lateral location and screened interval. These variables create a less reliable statistical analysis when attempting to compare compliance wells to area background, or when evaluating the extent of the Site.

In summary, the contingency actions outlined in Table 3 of the CAP (Appendix 6.3) must be followed regardless of statistical comparisons to area background.

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## 2.6 Restrictive Covenant

Based on commercial Site use, surface cover, and cleanup levels, it was determined that the Site cleanup could be protective of human health if a Restrictive Covenant was recorded for the property. A Restrictive Covenant was recorded for the Site in 1997 which imposed the following limitations:

- Section 1. No groundwater may be taken for domestic purposes from the Property.
- Section 2. No wells of any sort, unless associated with the Remedial Action, may be constructed on the Property.
- Section 3. There will be no residential housing or day care facilities located at street level on the Property.
- Section 4. Without approval from Ecology, the capping components and groundwater monitoring and treatment facility called for in the Cleanup Action Plan will not be altered, modified, or removed in any manner that may result in the release or exposure to the environment of contaminated soil or create a new exposure pathway.
- Section 5. Owner and Owner's assigns and successors in interest reserve the right under WAC 173-340-440 (1991 ed.) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology or of a successor agency. Ecology or a successor agency may consent to the recording of such an instrument only after public notice and comment.

The Restrictive Covenant is available as Appendix 6.4.



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## **3.0 PERIODIC REVIEW**

### **3.1 Effectiveness of completed cleanup actions**

Institutional controls in the form of a Restrictive Covenant were implemented at the Site in 1997. The covenant was recorded, remains active, and is discoverable through the King County Auditor's Office. There is no evidence a new instrument has been recorded which limits the effectiveness or applicability of the covenant. The covenant prohibits activities (unless with Ecology's approval) that will result in the release of contaminants contained as part of the cleanup, and prohibits any use of the property that is inconsistent with the covenant. The covenant serves to assure the long term integrity of the remedy.

Due to Washington State's Stay Home order related to the COVID-19 pandemic, a Site visit was not conducted for this periodic review. Based on aerial photographs, the property appears to still be occupied by mixed-use buildings, including retail businesses and offices, and a transit station. Based on the property use, the surface cover is likely to be in good condition, and therefore continues to eliminate exposure to contaminated soils by ingestion and contact.

However, groundwater concentrations of acenaphthene, benzene, arsenic, benzo(a)anthracene, and chrysene exceed CAP cleanup levels at the conditional point of compliance (the western property boundary). Therefore, the remedy is not protective of marine surface water (Elliott Bay), which is located downgradient of the Site. Additionally, the Restrictive Covenant only applies to the subject property itself, and is not protective of any downgradient properties that may be impacted.

Required contingency actions are outlined in Table 3 of the CAP (Appendix 6.3), as previously discussed in Section 2.5. Groundwater monitoring is currently being performed every 5 years. According to the CAP, if any sample exceeds cleanup levels, another sample is to be collected one quarter later. If the second sample exceeds cleanup levels, quarterly monitoring for one year is to commence. Further contingency actions based on those findings (such as monitoring frequency changes or groundwater treatment), as well as the appropriate methods of analyzing the monitoring data, are described in Table 3 of the CAP.

### **3.2 New scientific information for individual hazardous substances or mixtures present at the Site**

There is no new scientific information for the contaminants related to the Site.

### **3.3 New applicable state and federal laws for hazardous substances present at the Site**

The 1997 CAP did not select cleanup levels for total petroleum hydrocarbons (TPH). The CAP indicates that if TPH is detected, the data will be reviewed to evaluate whether groundwater is adequately protected.

Cleanup levels changed for petroleum hydrocarbon compounds as a result of modifications to MTCA in 2001. The current regulation now includes TPH cleanup levels to protect surface water. Method A cleanup levels should be used to evaluate compliance at the conditional point of compliance.

Per the CAP, UCLs are calculated for each well for detected constituents and compared to cleanup levels. Landau's 2019 Groundwater Monitoring Compliance Report indicates that monitoring wells MW-101R, MW-105, and MW-107 exceed the Method A cleanup levels for gasoline-range and diesel-range TPH (800 µg/L and 500 µg/L, respectively). Gasoline-range TPH appears to be increasing in at least one monitoring well: MW-101R. Additional monitoring and trend analysis is needed for a more thorough evaluation.

The TPH concentrations in groundwater at the conditional point of compliance are not protective of marine surface water (Elliott Bay).

In addition, vapor intrusion does not appear to have been evaluated at the Site (probably due to changes in regulations and industry standards over time as more is learned about the risks of vapor intrusion). For example, groundwater concentrations of benzene and naphthalene in monitoring wells at the Site exceed the Method B groundwater screening levels for vapor intrusion (2.4 µg/L for benzene and 8.9 µg/L for naphthalene). A vapor intrusion assessment should be completed for the Site to determine if vapor intrusion from any of the contaminants of concern is a risk to building occupants. The vapor intrusion assessment should be in accordance with Ecology's April 2018 *Draft Guidance for Evaluating Soil Vapor Intrusion in Washington State: Investigation and Remedial Action*, as well as any other relevant regulations and guidance documents.

### **3.4 Current and projected site or resource use**

The Site is currently used for commercial purposes. There have been no changes in current or projected future site or resource uses.

### **3.5 Availability and practicability of more permanent remedies**

The remedy selected for the Site includes paving, construction soil excavation, groundwater monitoring, contingent groundwater remediation, and institutional controls. The remedy included containment of hazardous substances and continues to be protective of human health and the environment with regards to contaminated soil. However, more permanent remedies may be available regarding the contaminated groundwater that is migrating off the property. The groundwater remediation outlined in the CAP was never conducted.

### **3.6 Availability of improved analytical techniques to evaluate compliance with cleanup levels**

The analytical methods used at the time of the remedial action were capable of detection below selected site cleanup levels. The presence of improved analytical techniques would not affect decisions or recommendations made for the site.

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## 4.0 CONCLUSIONS

The following conclusions have been made as a result of this periodic review:

- Groundwater concentrations of acenaphthene, benzene, arsenic, benzo(a)anthracene, chrysene, diesel-range TPH, and gasoline-range TPH exceed cleanup levels at the conditional point of compliance (the western property boundary) and this contaminated groundwater appears to be migrating off-property. Therefore, the remedy is not protective of groundwater and marine surface water located downgradient of the property. Based on this, the Site failed the periodic review.
- It should be noted that area background is not allowed to be used for compliance purposes; the cleanup levels outlined in the CAP (Table 1) are to be used. It should also be noted that the current regulation now includes TPH cleanup levels to protect surface water. Therefore, Method A groundwater cleanup levels should be used to evaluate compliance for TPH at the conditional point of compliance.
- Required contingency actions are outlined in the CAP. Groundwater monitoring is currently being performed every 5 years. According to the CAP, if any sample exceeds cleanup levels, another sample is to be collected one quarter later. If the second sample exceeds cleanup levels, quarterly monitoring for one year is to commence. Further contingency actions based on those findings (such as monitoring frequency changes or groundwater treatment), as well as the appropriate methods of analyzing the monitoring data, are described in Table 3 of the CAP (Appendix 6.3). However, it should be noted that groundwater treatment may be the most likely result, based on historical monitoring data. Therefore, another option is to focus resources on groundwater treatment rather than additional quarterly monitoring at this time.
- Vapor intrusion does not appear to have been evaluated at the Site. For example, groundwater concentrations of benzene and naphthalene exceed the groundwater screening levels for vapor intrusion. A vapor intrusion assessment should be completed for the Site to determine if vapor intrusion from any of the contaminants of concern is a risk to building occupants.
- The Restrictive Covenant for the property is in place and appears to be effective in protecting public health and the environment from exposure to hazardous substances by direct contact on the subject property itself. However, the Restrictive Covenant only applies to the subject property, and is not protective of any downgradient properties that may be impacted.

## **4.1 Further Actions**

Based on the aforementioned conclusions, the property owner should take the following actions and provide associated reports to Ecology prior to the next periodic review:

- Follow the CAP contingency action plan (groundwater monitoring, developing a groundwater treatment plan, etc.).
- Characterize the extent of contamination that is migrating off-property (additional groundwater monitoring wells may be necessary).
- Complete a vapor intrusion assessment.
- It is the property owner's responsibility to continue to inspect the property to assure that the integrity of the remedy is maintained.

## **4.2 Next Periodic Review**

The next periodic review for the Site will be scheduled five years from the date of this periodic review (scheduled for 2026). In the event that additional cleanup actions or institutional controls are required, the next periodic review will be scheduled five years from the completion of those activities.

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## **5.0 REFERENCES**

Ecology. August 7, 1997. Prospective Purchaser Consent Decree, Union Station Associates.

Ecology. October 24, 1997. Restrictive Covenant.

Ecology. Various Dates. Site File.

Landau Associates, Inc. and Hart Crowser. July 1, 1996. Focused Remedial Investigation and Feasibility Study, Union Station, Seattle, Washington.

Landau Associates, Inc. July 28, 1997. Cleanup Action Plan, Union Station Property, Seattle, Washington.

Landau Associates, Inc. January 6, 2020. 2019 Groundwater Monitoring Compliance Report, Union Station Property, Seattle, Washington.

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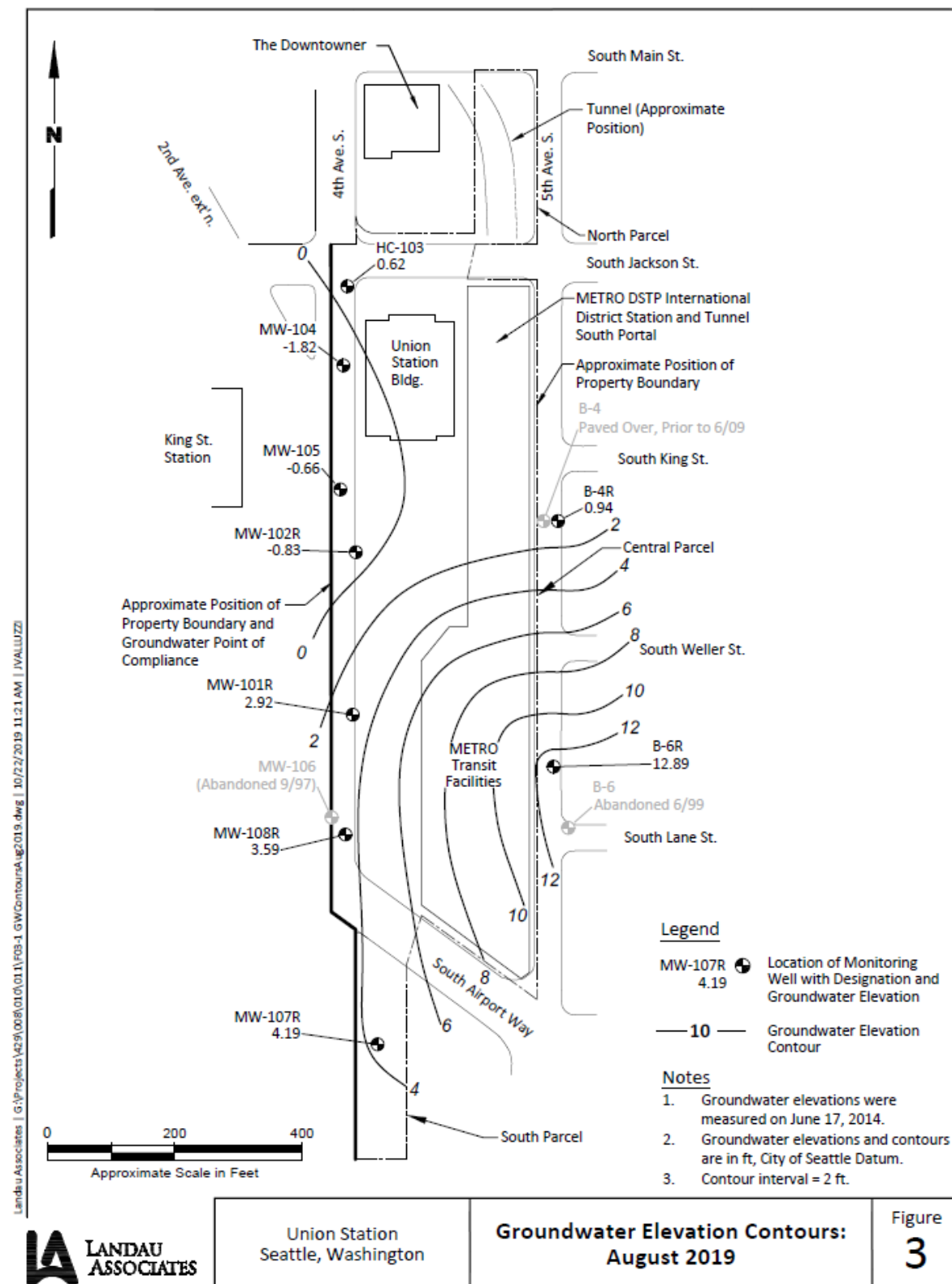
## **6.0 APPENDICES**

## 6.1 Vicinity Map





## 6.2 Site Plan



## 6.3 Cleanup Action Plan: Groundwater Contingency Action Plan

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TABLE 3

### GROUNDWATER MONITORING AND REMEDIATION

#### Groundwater Monitoring

Quarterly monitoring for 8 quarters beginning within 3 months of the effective date of the consent decree

Calculate upper 95% confidence limit (UCL) using the eight quarters of data

If UCL exceeds cleanup levels, implement groundwater treatment if directed by Ecology to prevent contamination from leaving the site. The parties anticipate that Ecology may revise this cleanup action plan to incorporate new cleanup standards if the cleanup standards are revised by an amendment to the regulations and Ecology determines the use of the new standards is appropriate.

If UCL is less than or equal to cleanup levels, commence annual monitoring

Annual monitoring until all foundations are completed or until two years after any foundation construction is initiated

Quarterly sampling for 8 quarters beginning the first quarter after all foundations are completed or the first quarter occurring two years after any foundation construction is initiated

Calculate upper 95% confidence limit (UCL) using the last eight quarters of data

If UCL exceeds cleanup levels, implement groundwater treatment if directed by Ecology to prevent contamination from leaving the site. The parties anticipate that Ecology may revise this cleanup action plan to incorporate new cleanup standards if the cleanup standards are revised by an amendment to the regulations and Ecology determines the use of the new standards is appropriate.

If UCL is less than or equal to cleanup levels, commence annual monitoring

Annual monitoring until foundation loading (building construction) is complete plus 3 additional years

If any sample exceeds cleanup levels, collect another sample 1 quarter later

If the second sample is less than cleanup levels, return to annual monitoring

If the second sample exceeds cleanup levels, commence quarterly monitoring for 1 year (see below)

If no exceedance of cleanup levels has occurred after 3 years, commence monitoring every 5 years

#### Monitoring every 5 years

If any sample exceeds cleanup levels, collect another sample 1 quarter later

If the second sample is less than cleanup levels, return to annual monitoring for 1 year

If the second sample exceeds cleanup levels, commence quarterly monitoring for 1 year (see below)

If UCL is less than or equal to cleanup levels continue monitoring every 5 years so long as residual hazardous substance concentrations contained onsite exceed site cleanup levels [see WAC 173-340-360 (8)(b)].

**TABLE 3**  
**GROUNDWATER MONITORING AND REMEDIATION**

**Quarterly sampling for 1 year**

At end of year, if UCL based on four quarters of data is less than cleanup levels, return to annual monitoring for 3 years

At end of year, if UCL based on four quarters of data is greater than cleanup levels and data show increasing trend and last sample exceeds twice the cleanup level, implement groundwater treatment if directed by Ecology to prevent contamination from leaving the site. Otherwise, continue monitoring for another four quarters.

If, after eight quarters of data have been collected, the UCL based on the eight quarters of data exceed the cleanup level, implement groundwater treatment if directed by Ecology to prevent contamination from leaving the site.

If, after eight quarters of data have been collected, the UCL based on the eight quarters of data is less than the cleanup level, continue monitoring for another four quarters.

If, at the end of the last four quarters, the UCL based on the last eight quarters of data exceeds the cleanup level, implement groundwater treatment if directed by Ecology to prevent contamination from leaving the site.

If, at the end of the last four quarters, the UCL based on the last eight quarters of data is less than the cleanup level, return to annual monitoring for 5 years. If there are no exceedances of cleanup levels during that time, return to monitoring every 5 years.

**Groundwater Treatment**

Minimize present worth of capital and O&M costs to determine the size and estimated operating time of the system

**Performance monitoring**

Quarterly monitoring during groundwater treatment

Plot data and do statistical evaluation as directed by Ecology to determine when to terminate treatment or when cleanup standards are met

**Post-Treatment Monitoring**

**Quarterly monitoring for 8 quarters**

If UCL exceeds cleanup levels and trend analysis does not indicate decreasing trend, return to groundwater treatment

If UCL exceeds cleanup levels and trend analysis indicates decreasing trend, continue monitoring quarterly. If UCL calculated using the last 8 quarters of data exceeds cleanup levels after 12 quarters of data have been collected, return to groundwater treatment.

If UCL is less than or equal to cleanup levels, commence annual monitoring for 3 years

TABLE 3

GROUNDWATER MONITORING AND REMEDIATION

Annual monitoring for 3 years

If any sample exceeds cleanup levels, collect another sample 1 quarter later

If the second sample is less than cleanup levels return to annual monitoring

If the second sample exceeds cleanup levels commence quarterly monitoring for 1 year and use triggers in quarterly monitoring above

If no exceedance of cleanup levels has occurred after 3 years, commence monitoring every 5 years

Monitoring every 5 years

If any sample exceeds cleanup levels, collect another sample 1 quarter later

If the second sample is less than cleanup levels return to monitoring every 5 years

If the second sample exceeds cleanup levels commence quarterly monitoring (see above)

If UCL is less than or equal to cleanup levels, continue monitoring every 5 years so long as residual hazardous substance concentrations contained onsite exceed site cleanup levels [see WAC 173-340-360 (8)(b)].

\* As described in Appendix A, alternate statistical methods may be used upon approval by Ecology.

## 6.4 Environmental Covenant

### RETURN ADDRESS:

David H. Oswald, Esq.  
Ryan, Swanson & Cleveland, PLLC  
1201 Third Avenue, Suite 3400  
Seattle, WA 98101-3034

### RESTRICTIVE COVENANT

GRANTOR: Union Station Associates, LLC

ABBREVIATED LEGAL DESCRIPTION: Lots 4 through 8, Block 28, and all of Blocks 25, 26 and 27, D.S. Maynard's Plat of Seattle, Vol. 1, Pg. 23; Lots 1 through 7, Columbia and Puget Sound Railroad Replat of part of Block 283, Seattle Tide Lands, Vol. 12, Pg. 88

ASSESSOR'S TAX PARCEL NO.: 524780-1290-02 7666980-0004-06

Union Station Associates, LLC ("Owner") is the fee owner of real property in the County of King, State of Washington, hereafter referred to as the "Property." A legal description of the Property is attached hereto as Exhibit A.

The Property has been the subject of remedial action under Chapter 70.105D RCW. The work done to clean up the Property (hereinafter "Remedial Action") is described in the Cleanup Action Plan entered in *State of Washington, Department of Ecology v. Union Station Associates, L.L.C.*, King County Superior Court Cause No. 97-2-18936-5SEA. This Restrictive Covenant is required by the Department of Ecology ("Ecology") under WAC 173-340-440 (1991 ed.) due to residual concentrations of hazardous substances remaining at the Property as described in the Cleanup Action Plan.

Owner makes the following declarations as to limitations, restrictions, and uses to which the Property may be put, and specifies that such declarations shall constitute covenants to run with the land, as provided by law, and shall be binding on all parties and all persons claiming under them, including all current and future owners of any portion of or interest in the Property.

Section 1. No groundwater may be taken for domestic purposes from the Property.

Section 2. No wells of any sort, unless associated with the Remedial Action, may be constructed on the Property.

145120.01  
OCTOBER 24, 1997

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Section 3. There will be no residential housing or day care facilities located at street level on the Property.

Section 4. Without approval from Ecology, the capping components and groundwater monitoring and treatment facility called for in the Cleanup Action Plan will not be altered, modified or removed in any manner that may result in the release or exposure to the environment of contaminated soil or create a new exposure pathway.

Section 5. Owner and Owner's assigns and successors in interest reserve the right under WAC 173-340-440 (1991 ed.) to record an instrument which provides that this Restrictive Covenant shall no longer limit use of the Property or be of any further force or effect. However, such an instrument may be recorded only with the consent of Ecology, or of a successor agency. Ecology, or a successor agency, may consent to the recording of such an instrument only after public notice and comment.

DATED: OCTOBER 24, 1997

UNION STATION ASSOCIATES, LLC  
By NSD, LLC - Manager

By [Signature]  
Kevin Daniels - Member

STATE OF WASHINGTON )  
 ) ss.  
COUNTY OF KING )

THIS IS TO CERTIFY that on this 24<sup>th</sup> day of OCTOBER, 1997, before me, the undersigned, a notary public in and for the state of Washington, duly commissioned and sworn, personally appeared KEVIN DANIELS, to me known to be a Member of NSD, LLC, a Washington limited liability company, to me known to be the Manager of Union Station Associates, LLC, the Washington limited liability company that executed the within and foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and

deed of each limited liability company for the uses and therein mentioned, and on oath stated that said individual was authorized to execute said instrument.

WITNESS my hand and official seal hereto affixed this 24<sup>th</sup> day of October, 1997.

Linda Pieratt  
(Signature of Notary)

LINDA PIERATT  
(Print or stamp name of Notary)

NOTARY PUBLIC in and for the State of  
Washington, residing at Renton, wa

My Appointment Expires: 8-19-00

9710241276

EXHIBIT A

DESCRIPTION:

Parcel 1:

A portion of Lots 4, 5, 6, 7 and 8, and the vacated alley, Block 28, D.S. Maynard's Plat of the Town (now City) of Seattle, King County, Washington, according to the plat thereof recorded in Volume 1 of Plats, page 23, records of King County, Washington, more particularly described as follows:

Beginning at the Southwest corner of said Lot 4;

THENCE North along the West line of said Lot 4 a distance of 55.0 feet to a Southwesterly corner of that certain parcel of land described in Warranty Deed dated August 2, 1954, from Union Pacific Railroad Company to Dorothy Replin, identified in said Railroad Company's Records as C. D. No. 40800-1, Union Pacific Land Sold Audit No. 2322;

THENCE Southeasterly along a Southwesterly line of said deeded parcel of land, which is a tangent curve concave Northeasterly having a radius of 40.0 feet, a distance of 62.83 feet to a point that is 15.0 feet distant Northerly, measured at right angles from the South line of said Block 28;

THENCE Southeasterly along a Southwesterly line of said deeded parcel of land which is a straight line parallel with said South line of Block 28, a distance of 138.0 feet, more or less, to a point that is 78.0 feet distant Westerly, measured at right angles, from the East line of said Block 28;

THENCE North along the East line of said deeded parcel of land which is a straight line parallel with said East line of Block 28, a distance of 225.0 feet, more or less, to a point in the North line of said Block 28;

THENCE East along said North line of Block 28, a distance of 78.0 feet, more or less, to the Northeast corner of said Block;

THENCE South along the East line of said block, a distance of 240.0 feet to the Southeast corner thereof;

THENCE West along the South line of said block, a distance of 256.0 feet to the true point of beginning.

(CONTINUED)

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DESCRIPTION CONT.

Parcel 2:

A parcel of land being all of Blocks 25, 26 and 27, and the vacated alleys located therein, D.S. Maynard's Plat of the Town (now City) of Seattle, according to the plat thereof recorded in Volume 1 of Plats, page 23, records of King County, Washington, all of Blocks 201 and 202, and the vacated alleys located therein of the plat of the Seattle Tide Lands, according to the Official Maps on file in the Office of the Commissioner of Public Lands in Olympia, Washington, and all those portions of vacated King, Weller and Lane Streets adjoining to the above mentioned blocks, all in the City of Seattle, King County, Washington.

Parcel 3:

A parcel of land being portions of Lots 1, 2, 3, 4, 5, 6 and 7, on the Columbia & Puget Sound Railroad Replat of Part of Block 283, Seattle Tide Lands, according to the plat thereof recorded in Volume 12 of Plats, page 88, records of King County, Washington, more particularly described as follows:

Beginning at the most Northerly corner of said replat;

THENCE Southerly along the Westerly line of said replat, South  $01^{\circ}08'05''$  West 402.58 feet to the Southwest corner of Lot 7 of said replat;

THENCE along the South line of said Lot 7 South  $88^{\circ}51'55''$  East, 129.94 feet to the beginning of a non-tangent curve concave Northeasterly, from which point a radial line bears North  $77^{\circ}10'43''$  East, 1,127.00 feet;

THENCE Northwesterly, along said curve, through a central angle of  $14^{\circ}02'27''$ , 276.18 feet;

THENCE North  $01^{\circ}13'10''$  East, 56.54 feet to a point on the Northeasterly line of said replat;

THENCE along said Northeasterly line, North  $51^{\circ}59'37''$  West, 120.94 feet to the point of beginning.

(CONTINUED)

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DESCRIPTION CONT.

Parcel 3A:

Air rights parcel: As disclosed by reservation contained in instrument recorded under Recording No. 9209231310, described as follows:

That portion of Lots 1, 2, 3, 4, 5, 6 and 7 of the Columbia & Puget Sound Railroad Replat of a part of Block 283 of the Seattle Tide Lands, according to the plat thereof recorded in Volume 12 of Plats, page 88, records of King County, Washington, lying above an inclined plane which is 16.50 feet above the surface of paving between Highway Engineers Station 10+03.95 and 13+26.37 of the SR 90 EBT line, said surface being substantially as shown on W.S.D.O.T. Map "SR 90 Seattle Transit Access", Sheets 35 & 74 of 1443, as revised on September 1, 1988 and Sheet 96 of 1443 as Revised on March 4, 1988, exhibiting centerline elevations relative to City of Seattle Datum as follows:

Elevation 11.41 at Station 10+10.95 E.B.T.,  
Elevation 10.80 at Station 10+86.08 V.P.I.,  
Elevation 16.75 at Station 12+11.08 E.V.C.,  
Elevation 21.99 at Station 13+21.14 E.B.T.,

Said portion being described as follows:

Commencing at the most Northerly corner of said replat;  
THENCE along the Northeasterly line of said replat, South  $51^{\circ}59'37''$  East, 120.94 feet to the true point of beginning;  
THENCE South  $01^{\circ}13'10''$  West, 56.54 feet, to the beginning of a curve, concave Northeasterly, having a radius of 1,127.00 feet;  
THENCE Southeasterly, along said curve, through a central angle of  $11^{\circ}30'37''$ , 226.41 feet;  
THENCE North  $01^{\circ}08'05''$  East, 264.77 feet to a point on the Northeasterly line of said replat;  
THENCE along said Northeasterly line, North  $51^{\circ}59'37''$  West, 27.81 feet to the true point of beginning.

(CONTINUED)

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DESCRIPTION CONT.

Parcel 4:

The following vacated portions of South Jackson Street, 4th Avenue South and Airport Way South as vacated by City of Seattle Ordinance No. 118456, recorded under Recording No. 9701160538;

That portion of the following described Parcels A, B and C, as measured from the elevation of the bottom surface of the pavement to a level plan eight feet above the highest point of the surface of the ground;

TOGETHER with that portion of the following described Parcel A where the noise barrier wall, as described in Paragraph 1 of the Property Use and Development Agreement recorded under Recording No. 9611181511, will be constructed in the future, extending above such eight-foot level plane;

EXCEPTING from the following described Parcels, A, B and C the areas where the existing supporting columns for the Bridges (as described in said agreement) are located, and an additional 8" of diameter for existing column:

Parcel A:

That portion of South Jackson Street between East margin of 4th Avenue South and a line approximately half way between 4th Avenue South and 5th Avenue South more fully described as follows:

Beginning at the point of intersection of the South line of South Jackson Street with the East line of 4th Avenue South;

THENCE North  $01^{\circ}15'09''$  East, a distance of 66.00 feet to the point of intersection of the East line of 4th Avenue South and the North line of South Jackson Street;

THENCE East along said North line South  $88^{\circ}45'48''$  East, a distance of 156.65 feet;

THENCE South  $0^{\circ}16'00''$  West, a distance of 60.88 feet;

THENCE North  $88^{\circ}20'25''$  West, a distance of 7.87 feet;

THENCE South  $0^{\circ}17'40''$  West, a distance of 5.18 feet to a point on the South line of South Jackson Street;

THENCE along said South line North  $88^{\circ}45'48''$  West, a distance of 148.75 feet to the Point of Beginning.

(CONTINUED)

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DESCRIPTION CONT.

Parcel B:

That portion of the East half of 4th Avenue South between the North margin of South Jackson Street and the Southerly margin of Airport Way South, more fully described as follows:

Beginning at the point of intersection of the South line of South Jackson Street with the East line of 4th Avenue South;

THENCE along said East line South  $01^{\circ}15'09''$  West, a distance of 1,055.63 feet to the point of intersection of the East line of 4th Avenue South and the Southwest line of Airport Way South;

THENCE North  $51^{\circ}59'37''$  West, a distance of 61.78 feet;

THENCE North  $01^{\circ}15'09''$  East, a distance of 1,097.98 feet;

THENCE South  $88^{\circ}25'20''$  East, a distance of 8.20 feet;

THENCE South  $01^{\circ}11'18''$  West, a distance of 6.39 feet;

THENCE South  $88^{\circ}25'20''$  East, a distance of 6.90 feet;

THENCE North  $01^{\circ}11'18''$  East, a distance of 6.44 feet;

THENCE South  $88^{\circ}55'22''$  East, a distance of 26.51 feet;

THENCE South  $01^{\circ}04'38''$  West, a distance of 8.85 feet;

THENCE South  $88^{\circ}15'29''$  East, a distance of 7.86 feet to a point on the East line of 4th Avenue South;

THENCE along said East line and its prolongation South,  $01^{\circ}15'09''$  West, a distance of 70.45 feet to the point of beginning.

Parcel C:

That portion of Airport Way South located East of the East margin of 4th Avenue South, more fully described as follows:

Beginning at the point of intersection of the East line of 4th Avenue South with the Northeast line of Airport Way South;

THENCE along said Northeast line South  $51^{\circ}59'37''$  East, a distance of 114.17 feet;

THENCE South  $01^{\circ}17'40''$  West, a distance of 67.19 feet;

THENCE South  $52^{\circ}26'31''$  East, a distance of 20.27 feet;

THENCE South  $00^{\circ}02'31''$  East, a distance of 58.97 feet to a point on the Southwest line of Airport Way South;

(CONTINUED)

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THENCE along said Southwest line North  $51^{\circ}59'37''$  West, a distance of 136.15 feet to the point of intersection of the Southwest line of Airport Way South and the prolongation, from the North, of the East line of 4th Avenue South;  
THENCE Northerly along said prolongation, North  $01^{\circ}15'09''$  East, a distance of 124.81 feet to the point of beginning.

Situate in the County of King, State of Washington.

EXCEPT that portion of Parcel 4 which lies West of the East 33 feet of 4<sup>th</sup> Avenue South and North of the Northwesterly extension of the Southwesterly line of Block 25, D.S. Maynard's Plat, according to the plat recorded in Volume 1 of Plats, page 23, records of King County, Washington.

Parcel 5:

All those portions of 4th Avenue South, vacated South King Street and vacated South Weller Street adjoining to Blocks 20, 21, and 22, D. S. Maynard's Plat, according to the Plat recorded in Volume 1 of Plats, Page 23, Records of King County, Washington, and adjoining to Block 200, Plat of the Seattle Tide Lands, according to the Official Maps on file in the Office of the Commissioner of Public Lands in Olympia Washington, being more particularly described as follows:

Beginning at the Point of Intersection of the Southwest line of Airport Way South with a line which is parallel to and 33 feet Westerly of the East Margin of 4th Avenue South; thence along said Southwest line North  $51^{\circ}59'37''$  West, a distance of 20.59 feet; thence North  $88^{\circ}25'20''$  West a distance of 0.34 feet; thence North  $01^{\circ}15'09''$  East, a distance of 1,097.98 feet; thence South  $88^{\circ}25'20''$  East, a distance of 8.54 feet; thence South  $01^{\circ}11'18''$  West, a distance of 6.39 feet; thence South  $88^{\circ}25'20''$  East, a distance of 6.90 feet; thence North  $01^{\circ}11'18''$  East, a distance of 6.44 feet; thence South  $88^{\circ}55'22''$  East, a distance of 1.38 feet to a line which is parallel to and 33 feet Westerly of the East Margin of 4th Avenue South; thence along said line and its prolongation South  $01^{\circ}15'09''$  West, a distance of 1,110.28 feet to the Point of Beginning;

Except that portion of vacated 4th Avenue South lying South of the Northwesterly extension of the Southwesterly line of Block 25, D. S. Maynard's Plat, according to the Plat recorded in Volume 1 of Plats, Page 23, Records of King County, Washington, and East of the centerline of 4th Avenue South.

Situate in the County of King, State of Washington.